LIBRARY OF CONGRESS
1800

Twentieth Century Encyclopædia

A LIBRARY OF UNIVERSAL KNOWLEDGE

Comprising

A General Encyclopædia of Literature, History, Art, Science, Invention and Discovery; a Pronouncing Dictionary of the English Language; a Gazetteer of the World; a Comprehensive Biographical Dictionary, etc.

With

Nearly Four Thousand Illustrations

EDITED BY

PROF. CHARLES SMITH MORRIS, A. M., LL.D.

Of the Philadelphia Academy of the Natural Sciences

With the Assistance of the following

ASSOCIATE EDITORS AND SPECIAL CONTRIBUTORS:

PROF. FREDERIC A. LUCAS, M. D., Ph. D.
Curator Department of Comparative Anatomy, U. S. National Museum, Washington, D. C.

PROF. MARCUS BENJAMIN, A. M., Ph. D., F. C. S.
Of the Smithsonian Institution, Washington, D. C.

PROF. AMOS EMERSON DOLBEAR, A. M., Ph. D.
Professor of Physics, Tuft's College, Mass.

PROF. LEWIS SWIFT, Ph. D., F. R. A. S.
Director of Echo Mountain Observatory, California.

PROF. J. MARK BALDWIN, A. M., Ph. D.
Professor of Experimental Psychology, Princeton University.

PROF. SIMON NEWCOMB, LL. D., M. N. A. S.
Director U. S. Naval Observatory, Georgetown, D. C.

REV. JOHN F. HURST, D. D., LL. D.
Bishop of the M. E. Church, and Chancellor of the American University, Washington, D. C.

MANSFIELD MERRIMAN, C. E., Ph. D.
Professor of Civil Engineering, Lehigh Uuiversity.

CHARLES S. DOLLEY, A. M., M. D.
Late Professor of Biology, University of Pennsylvania.

REV. GEORGE T. PURVES, D. D., LL. D.
Professor of New Testament Literature and Exegesis, Princeton Theological Seminary.

PROF. DANIEL G. BRINTON, A. M., M. D.
Of the University of Pennsylvania, and President of the American Association for the Advancement of Science.

WILLIAM C. HUNT
Chief Statistician for Population, Twelfth Census.

And more than Two Hundred Specialists in the Various Departments

PHILADELPHIA:

SYNDICATE PUBLISHING COMPANY

AE5
.T97

THE LIBRARY OF
CONGRESS,
TWO COPIES RECEIVED
SEP. 6 1901
COPYRIGHT ENTRY
Sept. 4, 1901
CLASS a XXc. No.
16197
COPY B.

See Appendix, Vol. VI, for

COMPLETE TABLES SHOWING THE

POPULATION OF THE UNITED STATES

By STATES AND TERRITORIES, COUNTIES, CITIES,
TOWNS, VILLAGES AND BOROUGHS

As returned at the TWELFTH CENSUS, JUNE, 1900

Prepared under the direction of

WILLIAM C. HUNT
Chief Statistician for Population

COPYRIGHT, MDCCCXCVIII, BY F. E. WRIGHT. COPYRIGHT, MDCCCXCIX, BY F. E. WRIGHT.
COPYRIGHT, 1901, BY F. E. WRIGHT.

THE LIBRARY
OF CONGRESS

PREFACE.

It is a trite saying that this is an age of books. To this we may add, that it is coming to be an age of encyclopædias and dictionaries; of compendiums of information; of collections of digested and accumulated facts—information weeded and harvested, set free from the old embarrassment of words, and brought down to the pure essence of thoughts and things our people wish TO KNOW. They are weary of their old half knowledge, and are eager to have the leading facts of the world's history at their fingers' ends. And yet all clearly recognize that, in the present deluge of information, the vast expansion of science, history, geography, biography, philology, and the many other fields of research, it is impossible to obtain more than the merest shadow of knowledge by the study of original authorities; and that the encyclopædic compendium has become an absolute necessity—the foundation stone of every man's library—and this whether he be a scholar, a scientist, or one of the host who pretend to neither scholarship nor science.

The nineteenth century has been one of steady discovery, invention, change, and progress; one full of new situations, crowded with new events; one in which the world has moved forward at a speed never before dreamed of, and in which the stores of useful information have redoubled. Everywhere around us men stand appalled before this plethora of things desirable to know; of facts important to all and indispensable to those who wish to be well informed. As it is manifestly impossible to grasp all this in bulk, there only remains to grasp it in epitome; and the encyclopædia is the only means by which this can be accomplished. The comprehensive dictionary is equally necessary, for words are as numerous as facts, and new words are coming into being at a surprising rate to express the new facts to which this fertile age is rapidly giving birth.

Such being one of the chief needs of the American people—as of all enlightened peoples—the question arises: How shall it be gratified? Many efforts, more or less satisfactory, have been made with this end in view; so many, indeed, that it seems almost like a work of supererogation to add another to the list, and as if the last word in this direction had been said. Yet all these works have the serious defect that not one of them is up to date, and that many of their statements are so far behind the times as to be practically false and misleading. In this age, when the world wears seven-league boots, an interval of ten or twenty years has become a vast stretch of time, and information twenty years old is often worse than valueless, since wrong ideas are worse than no ideas. The past method of encyclopædia-making is seriously vitiated with this defect. We may speak of it as the deliberate method, one in which a decade or more passes between the issue of the first volume and that of the last; so that which is said under A becomes ancient history before Z and its story see the light. In addition to this, the system of borrowing has ruled supreme, the old encyclopædia serving as pabulum for the new one, so that what is offered and accepted as the fresh fact of to-day is too often the stale and obsolete fact of a remote yesterday.

All this needed to be reformed; and it is this need of a reform in method and matter which has brought the present publication into existence. This work is an unique one among encyclopædias, a new departure from a fossilized but scarcely a time-honored method. At first thought it might seem as if anything new in this well-wrought field would be impossible; but the editors of this invaluable work have achieved the supposed impossible, having accomplished the remarkable result of producing an encyclopædia which from A to Z is strictly up to date.

How has this been done? A few words will tell the story. It has been accomplished by abandoning the straggling old method of dragging a work of reference through a decade, and adopting the new and radical one of beginning and ending nearly the whole of the vast labor involved within a twelvemonth. In short, we may truthfully say that this work is a child of the present, since though preparations for it were under way before the beginning of 1897, the actual and essential labor was

performed during that year, and later. As a result, this work is, from first to last page, a product of the present—fresh, timely, up-to-date, teeming with new things, alive with the spirit of the age, reaching back into the past and looking forward into the future, written alike in the spirit of retrospect and of prophecy, and in the fullest sense a daily counsellor which should stand at the elbow of every man who wishes to keep pace with his age.

How has this great feat been accomplished? The question supplies its own answer. It evidently could have been done only by the conjoint labor of many hands and many brains, the simultaneous work of a host of editors, each a specialist in his peculiar field, and each amply capable of treating in their freshest and most comprehensive form the subjects assigned to his care. We do not propose, however, to offer in evidence a long list of names, being content to let the product of the labor of our co-workers speak for itself. The names of some editors who have handled special fields of knowledge are adduced, but only as examples of the class of men who have aided in our enterprise, and not with any purpose of giving a complete list of our editorial fraternity.

It may be truthfully said that the present work is in the fullest sense a liberal education to all who possess it. It has a breadth of handling nowhere else emulated, and is intended to occupy in the library the space of many books. While in a full sense an Encyclopædia, it is also a Compendium of History and Biography, a Dictionary of Language, and a most modern and complete Gazetteer of the World—a work, in brief, in which one may find all that he seeks to know.

If information is needed on any subject of general knowledge—scientific, artistic, historical, biographical, mechanical, etc.—it may be found here in sufficient detail and with its latest facts. If the facts of geography are desired, all the countries, provinces, cities, and other divisions of the world will be found sufficiently treated in this comprehensive work. If one wishes to gain some information about the political divisions of the United States, he will find here a complete American gazetteer, with the newest facts, dates and populations. If the story of any man of note is sought for, it can be found in these pages. And lastly, to all this is added an unabridged dictionary of the English language—one giving and defining every word that the most studious reader is likely to meet with in the world of books. In truth, we are convinced that this publication stands alone; that it is an unique response to a standing demand of the age, the demand for a work of ready reference in which the busy man can have, at his beck and call, FACTS of all sorts, kinds and descriptions—an overflowing cornucopia of knowledge.

The successful performance of this work within the brief period devoted to it has rendered it necessary to adopt a special method, one indispensable under the circumstances, and without which it would have been impossible to carry out satisfactorily its all-embracing design. This was to divide each letter into two sections, one devoted to that large class of subjects which could be handled with some degree of deliberation and rounded off without new research, the other kept open for subjects of that kind which grow even as we write, and which it was necessary to leave open until the latest moment, to catch any new fact or event that had been discovered or taken place during the making of the work. Section II. also proved of high utility in keeping open a place for important matter delayed by tardy workers until too late for insertion in Section I., as well as for various subjects that came to hand at the last moment, and found only this receiver of laggard material open to accept them.

This feature is peculiar to our present work, rendered necessary by the rapidity of our progress; and yet we hold it to be essential to all properly-made encyclopædias. Such works, as produced in the old fashion, leave out a large number of subjects through inadvertence or oversight, and these are in consequence hopelessly lost, however necessary they may be, or are tacked on at the end in the palpable second thought of an appendix. This difficulty we have overcome by the adoption of the system above outlined, which has enabled us to keep each letter open until the last minute, and to get in a host of new and fresh material which otherwise would have been necessarily omitted. In this the convenience of the reader is in no degree sacrificed, since the two Sections are so closely related that it is but a moment's work to turn to the one Section for what may not be found in the other.

In addition to the original and meritorious features named, this work possesses others of peculiar value, to which, though readers cannot fail to discover them for themselves, the publishers feel fully justified in calling attention. One of these is the geographical portion of the work, which has been prepared with the most studious pains, the details of American local geography having been particularly attended to. The result of this careful labor is that the work here presented adds to its numerous other excellences that of being a complete Gazetteer of the World, and one brought strictly down to date. This is a *sui generis* feature of the present work, no other encyclopædic work of reference possessing it,

and in itself alone is worth the full price asked, in view of the fact that it is a gazetteer of the year 1900 —not of some remote date, as may safely be said of all the others on the market.

In reaching the above gratifying result, time, labor and money have been freely expended, a vast amount of correspondence having been entered into, and special reports on population and other particulars obtained from all quarters of the globe. The publishers believe that they are within a safe limit in saying that not less than thirty thousand such reports have been received, coming from governors of States, mayors of cities, postmasters and other leading officials of towns and counties, foreign and domestic alike. It was only the earnest desire to be correct in detail and late in information that inspired them to this immense and onerous task, for the labor and cost of which they feel themselves amply repaid in the result, and in the feeling that they are enabled to offer the public a production that is simply unapproachable in correctness, interest and value.

Among the most valuable characteristics of this work is its Atlas, in which will be found recent maps of all the countries of the world, it being as voluminous and complete as any specially-prepared atlas on the market. As an instance of the value of these maps, as late and timely expositions of the world's progress, attention may be directed to that of the Klondike gold district of Alaska and British North America, in which the course of the Yukon and its golden-sanded affluents is clearly laid down, the routes of the Chilkoot and other passes indicated, and the localities of Dawson City and other very recent settlements definitely shown. Attention is called to this as indicative of the value of the Atlas in general as a complete chart of the surface of the earth as it is known to-day.

We cannot felicitate ourselves too highly on the invaluable features here briefly described, nor regret the expense and painstaking care with which they have been prepared, in view of our determination to make this work a production carrying out to the fullest extent all that is implied in its title. To do this, much more has been performed than is here claimed. In the dictionary portion of the work careful heed has been paid to the subjects of pronunciation and derivation, so as to cover with sufficient fullness these essential elements of a modern lexicon.

The subject of illustration is one that appeals with a strong force to modern readers, who have grown accustomed to trust as greatly to well-executed pictures as to written description in their effort to obtain a clear and satisfactory knowledge of any subject. This requisite has not only not been neglected, but has been abundantly provided for. In addition to the thousands of well-executed and instructive wood-cuts, that have been scattered with a liberal hand through the body of the work, are numerous full-page illustrations, some in colors, others in tinted monotone, covering in their scope hundreds of the most important topics treated, and adding enormously to the means here provided of obtaining an immediate and comprehensive grasp of the subjects involved. This superb feature of the work—for we cannot designate it by any less-embracing adjective—adds the artistic finish which the educated public of modern times demands, giving the final artist's touch to a production replete with all that constitutes excellence.

It is desired to call attention in particular to the magnificent cabinet of portraits included, being those of two hundred of the world's greatest men in every branch of literature, science, art and invention, each a separate triumph of the wood-engraver's art, and the whole amply deserving to be bound and sold separately as an unrivalled collection of portraits of world-renowned men.

While on this subject of illustration, the publishers desire to acknowledge gratefully their indebtedness to Messrs. Munn & Co., of New York, publishers of the *Scientific American*, to whose generous permission they owe many illustrations of late inventions and mechanical processes, of which that journal is so apt, timely and intelligent a repository.

To recapitulate, it may be safely stated that the series of volumes to which preliminary attention is here directed stand alone among encyclopædic productions in point of breadth of treatment and comprehensiveness, occupying the position among works of this kind which the university bears to the ordinary college. Within this ample scope are embraced an extended Dictionary of the English Language; an Encyclopædia of unusual width of grasp and vigor of handling; a Gazetteer whose subjects extend from the post-office to the metropolis, from the township to the State and empire; an Atlas including maps of all countries in their latest political and geographical conditions; a Biographical Dictionary in which appear life-histories of people of our own day; and a Gallery of Pictorial Art in which the multitude of subjects treated in the work are richly and appropriately illustrated. Nothing of the kind on so generous a scale has ever been undertaken hitherto, and it is gratifying to feel that this ambitious attempt has been crowned with complete success.

It is not necessary to say more; but we may safely assert that we have not exhausted the subject, and must leave it to the reader to discover for himself in the pages features of value not adverted to in the preface. Yet we cannot avoid speaking again, with pardonable pride, of the rapidity with which a work of the great dimensions and broad scope of this has been completed and put on the market, of the timeliness of its contents from beginning to end, and of its general characteristic of IMMEDIATENESS—a result which, we may repeat, could only have been attained by the active aid of an organized army of learned and industrious editors.

A preface to an encyclopædia may seem to be scarcely necessary. Such productions in a large measure speak for themselves, and the intelligent reader forms his own opinion from examination and use. Yet those who step aside from the beaten path, for reasons of evident advantage to their patrons, are justified in giving these reasons, and pointing out what constitutes the newness and freshness of their work, and in which respect it may fairly claim superiority to its predecessors. We have stated succinctly what we hold to be the peculiar characteristics of this publication, feeling sure that the reader will recognize the merit of the new features introduced, and give us credit for catering skillfully and abundantly to his intellectual needs.

INDEX TO FULL-PAGE ILLUSTRATIONS.

COLORED PLATES.

	Vol.	Page
Badges and Decorations of Honor, Plates I and II	IV	1676
Birds	I	348
Ceramic and Decorative Art	II	830
Coats of Arms of the States of the American Union	VI	2978
Famous Gems and Precious Stones	II	926
Flags of All Nations	III	1194
Fruits and Their Blossoms	III	1282
Leading Breeds of Dogs	II	558
Marine Life	V	2476
National Coats of Arms	I	152
Paris Fashions from 1500 to 1900	II	978
Past Officers' Jewels	V	2614
Postage Stamps of Foreign Nations, Plates I and II	VI	2858
Precious Gems as They are Found	III	1314
Races of Mankind	IV	1968
Society Emblems	V	2276
Standard Cattle	V	2294
Various Breeds of Horses	III	1537
Wild and Domestic Food Animals	I	110

PLATES IN MONOTONE.

	Vol.	Page
Aboriginal American Architecture	I	88
Archæology of the United States	I	136
Battleship Indiana	I	496
Byzantine Architecture	I	486
Bridges, Suspension	I	513
Bridges, Cantilever	I	514
Classical Mythology	V	2138
Cruisers and Torpedo Boats	II	858
Domes, Modern Renaissance	II	960
Dwellings, Odd and Ancient	II	996
Egyptian Antiquities	III	1138
Egyptian Architecture	II	1046
Fowls, Breeds of American Pure-Bred	III	1276
Geysers in the Yellowstone Park	VI	3126
Gothic Architecture	III	1364
Grave Mounds and Ancient Tombs	V	2152
Grecian Antiquities	III	1386
Greek Architecture	III	1384
Indo-Chinese Architecture	IV	1620
Lake-Dwellers, Remains of the	IV	1922
Locomotives, American	IV	1936
Pottery and Household Goods of Ancient Rome	V	2430
Religious Worship of the East Indians	IV	1774
Renaissance Architecture	V	2546
Roentgen Rays	V	2612
Romanesque Architecture	V	2578
Royal Insignia	IV	1640
Saracenic or Mohammadan Architecture	V	2638
Steamship St. Paul	VI	2860

FULL-PAGE PORTRAITS.

	Vol.	Page
Adams, John Quincy	I	28
Adams, Samuel	I	31
Addison, Joseph	I	32
Andersen, Hans Christian	I	104
Arago, Dominique F.	I	133
Ariosto, Lodovico	I	145
Arkwright, Sir Richard	I	150
Arnold, Sir Edwin	I	231
Arthur, Chester A.	I	232
Bacon, Francis	I	244
Baltimore, Lord	I	260
Bancroft, George	I	264
Beecher, Henry Ward	I	313
Bismarck, Prince von	I	352
Blackmore, Richard D.	I	507
Blaine, James G.	I	508
Boccaccio, Giovanni	I	374
Boone, Daniel	I	391
Brontë, Charlotte	I	436
Brooks, Phillips	I	517
Brown, John	III	1461
Browning, Robert	I	443
Bryant, William Cullen	I	449
Bulwer-Lytton, Edward G. E.	I	462
Bunyan, John	I	466
Burgoyne, Gen. John	I	469
Burke, Edmund	I	470
Burns, Robert	I	474
Burnside, Ambrose E.	I	477
Burr, Aaron E.	I	478
Byron, Lord	I	484
Cæsar, Julius	I	528
Calhoun, John C.	II	537
Camoëns, Luis de	II	549
Carlyle, Thomas	II	579
Cellini, Benvenuto	II	606
Cervantes-Saavedra	II	615
Chase, Salmon P.	II	632
Chaucer, Geoffrey	II	636
Clay, Henry	II	676
Clemens, Samuel L.	II	838
Cleveland, Grover	II	841
Coleridge, Samuel T.	II	701
Columbus, Christopher	II	710
Cooper, James Fenimore	II	749
Corneille, Pierre	II	759
Cornwallis, Charles	II	730
Cowper, William	II	778
Custer, George A.	II	862
Dante-Alighieri	II	874
Darwin, Charles R.	II	1002
Davis, Jefferson	II	1006
Davy, Sir Humphrey	II	881
Decatur, Stephen	II	888
Defoe, Daniel	II	897
DeQuincy, Thomas	II	913
Descartes, René	II	917
Dickens, Charles	II	930
Douglas, Stephen A.	II	968
Drake, Sir Francis	II	973
Dryden, John	II	986
Edison, Thomas A.	III	1136
Eliot, George	II	855
Emerson, Ralph Waldo	III	1079
Ericsson, John	III	1104
Farragut, David G.	III	1162
Fénelon, Français de	III	1173
Franklin, Benjamin	III	1234
Fulton, Robert	III	1255
Galileo	III	1239
Garfield, James A.	III	1299
Garrison, William Lloyd	III	1303
Gates, Horatio	III	1309
Gladstone, William E.	III	1341
Goethe, Johann W. von	III	1355
Goldsmith, Oliver	III	1359
Grant, Ulysses S.	III	1374
Gray, Thomas	III	1380
Greeley, Horace	III	1389
Hale, Nathan	III	1440
Hamilton, Alexander	III	1446
Hancock, John	III	1450
Harrison, Benjamin	III	1462
Hawthorne, Nathaniel	III	1471
Hayes, Rutherford B.	III	1581
Henry, Patrick	III	1492
Herder, Johann G. von	III	1498
Herrick, Robert	III	1502
Holmes, Oliver Wendell	III	1525
Houston, Sam	III	1545
Hugo, Victor	III	1550
Humboldt, Alexander von	III	1554
Huxley, Thomas H.	IV	1594
Irving, Washington	IV	1665
Jackson, Andrew	IV	1688
Jay, John	IV	1701
Jefferson, Thomas	IV	1702
Jeffreys, Lord	IV	1765
Johnson, Samuel	IV	1716
Johnston, Albert Sydney	IV	1719
Johnston, Joseph E.	IV	1720
Jones, John Paul	IV	1723
Jonson, Ben	IV	1724
Kant, Immanuel	IV	1746
Keats, John	IV	1750
Klopstock, Friedrich	IV	1763
Knox, Henry	IV	1767
Lafayette, Marquis de	IV	1789
Lamb, Charles	IV	1795
Landor, Walter Savage	IV	1803
Lee, Robert E.	IV	1831
Lessing, Gotthold E.	IV	1845
Lincoln, Abraham	IV	1865
Linnæus, Charles	IV	1870
Longfellow, Henry W.	IV	1892
Lowell, James Russell	IV	1905
MacClellan, George B.	IV	1944
Macaulay, Thomas B.	IV	1943
McKinley, William, Jr.	V	2150
Madison, James	IV	1951
Manning, James E.	V	2144

FULL-PAGE PORTRAITS—CONTINUED.

	Vol.	Page
Marshall, John	IV	1990
Meade, George G.	IV	2010
Michael-Angelo	IV	2044
Mill, John Stuart	V	2157
Milton, John	IV	2058
Moliere	IV	2082
Monroe, James	IV	2092
Montagu, Mary Wortley	IV	2095
Montaigne, Michel	IV	2096
Moore, Thomas	IV	2104
Motley, John L.	V	2117
Newman, John Henry	V	2201
Newton, Sir Isaac	V	2206
Nightingale, Florence	V	2245
Oglethorpe, James Edward	V	2261
Palissy, Bernard	V	2313
Parkman, Francis	V	2328
Pascal, Blaise	V	2334
Perry, Oliver Hazard	V	2359
Pestalozzi, Johann H.	V	2484
Petrarch, Francesco	V	2367
Philip, King	V	2375
Pierce, Franklin	V	2385
Pocahontas	V	2407
Poe, Edgar Allan	V	2408
Polk, James Knox	V	2413
Pope, Alexander	V	2420
Putnam, Israel	V	2471
Rabelais, François	V	2512
Raleigh, Sir Walter	V	2520
Rousseau, Jean J.	V	2589
Ruskin, John	V	2597
Sand, George	V	2630
Santa Anna, Gen.	V	2635
Schiller, Friedrich von	VI	2650
Schopenhauer, Arthur	VI	2654
Scott, Sir Walter	VI	2661
Scott, Winfield	VI	2662
Seward, William H.	VI	2689
Shelley, Percy B.	VI	2698
Sheridan, Philip H.	VI	2701
Sherman, William T.	VI	2702
Sidney, Sir Philip	VI	2710
Southey, Robert	VI	2789
Spencer, Herbert	VI	2855
Spenser, Edmund	VI	2758
Spinoza, Benedict	VI	2767
Steele, Richard	VI	2785
Stephens, Alexander H.	VI	2786
Stephenson, George	VI	2789
Stowe, Harriet Beecher	VI	2798
Stuyvesant, Peter	VI	2806
Sumner, Charles	VI	2819
Swift, Jonathan	VI	2830
Tasso, Torquato	VI	2874
Taylor, Zachary	VI	2878
Tennyson, Alfred	VI	2887
Thackeray, William M.	VI	2893
Thomas, George H.	VI	2902
Thomson, Sir William (Lord Kelvin)	VI	2957
Thoreau, Henry D.	VI	2961
Tyler, John	VI	2946
Tyndall, John	VI	2967
Uhland, Ludwig	VI	2992
Voltaire, François M. A.	VI	3023
Wagner, Richard	VI	3033
Washington, George	VI	3041
Washington, Martha	VI	3045
Watt, James	VI	3051
Webster, Daniel	VI	3057
Wesley, John	VI	3063
Whitney, Eli	VI	3073
Whittier, John G.	VI	3074
Wieland, Christoph M.	VI	3078
Wilberforce, William	VI	3112
Winthrop, John	VI	3116
Wolfe, James	VI	3090
Wordsworth, William	VI	3095
Wycliffe, John	VI	3101

COLORED MAPS.

	Vol.	Page
Abyssinia	I	48
Afghanistan	I	166
Africa	I	48
Alabama	I	60
Alaska	I	62
Algeria	I	48
Arabia	I	48
Argentine Republic	I	91
Arizona	I	148
Arkansas	I	151
Asia	I	166
Australia	I	196
Bahama Islands	I	90
Balkan States	VI	2940
Baluchistan	I	166
Belgium	III	1118
Bolivia	I	91
Brazil	I	91
British Columbia	II	554
British Guiana	I	91
British Honduras	II	610
British India	I	166
British North America	II	554
Bulgaria	VI	2940
California	II	540
Canada (Dominion of)	II	554
Central America	II	610
Chile	I	91
Chinese Empire	I	166
Cochin China	I	166
Colombia	I	91
Colorado	II	706
Congo Free State	I	48
Connecticut	II	732
Corea	I	166
Costa Rica	II	610
Cuba	II	798
Delaware	IV	1996
Denmark	III	1118
Dutch Guiana	I	91
Ecuador	I	91
Egypt	I	48
England and Wales	III	1118
Europe	III	1118
Fiji Islands	I	196
Florida	III	1204
French Guiana	I	91
Georgia	III	1324
Germany	III	1118
Great Britain	III	1118
Greece	VI	2940
Greenland	I	90
Guatemala	II	610
Guiana	I	91
Haiti	I	90
Hawaii (Sandwich Islands)	I	196
Hawaii " " (charts)	III	1578–1579
Honduras	II	610
Iceland	III	1118
Idaho	IV	1600
Illinois	IV	1604
India	I	166
Indiana	IV	1622
Indian Territory	V	2298
Indo-China	I	166
Iowa	IV	1654
Ireland	III	1118
Italy	III	1118
Jamaica	I	90
Japan	I	166
Kansas	IV	1744
Kentucky	IV	1752
Labrador	II	554
Louisiana	IV	1900
Madagascar	I	48
Maine	IV	1960
Manitoba	II	554
Maritime Provinces (Canada)	V	2194
Maryland	IV	1996
Massachusetts	IV	2000
Melanesia	I	196
Mexico	IV	2040
Michigan	IV	2046
Minnesota	IV	2064
Mississippi	IV	2072
Missouri	IV	2074
Montana	IV	2098
Montenegro	VI	2940
Morocco	I	48
Nebraska	V	2182
Netherlands, The	III	1118
Nevada	V	2192
New Brunswick	V	2194
Newfoundland	II	554
New Hampshire	V	2196
New Jersey	V	2198
New Mexico	V	2202
New South Wales	I	196
New York	V	2208
New Zealand	I	196
Nicaragua	II	610
North America	I	90
North Carolina	V	2226
North Dakota	V	2248
Northwest Territories	II	554
Norway	III	1118
Nova Scotia	V	2194
Nubia	I	48
Oceania	I	196
Ohio	V	2262
Oklahoma	V	2298
Ontario	V	2300
Orange Free State	I	48
Oregon	V	2278
Paraguay	I	91
Pennsylvania	V	2352
Persia	I	166
Peru	I	91
Phillipine Islands	I	196
Portugal	III	1118
Prince Edward Island	V	2194
Puerto Rico	I	90
Quebec	V	2504
Queensland	I	196
Rhode Island	V	2562
Roumania	VI	2940
Russia	III	1118
Russia, Asiatic	I	166
Salvador	II	610
Santa Domingo	I	90
Scotland	III	1118
Servia	VI	2940
Siam	I	166
Siberia	I	166
Soudan, The	I	48
South Africa	VI	2853
South America	I	91
South Australia	I	196
South Carolina	VI	2746
South Dakota	VI	2852
Spain	III	1118
Suez Canal	I	48
Sweden	III	1113
Tasmania	I	196
Tennessee	IV	1752
Texas	VI	2890
Tunis	I	48
Turkey in Asia	I	166
Turkey in Europe	VI	2940
United States	VI	2980
Uruguay	I	91
Utah	VI	2988
Venezula	I	91
Vermont	VI	3006
Victoria	I	196
Virginia	VI	3016
Washington	VI	3044
Western Australia	I	196
West Indies	I	90
West Virginia	VI	3066
Wisconsin	VI	3086
World (Mercator's projection)	VI	3096
Wyoming	VI	3098

A Modern Reference Library

Encyclopaedia, Dictionary, Gazetteer

and Atlas of the World

A.

A The first letter of the alphabet in almost every known language. This, doubtless, is owing to the great simplicity of its sound, it being the letter which is most easily and naturally uttered by the organs of speech. Its pronunciation is more uniform in other languages than in English, where it has at least 4 distinct sounds, known as the long or slender, the broad, the short or open, and the middle as in *name, call, man, father*. In *Grammar*, *A* is styled the indefinite article, and denotes one or any; as, *a* man. As an abbreviation, or symbol, it has been largely used from the earliest times. In *Music*, *A* is the nominal of the 6th note in the gamut; it is also the name of one of the two natural moods, and is the open note of the 2d string of the violin, by which the other strings are tuned and regulated. In *Logic*, *A* denotes a universal affirmative proposition; and in *Algebra*, *a*, *b*, *c* are used to represent known quantities, while the last letters, *x*, *y*, *z*, are generally taken to denote unknown quantities. As a numeral, *a'*, among the Greeks, denoted 1; and with a mark under it, 1000. With the Romans, *A* signified 500; and with a short horizontal line over it, 5000. In trials of criminal causes among the Romans, *A* signified *absolvo*, I acquit; and was hence called *litera salutaris*, the saving letter. When put to bills of exchange in England, *A* signifies accepted. *A* 1 is a symbol by which first-class vessels—that is to say, vessels whose hull and equipments are in an efficient condition—are known and registered at Lloyd's for a certain number of years after being built. *A A A*, in *Chemistry*, signifies *amalgama*, to mix; and in *Pharmacy*, *ā*, or *āā*, denotes that the proportions of the ingredients to which it refers are to be equal. *A. B.* stand for *Artium Baccalaureus*, Bachelor of Arts; *A. C.* for *Ante Christum*, before Christ; *A M.* for *anno mundi*, in the year of the world, and for *ante meridiem*, before noon; for *Artium Magister*, Master of Arts, &c.

Aa, [Tent. *aa*, flowing water.] The name of several small rivers in Central and Northern Europe.

Aal'borg, a city and seaport of Denmark, in Jütland, on the Lymfiord, near its mouth in the Cattegat; lat. 57° 2′ N., lon. 90° 55′ E. It is the capital of a district of the same name. *Pop.* (1890), 19,503.

Aa'len, a town of Würtemburg, on the Kocher, 40 m. E. of Stuttgart. *Pop.* 7,155.

Aa'li Pasha (Mahomed Emin), a Turkish diplomat and statesman, B. at Constantinople, 1815, became in 1857 Grand Vizier; signed the treaty of Paris, 1856; and was Regent of the Ottoman Empire in 1867. D. 1871.

Aal'ten, a town of Holland, province Gelderland, on the Aa, 20 m. E. of Arnhem. Pop. 6,084.

Aam, a measure of liquids among the Dutch, varying in different places from 35 to 41 English gallons.

Aar, the most considerable river in Switzerland, after the Rhine and Rhone. It forms at Handeck, in the valley of Hasli, a magnificent waterfall of above 150 feet in height, and empties into the Rhine, opposite Waldshut, after a course of about 170 miles.

Aar'au, the chief city of the canton of Aargau, Switzerland, situate on the river Aar, at the south base of the Jura. *Pop.* 5,449, chiefly Protestants. Lat. 47° 23′ 35″ N., Lon. 5° 2′ 55″ E. The famous baths of Schintznach are about 10 miles distant.

Aard'-vark, [Du. earth-pig.] (*Zoöl.*) The *Orycteropus Capensis*, an insectivorous animal which partakes of the nature both of the Ant-eater and the Armadillo; agreeing with the former in its general habits, but, although entirely destitute of scaly armor, more resembling the latter as to its anatomical structure. The *A.-V.* measures about 5 feet to the end of the tail; its skin is thick, coarse, and covered with stiff hair; the limbs short, thick, and very muscular. This animal is very common

Fig. 1.—AARD-VARK.

in Cape Colony, and has received its popular name from its habit of burrowing (which its taper head and powerful claws are admirably adapted for), as well as from its fancied resemblance to a small pig.

Aard'-wolf, [Du. earth-wolf.] (*Zoöl.*) The *Proteles Lalandii*, a singular carnivorous animal, first brought from S. Africa by the traveler Delalande. It forms the connecting link between three genera widely separated from each other, having externally the appearance and bone-structure of the hyæna united to the head and feet of the fox, with the intestines of the civet. Its size is about that of a full-grown fox, which it resembles in both its habits and manners, being nocturnal, and constructing a subterraneous abode.

Fig. 2.—AARD-WOLF.

Aar'gau, or Argovia, one of the cantons of Switzerland, bounded on the north by the river Rhine, on the east by Zurich and Zug, on the south by Lucerne and Berne, and on the west by Soleure and Basle. *Area*, 503 square miles of well cultivated soil and extensive vineyards. *Pop.* 201,567, more than half of whom are Protestants. This is one of the cantons most distinguished for industry and generally diffused prosperity; owing chiefly to the union of pastoral with mechanical pursuits. German is the language almost universally spoken. *A.* is the least mountainous canton of Switzerland, the surface of the country is beautifully diversified, and the climate is milder than most parts of Switzerland. Until 1798, *A.* formed part of the canton of Berne. Education is compulsory, but the law is not always strictly enforced.

Aar'huus, one of the districts (stifts) into which Denmark is divided. It embraces the most eastern part of the peninsula of Jütland, and is divided into two bailiwicks, Aarhuus and Randers. *Area*, 1,821 sq. m.; pop. 323,480, chiefly occupied in the fisheries, and the females in spinning.

Aarhuus, a city, the capital of the bailiwick of the same name. It is situated on the Cattegat. Lat. 56° 9′ 35″ N., long. 10° 8′ E. Pop. (1890) 33,306. The harbor, is small, but good and secure.

Aarlanderveen, a town of the Netherlands, 17 miles S. of Haarlem. Pop. 2,688.

Aar'on, son of Amram (tribe of Levi), elder brother of Moses, and divinely appointed to be his spokesman in the embassy to the court of Pharaoh. By the same authority, avouched in the budding of his rod, he was chosen the first high priest. He was recreant to his trust in the absence of Moses upon the mount, and made the golden calf for the people to worship. He died on Mount Hor in the 123d year of his age, and the high-priesthood descended to his third son Eleazar.

(*Aaron's rod,*) in Arch., is a rod like that of Mercury, but with only one serpent, instead of two, twined around it.

Aaron, Hill of, [Arab. *Jebel Haroun.*] A lofty mountain range of Arabia Petræ, in the district of Sherah or Seir, 15 miles S.W. of Shobek. On its highest pinnacle — called by the Arabs *Nebi Haroun* — is a small building supposed by the natives to enclose the tomb of Aaron; and there seems no reason to doubt that this is the Mount Hor mentioned in Num. xxxiii.

Aar'on's Beard, (*Bot.*) A popular name for a number of plants.

Aar'sens, Frans von, a Dutch diplomatist, b. 1572, contributed much to the death of Barneveldt. D. 1641.

Aas'var, a group of small islands, abt. 13 m. from the N. Norwegian coast, forming part of prov. Nordland.

Aat'yl, a town of Syria, 54 miles S.S.E. of Damascus, chiefly inhabited by Druses.

Aav'ora, *n.* (*Bot.*) The fruit of a species of palm-tree, which grows in the West Indies and Africa. It is of the size of a hen's egg, and included with several others in a large shell. In the middle of the fruit there is a hard nut, about the size of a peach-stone, which contains a white almond, very astringent.

Ab, a prefix to words of Latin origin. It signifies *from, a separating* or *departure.*

Ab, the eleventh month of the civil year of the Hebrews, and the fifth of their ecclesiastical year, which begins with the month Nisan. It answers to the moon of July, that is, to part of our month of July and to the beginning of August; it consists of thirty days.

Aba, or rather **Abou Hanifah** or **Hanfa,** surnamed Alnooma, born in the 80th and died in the 150 year of the Hegira. He is the most celebrated doctor of the orthodox Mussulmans, and his sect is the most esteemed of the four which they severally follow.

Aba, Albou, or **Avou,** a king of Hungary, elected in 1041; was murdered by his own soldiers in 1044.

Aba, a mountain in Armenia, part of Mount Taurus, where the famous rivers Araxes and Euphrates have their rise.

Ab'abde, a tribe of Bedouins who inhabit the country south of Kosseir, nearly as far as the latitude of Derr. Many of this race have settled in Upper Egypt, but the greatest part of them still live like Bedouins. Their savage neighbors, the Bisharye, inhabit the mountains southwards from Derr. Their women are said to be as handsome as those of Abyssinia, but are reported to be of very depraved habits.

Ababdeh, Ababde, or **Ababidek,** a people of eastern Africa, the descendants of the ancient Nubians, scattered throughout Nubia, and between the borders of the valley of the Nile and the Red Sea, but located chiefly from lat. 23° to the western border of Lower Egypt. They are small-limbed, but well formed. Their complexion is very dark; their features, however, are more European than negro.

Ab'aca, or Manilla hemp. See Plantain.

Abacis'cus. (*Arch.*) One of the squares of a tessellated pavement.

Aback', *adv.* [A. S.] (*Naut.*) The situation of the sails when they are pressed against the masts by the force of the wind. Thus, the sails are said to be "taken aback," when, by a change of wind or otherwise, they are placed in that position.

Ab'aco, a long and crooked island, the largest of the Bahama groups, near the Florida coast, 80 miles long, by an average of 15 wide. Its N. point is in lat. 26° 30′ N., long. 76° 57′ W. Pop. 1,900, (Little Abaco adjoining included.) The sailor's landmark, "Hole in the Wall," is a perforation in the rock on the S.E. point.

Ab'acot, *n.* The cap of state, formerly used by English kings, wrought into the figure of two crowns.

Abactinal, *a.* (*Zoöl.*) A new name given to the aboral part or pole opposed to the *actinal*, in the species of the ord. *Radiata, &c.*

Abac'tor, *n.* [Lat. *abigo*, to drive] (*Law.*) One that feloniously drives away or steals a herd or numbers of cattle at once, in distinction from one that steals one or two sheep.

Abac'ulus, *n.* [L. dim. of *abacus.*] (*Arch.*) A small tile of glass, marble, or other substance, of various colors, used in making ornamental patterns in mosaic pavements.

Ab'acus. [Lat. counting-table, level, tablet, &c.] (*Arch.*) A constituent part of the capital of a column, which supports the horizontal entablement. In the Tuscan, Doric, and Ionic orders, it is flat and square; but, in the Corinthian and Composite orders, its four sides are arched inward, with generally a rose in the centre. In Gothic architecture the A. was very variously employed, according to the fancy of the architect.

(*Arith.*) The name of an instrument employed in England to teach the elementary principles of the science of numbers. The ancient mathematicians also employed

Fig. 3.— ABACUS.

the term *abacus* to designate a table covered with sand, upon which they traced their diagrams. The Chinese Abacus, or *Shwan-pan*, is also an instrument for facilitating arithmetical calculations. It consists of several series of beads or counters strung upon brass wires stretched from the top to the bottom of an instrument, and divided in the middle by a cross-piece from side to side. In the upper compartment every wire has two beads, each of which counts 5; in the lower space every wire has five beads of different values; the first being counted as 1, the second as 10, the third as 100, and so on. As in China, the entire system is decimal, that is, when every weight and measure is the tenth part of the next greater one, the *abacus* is used with wonderful rapidity.

Abacus is also a Roman table, or high shelf placed against the wall, and serving as a cupboard or buffet.

Abad', a Hindoo word, signifying the city of; thus Hyder-abad, the city of Hyder.

Abad, the name of several Moorish kings of Seville. Abad I. began to reign in the year 1023, and d. in 1042; Abad III., celebrated for his love of art and letters, d. in 1095, and with him ended the dynasty of the Abadites.

Abad'don, *n.* In the Bible, and in every Rabbinical instance, this word means the angel of death, or the angel of the abyss or "bottomless pit," or the place of destruction, the subterranean world.

Ab'adeh, a Persian town in Fars, 115 miles north of Shiraz, formerly a place of importance but now decayed. Pop. 5,000.

Abad'iotes. The name of a Mohammedan settlement of pirates, situated on the island of Candia, south of Mount Ida, consisting of a population of about 7,000. They are a branch of the Saracens whom Nicephosus expelled from Candia in the tenth century. They are a smaller and weaker race than the other inhabitants, and speak the Arabic language.

Ab'adir. (*Myth.*) The name of a stone which Saturn swallowed by the contrivance of his wife Ops, believing it to be his new-born son Jupiter; hence it became the object of religious worship.

Abaft', or **Aft,** [A. S.] (*Naut.*) The hinder part of a ship; thus, "*abaft* the main-mast," that is to say, between the main-mast and the stern. "*Abaft* the beam," signifies the relative situation of an object in some part of the horizon contained between a line drawn at right angles to the keel and the point to which the stern of the ship is directed.

Ab'agun, *n.* The name of a fowl in Ethiopia, remarkable by its beauty, and for a sort of horn growing on its head.

Abaka' Khan, the eighth emperor of the Moguls, a wise and good prince, ascended the throne in 1264. He reigned 17 years, and is by some authors said to have been a Christian.

Abakansk'. A range of mountains in the government of Tomsk, in Siberia, extending from the river Tom to the Yenisei, parallel to the Altai mountains.—Also the name of a fortified town of Siberia, in the government of Tomsk, on the river Abakan. This is considered the mildest and most salubrious place in Siberia. *Pop.* (1898) 1,425. Lat. 56 N., lon. 91° 14 E.

Abal'ienate. [Lat. *abalienare.*] (*Law.*) To transfer to another person that which was ours before.

Abaliena'tion. (*Law.*) The act of giving up one's right to another person; or a making over an estate, goods, or chattels by sale, or due course of law.

Abancay', a district of Peru in the *partido* of Cuzco. The surface is varied; the plains produce very rich crops of sugar-cane, and the principal cereals, as well as much hemp, which is manufactured into cloth in the chief town. The mountains afford some silver, and pasturage for large herds of cattle. The chief town is Abancay, 65 miles from Cuzco. Pop. about 5,000.

Aban'don, *v. a.* [Fr. *abandonner.*] To forsake entirely; as, to *abandon* a hopeless enterprise; — to leave with a view never to return; to give up or resign without control; as, to *abandon* one's self to intemperance.

Abandon, *n.* [Fr.] A complete giving up; hence, an utter disregard of self, arising from absorption in some favorite object or emotion, and sometimes a disregard of appearances, producing either careless negligence or unstudied ease of manner.

Abandoned, *p. a.* Given up; — is used in the peculiar sense of self-abandoned to wrong or evil.

Abandonee', *n.* (*Law.*) One to whom something is abandoned.

Aban'doner, *n.* One who abandons.

Aban'donment, *n.* A total desertion; a state of being forsaken.— In *marine insurance*, it is the surrendering of the ship or goods insured, to the insurers, in consequence of damage or loss sustained from any of the causes insured against. In every case of loss or damage from these causes, the insured is not entitled to abandon, but only when serious injury has been sustained; as when the voyage is lost or not worth pursuing, or when the thing insured is so damaged and spoiled as to be of little or no value to the owner. In the case of shipwreck or other misfortune, the captain and crew are bound to do all in their power to save the property, without prejudice to the rights of abandonment; for which they are entitled to wages and remuneration from the insurers, at least so far as what is saved will allow.

Ab'ano, a town in the province of Lombardy, Italy, at the foot of the Vicentine Hills. It is visited by invalids for the benefit of its baths, which were well known to the ancients, and are noticed by Martial and Claudian as *Fontes Aponi.*

Ab'antes, *n.* A people of ancient Greece, who came originally from Thrace, and settled in Phocis, where they built a town which they called Aba, after the name of Abas their leader.

Ab'arim, *n.* High mountains of Moab. From Mt. Neba, the highest summit, Moses is said to have viewed the land of Canaan, where he died.

Ab'aris, the Hyperborean, a celebrated sage of antiquity, whose history and travels have been the subject of much learned discussion. Everything relating to him is apocryphal, and even his æra is doubtful. Some refer his appearance in Greece to the third Olympiad, others to the 21st, while some transfer him to the 52d Olympiad, or 570 years B. C.

Abas,' a weight used in Persia, for weighing pearls; it is equal to 2.25 grains Eng.

Abasa', an island in the Red Sea, near Abyssinia.

Abase', *v. a.* [Fr. *abaisser.*] To cast down, to depress, to bring low; almost always in a figurative and personal sense.

"Behold every one that is proud, and *abase* him." — *Job* xl. 11.

Abased', or **Abaisse,** lowered, humbled.

(*Her.*) The wings of eagles, &c., when the tip inclines downwards to the point of the shield, or when the wings are shut.

Abase'ment, *n.* The state of being brought low; the act of bringing low.

Abash', *v. a.* [Heb. *bosh*, to be ashamed.] To make ashamed; to cast down the countenance; to put to confusion; to confuse or confound.

"They heard and were *abashed*." — *Milton.*

Abash'ment, *n.* State of being abashed; confusion from shame.

Abas'si, or **Abas'sis,** *n.* A silver coin of Persia of the value of twenty cents.

Abat'able, *a.* That may or can be abated; as, an *abatable* writ or nuisance.

Abate', *v. a.* [Fr. *abattre*, to beat down.] To lessen, to moderate, to diminish, to mitigate; as, to *abate* zeal, to *abate* a demand, to *abate* a pain; — to cause to fail; to overthrow; as, to *abate* a writ; — to deduct; — to annul; — to deject; to depress; as, to *abate* the soul.

Abate, *v. n.* To fail; to be defeated; as, a writ *abates;* — to grow less; to decrease; as, pain or storm *abates.*

(*Law.*) To enter into a freehold after the death of the last occupant, and before the heir or devisee takes possession.

(*Horsemanship.*) To perform well a downward motion. A horse is said to *abate*, or take down his curvets, when, working upon curvets, he puts both his hind-legs to the ground at once, and observes the same exactness in all the times.

Abate'ment, *n.* [Old Fr. *abater*, to beat down.] The act of abating, or the state of being abated; diminution, decrease.— The sum or quantity taken away by the act of abating; the cause of abating.

(*Law.*) A suspension of all proceedings in a suit, from the want of proper parties capable of proceeding therein. — A reduction made by the creditor, for the prompt payment of a debt due by the payer or debtor.— The deduction sometimes made at the Custom-House from the duties chargeable upon goods when they are damaged. — The overthrow of an action in consequence of some error committed in bringing or conducting it, when the plaintiff is not forever barred from bringing another action.

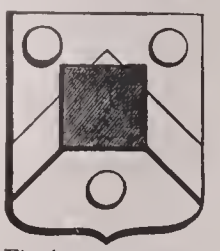


Fig. 4. — ABATEMENT.

(*Her.*) An accidental figure added to a coat-of-arms, to lessen its true dignity, and to indicate some stain in the character of the bearer.

Abat'er, *n.* One who, or that which, abates.

Ab'atis, or **Ab'attis.** [Fr. *abattis.*] In military affairs, a kind of defence made of felled trees. In sudden emergencies, the trees are merely laid lengthwise beside each other, with the branches pointed outward to prevent the approach of the enemy. When the abatis is employed for the defence of a pass or entrance, the boughs of the trees are stripped of their leaves and pointed, the trunks are planted in the ground, and the branches interwoven with each other.

Aba'tor, *n.* (*Law.*) One who intrudes into houses or land, vacated by the death of the former possessor, as yet not entered upon or taken up by his heir.

Aba'tos, an island in the lake of Mœris, in Egypt, famous for being the sepulchre of Osiris, and for producing the papyrus, of which the ancients made their paper.

Abattoir'. [Fr. *abattre*, to knock down.] A term borrowed from the French, with whom it signifies a slaughter-house. The abattoir system was, in 1818,

adopted in France. There are at present near Paris five immense establishments of this kind, where butchers are provided with a place for slaughtering their cattle and keeping their meat in store. There are also places for supplying the beasts with water, receptacles for the fat, hoofs, blood, brains, &c. In the neighborhood of the abattoirs there are manufactories of blood-manure, gelatine, glue, and the other products of the offal. In several of the large cities of the United States, slaughter-houses are placed under similar regulations to those which are in operation in Paris.

Abattuta. [Ital.] (*Music.*) In strict or measured time.

Ab'ature. *n.* [From *abate.*] Spires of grass beaten down by a stag in passing.

Aba-ujvar. One of the palatinates into which the Austrian kingdom of Hungary is divided. It is mountainous, and nearly one-half covered with wood. Its chief productions are wine, tobacco, wood, corn, flax, fruit, metals, and precious stones. Area 1118 square miles; pop. 204,000.

Abauzit, FIRMIN, (*ăb'o-ze,*) a French writer of merit, was born at Uzes in 1679. After the revocation of the edict of Nantes, his mother took refuge in Geneva, where she expended all her small fortune in the education of Abauzit. While travelling in England, he became the friend of Newton. He has been highly eulogized both by Voltaire and Rousseau; but his literary labors, chiefly theological, are not on a par with his high reputation. In his religious opinions, this learned man leaned towards Socinianism, or the modern Unitarian doctrine. He died at the age of 87 years.

Abavo, *n.* (*Bot.*) A synonym of the *adansonia.*

Abb, *n.* [Sax. *ab* or *ob.*] Among weavers, yarn for the warps. They say also *abb-wool* in the same sense.

Abb, a town of Yemen, in Arabia, situated on a mountain in the midst of a very fertile country, 73 miles N.E. of Mocha. Pop. about 5,000.

Abba, in ancient Geography, a town in Africa Propria, near Carthage.

Abba, in the Syriac and Chaldean languages, literally signifies a *father;* and figuratively, a superior, reputed as a father in respect of age, dignity, or affection. It is more particularly used in the Syriac, Coptic, and Ethiopic churches, as a title given to the bishops.

Abbacy, *n.* The dignity, rights and privileges of an abbot.

Abbadie, JACQUES, a celebrated Protestant divine, born at Nay in France, in 1658. Obliged to repair to Holland, and subsequently to Berlin, he went at last to England, where he died in 1727. His principal works, all French, are: "Traité de la Vérité de la Religion Chrétienne;" "Défense de la Nation Britannique;" "Histoire de la Conspiration Dernière de l'Angleterre." D. in London, 1727.

Abbas-Mirza, a Persian prince, son of the Shah Feth-Ali, born 1783. Well known by his unsuccessful wars against Russia in 1811–1813, and 1826–1828. He died in 1833. His death was a great loss to his country, although he could not have prevented the encroachments of Russia. His eldest son, Mohammed Mirza, mounted the throne in 1834, on the death of Feth-Ali, under the protection of England and Russia.

Abbas, (BEN-ABD-EL-MOTTALIB,) a paternal uncle of Mohammed, and the ancestor of the dynasty of Abbassides, B. at Mecca, 566. He fought against his nephew at the well of Bedr and was taken prisoner. He was afterwards converted to the cause of Mohammed, and became one of his most devoted partisans. D. 652.

Abbas THE GREAT. This celebrated Persian sovereign, of the dynasty of Sophis, ascended the throne in 1585, on the murder of his brother Ismael. His character was sanguinary, but politic and determined. He suppressed the Koorghis, a turbulent soldiery, till then the terror of Persian sovereigns, and removed the seat of government to Ispahan. Of three sons he had, two were deprived of sight, and he put the other to death. Notwithstanding the public and domestic cruelty of Abbas, he was much esteemed by his subjects, whom he benefited by putting down the native khans, and by the alliance of their sovereign with European rulers, in furtherance of commercial intercourse. Abbas died in 1628, and was succeeded by his grandson, Shah Sephi.

Abbas, (PASHA,) viceroy of Egypt, born in 1813. Grandson of Mehemet Ali, he succeeded Ibrahim Pasha in 1848, a friend of administrative reform, but having powerful adversaries at Constantinople; he died in 1854, with the grief of having seen his plans thwarted by insuperable obstacles, and Egypt reduced to vassalage.

Ab'bassa, sister of the celebrated Caliph Haroun-al-Raschid, who was given in marriage to his vizier Giaffar, on the strange condition that she should remain a virgin; the violation of which, and its terrible consequences, have been the theme of oriental stories.

Abbas'sides, *n. pl.* (*Hist.*) The name of a race who possessed the caliphat for 524 years. There were 37 caliphs of this race who succeeded one another without interruption. They drew their descent from Abbas-ben-Abd-el-Motallib, Mahomet's uncle. The princes of this family made war on the dynasty of Ommiades, A. D. 746; and in 750, defeated the last caliph of the rival family in the bloody battle of Zab, near Mosul. The most celebrated monarchs of this family were Al Mansur and Haroun-al-Raschid. Their empire terminated in Mostazem, who fell in battle against the Tartar prince Hulaku, in 1257.

Abbatucci, JACQUES PIERRE CHARLES, a French diplomatist, B. 1791, administrator in Corsica, and several times elected to the Chamber of Deputies; he distinguished himself in the National Assembly of 1848 by his opposition to the social democratic movement. Appointed by Louis Napoleon minister of justice and keeper of the seals in 1852. He died Nov. 11, 1857.

Abba'tial, abbatical, *a.* Belonging to an abbey.

Ab'be, LOUISE, a poetess of France, who flourished in the 16th century, and was surnamed *La belle Cordelière.*

Ab'bé, *n.* (*Eccl. Hist.*) The French term for an abbot. Before the revolution the title was assumed also by a class of persons who had not in all cases received the tonsure, or undertaken to connect themselves with the church. They held a conspicuous place in society, and generally attached themselves to fashionable or literary patrons. This anomalous class seems to have taken its rise from the great number of abbeys, the revenues of which were allowed to be bestowed upon laymen, upon condition of their taking orders within a year after their preferment, which latter clause was frequently evaded.

Abbeokuta, or **Abbeokoo'ta,** a city of West Africa and capital of the Egba nation, is situated on the E. bank of the river Ogoon, sixty miles N.E. from Badagry, on the Bight of Benin. Pop. about 75,000; greatly civilized by the labors of missionaries.

Abbetibbe, one of the districts in the territories of Dominion of Canada. Lat. 48° 52′ N., Long. 75° 80′ W.

Ab'bess, *n.* (*Eccl. Hist.*) A female superior or governess of a nunnery, or convent of nuns, having the authority over the nuns which the abbots have over the monks. See *Abbey.*

Abbeville, (*ăb-vēl',*) a city of France, cap. of arrondissement of the same name, (dep. of the Somme,) situated in a pleasant and fertile valley on both sides of the river Somme, 12 miles above its mouth, and 25 miles N. W. of Amiens. This town, which is strongly fortified on Vauban's system, is neat and well built; it is one of the most thriving manufacturing towns in France. Besides black cloths of the best quality, there are produced velvets, cottons, linens, serges, sackings, hosiery, packthread, jewelry, soaps, glass-wares, etc. By help of the tides, vessels of 150 tons come up to the town. Pop. in 1895, 19,851. Lat. 50° 7′ 4″ N., Long. 1° 59′ 58″ E.

Abbeville, in *Alabama,* a post-village, capital of Henry co., 211 miles S. E. of Tuscaloosa, on Gattayabba creek.

Abbeville, in *S. Carolina,* a county bordering on Georgia, bounded on the S. W. by the Savannah river, and on the N. E. by the Saluda river. *Area,* about 960 square miles; soil fertile and extensively cultivated. Pop. (1890) 46,854. Capital, *Abbeville* (pop. 1,696), on an affluent of Little river, 97 miles W. by N. of Columbia.

Abbeville, in *Georgia,* a post-village, capital of Wilcox co., on Ocmulgee river, about 145 m. W. of Savannah.

Abbevile, in *Louisiana,* a post-village, capital of Vermilionparish.

Abbeville, in *Mississippi,* a post-office of Lafayette co.

Ab'bey, *n.* [Fr. *abbaye*] A monastery or society of persons of either sex, secluded from the world and governed by a superior under the title of *abbot* or *abbess.* In the middle ages, abbeys or monasteries were the repositories, as well as the seminaries, of learning; many valuable books and national records, as well as private history, having been preserved in their libraries, the only place in which they could have been safely lodged in those turbulent times. Every abbey had at least one person whose office it was to instruct youth; and the historians of this time are chiefly beholden to the monks for the knowledge they have of former national events. In these houses, also the arts of painting, architecture, and printing were cultivated. They were hospitals for the sick and poor, and afforded entertainment to travellers at a time when there were no inns. They were likewise an asylum for aged and indigent persons of good family. The abbeys were wholly abolished in England by Henry VIII. at the time of the Reformation.

Fig. 5. — MELROSE ABBEY, (Scotland.)

Abbiate-Grasso, a town of northern Italy, prov. of Pavia. It is situate on the canal of Beregnardo, 14 miles from Milan.

Abbit'ibbee, former name of a district, river, and trading station in British America, forming part of the Hudson Bay Co.'s possessions; now part of Ontario.

Ab'bon, or ABBO TERNUUS, a French monk of St. Germain-des-Prés, author of a "Poetical Relation of the Siege of Paris by the Normans and Danes, toward the end of the Ninth Century;" a work only curious as a narrative by an eye-witness of the events which he describes.

Abbon, or ABBO FLORIACENCIS, a French Benedictine monk of the tenth century, abbot of Fleuri, was employed by King Robert of France to negotiate with Pope Gregory V., who had laid France under an interdict. Author of "Epitome of the Lives of the Popes."

Ab'bot, [Heb. *abba,* father.] The superior of a monastery of monks erected into an abbey or priory. The principal distinction observed between abbots are those of *regular* and *commendatory.* The former take the vow and wear the habit of their order; whereas the latter are seculars who have received tonsure, but are obliged by their bulls to take orders when of proper age. Other distinctions also arose among abbots when abbeys were flourishing in Europe; as, *mitred,* those privileged to wear the mitre and exercise episcopal authority within their respective precincts; *crosiered,* so named from their carrying the crosier, or pastoral staff; *œcumenical,* such as exercised universal dominion; and *cardinal,* from their superiority over all others. — *Abbot* is also a title given to others beside the superiors of monasteries; thus, bishops whose sees were formerly abbeys, are called *abbots.* Among the Genoese, the chief magistrate of the republic formerly bore the title of abbot of the people.

Abbot, ABIEL, D.D., a distinguished clergyman in Massachusetts, born at Andover 1770, died 1828. Author of "Letters from Cuba," and a number of sermons.

Abbot, CHARLES, created *Lord Colchester,* speaker of the British House of Commons from 1802 to 1817; died in 1829, in the 72d year of his age.

Abbott, CHARLES, created *Lord Tenterden,* English lawyer; born 1762; died 1832. His treatise on maritime law is a standard work known to all lawyers.

Abbot, a post-township of Piscataquis co., Maine, on the Piscataquis river, 76 m. N. by E. of Augusta.

Abbot, a township of Potter co., Pennsylvania.

Abbot, a former township of Sheboygan co., Wisconsin, now called Sherman.

Ab'botsford, the seat of Sir Walter Scott, the celebrated author of the Waverley Novels, situate on the south bank of the Tweed, a few miles above Melrose. It takes its name from a ford formerly used by the monks of Melrose.

Fig. 2.—ABBOTSFORD.

Ab'botstown, a post-village of Adams co., Pennsylvania, 14 miles W.S.W. of York. *Pop.* (1898) 545.

Abbotsvalley, a former P. O. of Tazewell co., Va.

Abbott, a post-village of Craig co., Va.

Abbott, a family of American writers.

Abbott's Creek, a river of North Carolina; it flows into the Yadkin.

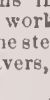
Abbre'viate, *v. a.* [Lat. *abbreviare.*] To shorten by contraction or omission of parts without loss of the main substance; — to shorten, to abridge, to cut short.

(*Math.*) To reduce to lower terms, as a fraction.

Abbreviate, *a.* (*Bot.*) Having one part relatively shorter than another.

Abbrevia'tion and **Abbrevia'ture,** a contraction of a word or passage, made by the omission of the letters, or by the substitution of some arbitrary sign; as, La., Louisiana; Oz., ounce, etc. *Also,* the act of abbreviating. The principal abbreviations in common use are given on the initial page of this work.

(*Mus.*) One dash, or more, through the stem of a note, dividing it respectively into quavers, semiquavers, or demisemiquavers.



Abbre'viator, one who abbreviates or reduces to a smaller compass.

Abbre'viatori. [It.] A body of notaries (72 in number) belonging to the papal court, whose business it is to draw up briefs, and do various kinds of writing usually devolving on official secretaries.

Abbre'viatory, *a.* That abbreviates; shortening.

Abbs, (St.,) a promontory on the eastern coast of Scotland, Lat. 55° 55′ N., Lon. 2° 8′ 30″ W. The tide runs by it with a strong current, and a little wind causes a great rolling sea.

Abchas'ia, Abasia, Abkhasia, (*ăb-ka'ze-ah,*) a prov. of Asiatic Russia, comprehended between Lat. 42° 30′ and 44° 45′ N., and between Long. 37° 3′ and 40° 36′ E. The high mountains of the Caucasus divide it from Circassia on the N.; on the S. E. it is bounded by Mingrelia; and on the S. and W. by the Black Sea. The country is generally mountainous, the climate mild, and the land fertile. In later times this country was subject to Colchis, until subdued by the Emperor Justinian, who introduced civilization and Christianity. Afterward the Persians, Georgians, Mongolians, and more recently the Turks, in turn, ruled over the country. By the treaties of Akerman in 1826, and of Adrianople in 1829, it was ceded to Russia, but except the possession of a few commanding fortresses on the coast, Russia has very little authority over the people, and the chiefs have almost unlimited power. Mahometanism is the religion of the higher classes, but the people generally are buried in idolatry.

Abd, an Arabian prefix, signifying *slave* or *servant;* it enters, with the name of God, into the composition of a great number of proper names; as, *Abd*-allah, servant of God; *Abd*-el-Kader, servant of the mighty God.

Ab'dal, one of a class of religious devotees in Persia, corresponding to a dervise in Turkey.

Abdal'lah, son of Abd-el-Malek-ben-Omar, A. D. 785, a successful leader of the Spanish Moors in their irruption into southern France. He laid siege to and captured the towns of Gironne and Narbonne

Abdal'lah, the last chieftain of the Wahabee sect in Arabia. He was defeated by Ibrahim Bey, son of Mehemet Ali, who treacherously seized him while conferring on terms of peace. Sent to Constantinople, Abdallah was paraded through the streets, and beheaded as a rebel, December, 1818.

Abdallah Ben-Abd-El-Mottalib, father of Mohammed, born at Mecca A. D. 545; died 570. The paternity of the prophet is Abdallah's sole claim to distinction.

Abdallah Ben Yassim, founder of the warlike tribe of Almoravides in Barbary, A. D. 1050, which were afterward conspicuous for the subjugation of part of Spain, and the founding of a dynasty in the Moorish kingdom.

Abdallah Ben Zobair, sultan of Mecca, b. about 622. He was the son of Zobaïr, a companion of Mohammed, and of Asma the sister of Ayesha, the prophet's favorite wife. On the death of the prophet, the assassination of Ali, Mohammed's successor, and the defeat of Yezid, successor of Ali, Abdallah was acknowledged sultan and caliph of Mecca, A. D. 685. Vanquished in his turn by Abd-el-Malek, caliph of Damascus, he retired to the Caaba, where he was killed by a blow on the head from a tile, A. D. 692.

Abdal'latif, or **Abdollatiph,** a celebrated physician and traveller, and one of the most voluminous writers of the East, was born at Bagdad, in 1179, and died in 1231. Of his numerous works, one only has found its way into Europe; nor do any of the others appear to be known at this day in the East. The work here alluded to is an "Account of Egypt;" it presents us with a detailed and authentic view of the state of Egypt during the middle ages.

Abdal-m'alek, or **Abdulmeleeh,** the son of Mirvan, and the fifth caliph of the race of the Ommiades. In his reign the Indies were conquered in the east, and his armies penetrated Spain in the west; he likewise extended his empire toward the south, by making himself master of Medina and Mecca. He began his reign in the 65th year of the Hegira, A. D. 684; reigned 25 years; and four of his sons successively enjoyed the caliphate.

Abdal-m'alek. See Avenzoar.

Abdalonimus, or **Abdolonimus,** also called Ballonymus, a gardener, but of royal descent. Was made king of Sidon by Alexander the Great.

Abdelavi, *n.* (*Bot.*) An Egyptian plant, as a melon.

Abdera, *n.* (*Anc. Geog.*) A town of Thrace, near the mouth of the Nestus. Though it boasted of being the birthplace of Democritus, Protagoras, Anaxarchus, and other distinguished men, yet it was regarded among the ancients as notorious for the stupidity of its inhabitants.

Abd-el-Kader, very renowned by the persevering courage with which he opposed the aggressions of the French against his country, was the third son of a Marabout of the Arab tribe of Hashem, who had risen to influence through his rank, coupled with a great sanctity of demeanor. The early days of Abd-el-Kader are lost in obscurity, but by 1828 he had not only acquired the reputation of a scholar, but that of a saint, from his having twice made a pilgrimage to Mecca, the birthplace of the Prophet. Accompanied by his father, he preached a holy war against the French occupation of Algiers, and called upon the Faithful to rise and expel the infidels. In 1832, he found himself at the head of 10,000 warriors, with whom he attacked Oran, but was several times repulsed with great slaughter. Notwithstanding his discomfiture, however, he might be said to be a gainer, for he had not only increased his reputation for skill and bravery, but had taught his Arabs to face artillery. In 1834, he entered into a treaty with the French, in which he was recognized as emir of Mascara, with the sovereignty of Oran. This treaty added to the importance of the emir in the eyes of the natives, who naturally looked upon their chief as a personage of high consequence, from his having compelled the enemy to recognize him as a sovereign. His success, however, excited the jealousy of some of his brothers in arms, who rose against his authority, but whom he was soon enabled to subdue. For a period of fifteen years he contrived to defend his country, and fight against the encroachments of France; but in 1847 he was compelled to surrender himself a prisoner to General Lamoricière, on condition of being sent to Alexandria or St. Jean d'Acre. The French government, however, refused to ratify the terms of the treaty, and it was not till after four years passed in France, that, in 1852, Louis Napoleon restored him to freedom, on condition that he would not return to Algiers, or conspire against the French. The brave, but fallen Arab consented, and Brussa, in Asia Minor, was assigned him for his future residence. For that place he accordingly set out in 1853, but was afterwards permitted to remove to Constantinople. In 1855 he visited Paris, to see the Exposition, and, finally, with the philosophy of oriental calmness resigned himself to his fate. B. at Mascara, prov. of Oran, 1807; d. at Damascus, May 26, 1883.

Abd-el-koree, or **Salinusus Shoal,** a dangerous rock and coral reef off the S.E. coast of Arabia, in Lat. 14° 54′ 50″ N., Long. 50° 45′ 20″ E., extending 1850 yards from N.N.E. to S.S.W., with a breadth of 300 to 600 yards.

Abd-el-Malek Ben Merwan, fifth caliph of Damascus, of the family of the Ommiades, surnamed *the Flint-skinner* on account of his avarice; known by his successful wars against the Greek Emperor Justinian II., A. D. 685–705.

Abd-el-Malek Ben Omar, one of the viziers of Caliph Abderrahman, in the 8th century. He is the king Marsilius of Ariosto, and of the ancient romances of chivalry. He was governor of Saragossa at the time of Charlemagne's famous invasion of Spain.

Abd-er-Rahman I, surnamed the Wise, first caliph of the family of the Ommiades in Spain. B. 731, d. 787.

Abd-er-Rahman III, called the Great, ascended the throne A. D. 912, at the age of 21. The close of his long reign of 49 years was the most brilliant epoch of Moorish domination in Spain. He died A. D. 961.

Abd-er-Rahman, sultan of Fez and Morocco, b. 1778, ascended the throne 1823. Threatened by the refusal of Austria to pay the tribute for safety against pirates, he wisely adjusted the dispute by relinquishing this sort of "black-mail" formerly levied by Morocco on European ships in the Mediterranean. The religious war under Abd-el-Kader against the French in Algeria involved the sultan in its movements, but was concluded by the battle of Isly, 1844, and the subsequent mediation of England. D. 1855, and was succeeded by his eldest son, Sidi-Mohammed.

Ab'dest, a Persian word, properly signifying the water placed in a basin for washing the hands; but it is used to imply the legal purification practised by the Mahometans before prayer, entering the mosque, or reading the Koran.

Abdi'as (of Babylon), a Christian writer of the first century, who pretended that he had been one of the companions of Jesus Christ.

Ab'dicant, *n.* One who abdicates.

Ab'dicate, *v. a.* [Lat. *abdicare.*] To give up right; to resign; to lay down an office, station, or dignity. To deprive of right, as when a father discards or disclaims a son.

Abdica'tion, a voluntary resignation of a dignity, principally the supreme. Of royal abdications, the most famous are those of the emperors Diocletian and Maximian, in 305; of the Emperor Charles V, in 1556; Philip V, in 1724; Charles IV, in 1808. — Involuntary resignations are also called *abdications; e. g.,* Napoleon's abdication at Fontainebleau. The right of a prince to resign the crown cannot be disputed; but the resignation can affect only his personal right to the crown, and cannot prejudice his descendants; still less force upon the state another constitution, or another family.

Ab'dicative, *a.* Causing or implying abdication.

Ab'ditory, *n.* [Lat. *abditorium.*] A place for secreting or preserving goods.

Abdo'men, [From Lat. *abdo,* to hide: because it hides the viscera.] Scientific name of the belly. The largest cavity in the body, bounded superiorly by the diaphragm, by which it is separated from the chest; inferiorly by the bones of the pubis and ischium; on each side by various muscles, the short ribs, and ossa ilii; anteriorly by the abdominal muscles, and posteriorly by the vertebræ of the loins, the os sacrum and os coccygis. Internally it is invested by a smooth membrane called peritoneum. It is the forepart of this cavity, covered with muscles and common integuments, in the middle of which is the navel, which is properly called abdomen. It contains the liver, pancreas, spleen, kidneys, stomach, small intestine, and the colon. The lower bowels, the bladder, and internal organs of generation, lie in the lower part of the cavity, which is called the pelvis. (See *Body.*)

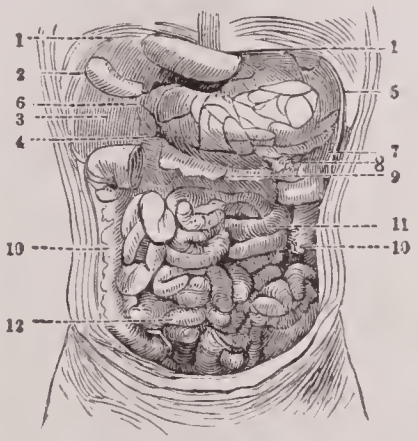


Fig. 7.— CAVITY OF THE ABDOMEN.

1. Diaphragm.
2. Gall-bladder.
3. Right lobe of liver.
4. Duodenum.
5. Great end of stomach.
6. Pyloric end of stomach.
7. Spleen.
8. Omentum.
9. Pancreas.
10. Great intestine, (colon.)
11. Small intestine, (jejunum.)
12. Small intestine, (ileum.)

(*Ent.*) The whole lower portion of the body of an insect, united to the corselet, or thorax, by a thread. It contains a portion of the intestines and the sexual organs.

Abdom'inal, *a.* [From *abdomen.*] Pertaining to the belly.

Abdom'inals, *n. pl.* [Lat. *abdominalis.*] (*Zoöl.*) An order of malacopterygious fishes, having the ventral fins under the abdomen behind the pectorals, as the trout. They comprehend the greater part of fresh-water fishes, and constitute the fourth order of the fourth class of animals in the Linnæan system.

Fig. 8.— TROUT.

Abdominos'copy. (*Med.*) Examination of the abdomen in order to detect disease.

Abdom'inous, *a.* Having a large belly; pursy.

Abduce', *v. a.* [Lat. *abduco.*] To draw to a different part; to withdraw one part from another. A word chiefly used in anatomy.

"If we *abduce* the eye into either corner, the object will not duplicate." — *Browne.*

Abdu'cent, *a.* (*Anat.*) Drawing away; pulling away; as, the *abducent* muscles, or adductors.

Abduct', *v. a.* [Lat. *abducere.*] To take away by fraud or force; to withdraw illegally.

Abduc'tion, *n.* [Lat. *abductio.*] The act of abducing or abducting; a taking or drawing away, and specifically an unlawful taking

(*Law.*) The forcible and fraudulent taking away of women or girls. This criminal offence is of three kinds: — 1. If any person shall maliciously, either by force or fraud, lead, or take away, or detain, any child under the age of *ten years,* with intent to deprive the parents, or other persons having the lawful charge of such child, or with intent to steal any article on its person; or shall receive or harbor such child, knowing the same to have been so stolen or enticed — every such offender shall be guilty of felony, and shall be liable to penal servitude for not more than seven, or less than three years, or imprisoned, with or without hard labor, for any term not more than two years. — 2 If the girl is under the age of *sixteen years,* the offender shall be guilty of misdemeanor, and, being convicted thereof, shall be liable to suffer such punishment, by fine or imprisonment, or both, as the court shall award. — 3. If any person shall, from motives of lucre, take away or detain against her will, *any woman* having any interest, present or future, in any real or personal estate, with intent to marry or defile her, or to cause her to be married or defiled by any other person, every such offender, and every person counselling, aiding, or abetting such offender, shall be guilty of felony, and liable to penal servitude for life, or for any time not less than three years, or to be imprisoned with or without hard labor, for any term not exceeding five years. If the woman first consent to be taken away, and afterward refuse to continue with the offender, and he forcibly detain her; or if she be forcibly taken away, and she afterward consent to her marriage or defilement; or if she be taken away with her own consent, obtained by fraud or imposition, the offence is the same. But if a man without fraud, deceit, or violence, marries a woman under age, without the consent of her father or guardian, that act is not indictable at common law.

(*Logic.*) Is a form of reasoning in which the greater extreme is contained in the medium; but the medium is not so evidently in the lesser extreme. Ex. "Whatever God has revealed is certainly true; now God has revealed a future retribution; therefore a future retribution is certainly true." In the use of this kind of reasoning, the minor proposition must be proved to be contained in the major, or the reasoning is inconclusive.

Abduct'or, *n.* [Lat. *abducere,* to draw away.] (*Anat.*) A muscle, the office of which is to pull back or draw the member to which it is affixed from some other. The antagonist is called adductor.

(*Law.*) A person guilty of abduction.

Abdul Aziz. A Sultan of Turkey, b. Feb., 1830, succeeded his brother Abdul Medjid, June 25, 1861. He endeavored to ameliorate the condition of the people, but his good intentions were soon overborne. Dethroned by the council of ministers, May 30, 1876, and soon afterwards assassinated, he was succeeded by his brother Monrad V. Five years later, May, 1881, his murderers were sentenced to death.

Abdul Hamid, Sultan of Turkey, b. 1730, s. his brother Mustapha II., Jan. 21, 1774. He sustained two disastrous wars against Russia, and d. April 7, 1789. He was succeeded by his nephew Selim III.

Abdul Hamid Khan, Sultan of Turkey, born Sept. 22, 1842, succeeded his brother Monrad V. Aug. 31, 1876. He unsuccessfully resisted Russian invasion, and by the treaty of Berlin (*q. v.*) lost some of his best provinces. See Turkey.

Abdul Medjid, Sultan of Turkey, born April 23, 1822, died June 25, 1861; succeeded to the throne July 1, 1839, at the early age of 17, eight days after the battle of Nezib, in which the troops of the Sultan Mahmood II were defeated by Ibrahim-Pacha, son of Mehemet Ali, Pasha of Egypt, the most powerful vassal of the Turkish empire. The interference of the allied powers alone prevented the empire from dismemberment at this juncture. This danger passed, the young sultan applied himself to the development of his father's plans of reform, but from the beginning of his administration to its close, there was constantly some disturbing element to delay or thwart his meritorious purposes. The Servian question; the insurrection in Albania; the war in Koordistan; the Turco-Greek and Wallachian revolution of 1848–'9; his noble refusal to surrender the Hungarian and Polish refugees to Austria and Russia in 1850; the question of the holy places, which led to the Crimean war; the attempt to assassinate him in 1859; and the Syrian massacres of 1860, were all so many obstacles to his progress. To these might also be added his natural indolence, love of sensual indulgence, and infirm health. The great event of his reign was the Crimean war, in which France and England allied themselves with Turkey against the encroachments of Russia, and which was terminated by the fall of Sebastopol after a long siege, in 1856. He was succeeded by his brother, Abdul Aziz Khan.

Abd'ur Rahman. See *Abd-er-Rahman.*

Abeam', *adv.* (*Naut.*) On the beam, *i. e.,* at right angles to the ship's keel.

Abear'ance, *n.* [A. S.] Behavior; demeanor.

Abece'dary, Abeceda'rian, *a.* Belonging to, or containing the letters of the alphabet.

Abecedarian, *n.* This name is given by some authors to one who teaches or learns the alphabet, or first rudiments of literature.

Abed', *adv.* On, or in, bed. "Lying *abed*."

A'beel, DAVID, D.D., born at New Brunswick, N. J., June 12, 1804; died at Albany, Sept. 4, 1846. Missionary of the Dutch Reformed Church in China. He has left a Description of his Life in China and the adjacent countries, and some other works.

A'bel, the second son of Adam and brother of Cain. The latter was a tiller of the ground, Abel, a shepherd. Both brought their offerings before the Lord; Cain, the first-fruits of the ground; Abel, the firstlings of the flock. God accepted the offering of Abel; the offering of Cain he rejected. The latter, instigated by envy, murdered his brother in the field. Thus the first murder on earth was committed.

Abel, king of Denmark, the son of Vladimir II. He assassinated his brother Eric, in 1250, and took possession of his throne. He was put to death by the Frisons, who revolted against him on account of the heavy taxes imposed upon them.

Ab'elard, or **Abailard,** PIERRE, a very celebrated French scholar and dialectician, born in 1079, at Palais, near Nantes. His father, an individual of noble family, designed him for the profession of arms, but his vigorous capacity and predilections for learning altered that determination, and he was allowed to dedicate himself to letters. Unhappily, at that dark period, when genius and strength of mind were wasted in trifles, the art of verbal disputation formed the only road to learned eminence. After the usual grammatical preparation, Abelard visited most of the schools of the neighboring provinces, and at the age of twenty settled at the university of Paris, where he became the pupil and very soon the happy rival of William de Champeaux, the most famous professor of his day. At the age of forty, satiated with fame and disputation, the philosopher and theologian became deeply enamoured of the beautiful and accomplished Heloïse, niece of Fulbert, a wealthy canon of Paris. Favored by the avidity with which both uncle and niece seemed disposed to benefit by his philosophical instructions, he soon inspired her with an ardent passion in return, the consequence of which being soon discovered by the indignant uncle, the two lovers fled. On the birth of a child, named Astrolabius, Abelard proposed to Fulbert to marry his niece secretly, on account of his ecclesiastical prospects; Fulbert consented. Fulbert, however, who wished to make the affair public, became irritated at their joint refusal to gratify him, and treated his niece with an asperity which obliged Abelard to remove her to an abbey of Benedictine nuns. It was then that Fulbert meditated a most atrocious revenge. He employed several ruffians, who broke into the chamber of Abelard, and inflicted a mutilation on his person, which put an effectual end to any future hope of conjugal felicity. For this outrage the ruffians were punished according to the *lex talionis*, and Fulbert endured the confiscation of his goods. On his recovery, Abelard, with somewhat ungenerous anxiety, prevailed upon Heloïse to take the veil in the abbey of Argenteuil, and a few days after he himself took the habit in that of St. Denis. He then resumed his lectures, but his ever increasing popularity so much excited the jealousy of rival teachers, that they contrived to involve him in ecclesiastical censures for heresy. After long trouble and persecution, he fled into Champagne, and erected near Nogent (1122) a small oratory, afterward enlarged under the name of Paraclete. Such was his fame, that he was quickly followed by many of his pupils. Jealousy was in consequence again excited to his discomfort, and he was about to seek another asylum, when he was elected abbot of St. Gildas. About this time, the convent of Argenteuil, of which Heloïse had become prioress, was united to the abbey of St. Denis, a proceeding which left her and her nuns destitute of an habitation. Abelard offered to them the Paraclete, which donation was legally sanctioned in 1127. It was after this removal, that the celebrated correspondence took place. The residence of Abelard in St. Gildas was embittered by a continued struggle against his love, and by hatred of the monks; till at last, accused of heresy by St. Bernard, and condemned to perpetual silence by the council of Sens, in 1140, he resolved to set out for Rome to remonstrate against this sentence; but taking Cluny in his way, he was prevailed upon to abide there by his friend Peter, the abbot, who succeeded in reconciling him to the pope and to St. Bernard. He lived for two years in Cluny, and then, for the benefit of his health, removed to the priory of St. Marcellus, where this extraordinary man died in 1142. His body was removed to the Paraclete at the request of Heloïse. She died in 1163, and was deposited by the side of Abelard, who, in disinterestedness and devotedness of affection, had been much her inferior. The remains of the two lovers are now deposited beneath a fine mausoleum in the cemetery of Père la Chaise, in Paris. Abelard could not have excited so much jealousy and admiration during a long life, unless he had been a man of extraordinary mental vigor; but his works convey no corresponding idea of his genius and his taste, and it is to be said, in spite of his two modern admirers, Guizot (Essai sur la Vie et les Ecrits d'Abélard et Heloïse, Paris. 1839) and Cousin, who has published the best edition of his works (Paris. 1850), that the letters of Heloïse form the principal attraction of the volume containing the productions of her lover.

Ab'ele-tree, or **Abel-tree,** *n.* (*Bot.*) A name of the White Poplar, *Populus alba*.

Abel'ia, *n.* (*Bot.*) A genus of ornamental shrubs, order *Caprifoliaceæ*. *A. floribunda*, a native of Mexico, is a very handsome freely-branching shrub, producing rich purple-red tubular flowers.

A'belites, A'belians, A'belonians, Abelonites, a sect of Christians who appeared in the 4th century and denounced matrimony as a service of Satan, maintaining that thereby criminal sin was perpetuated. As Abel had not been married, they took their name from him.—The name of *Abelites* was also taken in the 10th century by the members of a secret society, whose professed object was to cultivate the honesty and candor of Abel.

Abelmesak, *n.* The musk-seed, used as a perfume.

Abel-mosk, *n.* See *Hibiscus*.

A'benau, or **Abenow,** a mountain of Suabia, in Germany, 23 miles from Freiburg, famous for the source of the Danube, and for giving name to a large chain of mountains.

Abeneerages, the name given by Spanish chroniclers to a noble family in the Moorish kingdom of Granada, several of whom distinguished themselves immediately before the fall of the Mahometan empire in Spain. Their struggles with the family of the Zegris, and tragical destruction in the royal palace of the Alhambra, in Granada, (1466–84,) seem to be destitute of historical foundation. On these events, Chateaubriand has written a charming work of fiction, "Les Aventures du dernier Abencerrage."

Aben-ezra, ABRAHAM, a celebrated rabbi, born at Toledo in Spain, called by the Jews the Wise, Great, and Admirable Doctor, was a very able interpreter of the Holy Scriptures, and was well skilled in grammar, poetry, philosophy, astronomy, and medicine. His principal work, "Commentaries on the Old Testament," is printed in Bomberg and Buxtorf's Hebrew Bible, and is much esteemed. B. *abt.* 1093, D. 1168.

A'bensberg, a small city in the circle of Regen, in Bavaria. Pop. 1,200. It was formerly the seat of the Counts Abensberg. Here Napoleon defeated the Austrians in a great battle on the 20th of April, 1809.

Ab'er, an old British word, which signifies the fall of a smaller into a larger water; also the mouth of a river, whence some places derive a characteristic in their names: as, *Aber*-conway, *Aber*-gavenny, &c.

Abera'von, a borough town of Glamorgaushire, in Wales, England, at the mouth of the Avon, 192 miles W. of London. Long. 3° 35′ W., lat. 51° 4′ N. Mines of coal and iron. Pop. 6,567.

Aberbrothwick, or **Arbroath,** a seaport manufacturing town in the county of Forfar, Scotland, at the mouth of the river Brothock, 58 miles from Edinburgh. Population, 20,170. Manufactures of sail-cloth, thread, and leather.

Ab'ercrombie, JOHN, M.D., an eminent Scotch physician, born at Aberdeen, 1781, died, Edinburgh, 1844. His principal work: "Pathological and Practical Researches on Diseases of the Brain and Spinal Cord." Edinburgh, 1828, 1830.

Abererombie, SIR RALPH, a British general, born in 1738. He was commander-in-chief in the West Indies, in 1795; in the attempt against Holland in 1799, and in the expedition to Egypt. Mortally wounded in the beginning of the battle of Alexandria, (21st March, 1801,) the general kept the field during the day, and died some days after his victory.

Aberdare', a town of South Wales, in the county of Glamorgan, England. Mines of coal, and a large iron-trade. Pop. of parish, 38,518.

Aberdeen', GEORGE HAMILTON GORDON, (EARL OF,) born 1784. Appointed ambassador to the Austrian court in 1813, he conducted the negotiation which terminated in the alliance of that power with Britain. He took office as Secretary of State for Foreign Affairs in 1828, in the new ministry formed under the Duke of Wellington, and in 1843 in the Peel ministry. Entering public life as a Tory, the general principle which guided his policy was that of non-interference in the internal affairs of foreign States, which, joined to his well-known sympathy with such statesmen as Metternich, has exposed him to the suspicion of being inimical to the cause of popular liberty. In 1853, Earl A. was selected to head a new ministry, which for some time was extremely popular. He endeavored to prevent the country from entering upon the conflict with Russia, but all his efforts were unavailing. Under the remainder of his administration, the public believed that the war was not conducted with that degree of vigor necessary to insure favorable results. Failing to receive sufficient support to carry out his measures, he resigned in 1855; d. Dec. 14, 1860. As an author, the Earl is known by a work entitled "An Inquiry into the Principles of Beauty in Grecian Architecture."

Aberdeen, the most considerable town in the north of Scotland, in the county of the same name, at the mouth of the river Dee, which forms its harbor. It is a flourishing seat of trade; and its handsome granite architecture excites the admiration of all visitors. Its college and university, annually attended by nearly 600 students, are very celebrated.—*Exp.*, fine cotton and woollen fabrics, granite, cattle, grain, preserved meat, and fish; —*Manf.*, combs, iron-works, ship-building. —Steamers and sailing vessels belonging to the port, about 250. Pop. in 1871 88,125: 1881, 105,054; in 1891, 121,623.

Aberdeen, in *Arkansas*, a post-village of Monroe co., on the White river, about 60 miles E. by S. of Little Rock.

Aberdeen, in *Indiana*, a post-village of Ohio co., about 27 miles E.N.E. of Madison.

Aberdeen, in *Maryland*, a post-village of Harford co., 5 miles S.W. of Havre-de-Grace.

Aberdeen, in *Mississippi*, a city, capital of Monroe co., on the Tombigbee river, 165 miles N.E. of Jackson. It is connected by water with Mobile, 540 miles distant. It is an important educational centre and an extensive cotton mart.

Aberdeen, in *Ohio*, a post-village of Brown co., on the Ohio river, opposite Maysville in Kentucky, 123 miles S.W. of Columbus.

Aberdeen, in *Tennessee*, a small village of Monroe co.

Aberdeenshire, a county in Scotland. Its greatest length is 87, and breadth 36 miles; with a circuit of about 200 miles, of which 60 are on the coast of the German ocean. In extent, it is very nearly one-sixteenth part of Scotland. Pop. in 1891, 281,331. This county is popularly divided into five districts. 1st. *Mar*, containing almost half the county, — mountainous district, particularly *Braemar*, the highland part of it, much frequented by tourists, on account of its wild and majestic beauties. Ben-Macdhui, the second highest mountain in Scotland, rises here to the height of 4296 feet. 2d. *Formartin*, of which the land on the sea-coast is low and fertile; but hills and mosses are spread over the interior. 3d. *Buchan*, having a bold, precipitous shore of 50 miles, but generally a flat surface. 4th. *Garioch*, a large and beautiful valley, naturally very fertile. 5th. *Strathbogie*, the greater part of which consists of hills, mosses, and moors. The chief mineral wealth of the county is its granite. The principal rivers are the Dee and the Don. Chief town, Aberdeen.

Aberdevine, *n.* (*Zoöl.*) A singing-bird, sometimes called *Siskin*. It is the *Carduelis spinus* of Cuvier, and resembles the green variety of the canary-bird, with which it is often paired, to produce what are called mule birds. In its habits it is migratory, breeding in the north of Europe, and visiting Germany, France, and Britain only in the autumn and winter.

Fig. 9.—ABERDEVINE.

Ab'erfoil, in *Alabama*, a post-office of Bullock co., 158 miles S.E. of Tuscaloosa.

Abergavenny, a town in Monmouthshire, 14 miles W. of Monmouth, at the confluence of the Usk and Gavenny, England. Coal and iron mines.

Aberli, a Swiss landscape painter of considerable eminence. B. at Winterthur, 1723; d. at Berne, 1786.

Abernethy, JOHN, an English surgeon, b. at Abernethy in Scotland, 1764; d. 1831. He was the first to enunciate and establish the great principle "that local diseases are symptoms of a disordered constitution, not primary and independent maladies, and that they are to be cured by remedies calculated to make a salutary impression on the general frame, not by topical dressing, nor any mere manipulation of surgery." To this he added a second, namely, "that the disordered state of the constitution either originates from, or is rigorously allied to derangement of the stomach and bowels, and that it can only be reached by remedies which first exercise a curative influence upon these organs."

Abernethy, a post-village of Perry co., Missouri, about 10 miles S.W. of Mississippi river.

Aber'ranee, Aberrancy. [Lat. *aberrare*, to wander.] A deviating from the right way: an error.

Aber'rant, *a.* Deviating, wandering from the right or known way.

(*Bot.*) Abnormal.

Aberra'tion, *n.* [Lat. *aberratio.*] The act of deviating from the common track, or from the right way; — applied to the mind.

(*Astron.*) A remarkable phenomenon, by which all the stars and other heavenly bodies, at certain seasons of the year, appear to deviate in a slight degree from their true situations in the heavens, in consequence, as is now ascertained, of the motion of the light from every star combining itself with the motion of the eye of the observer, caused by the earth's annual revolution round the sun. All vision, it is well known, is performed by the particle or rays of light from any object striking against the eye, and the object invariably appears in that direction in which the rays finally impinge. Hence, for example, arise the effects of refraction, by which the heavenly bodies appear more elevated in the horizon than they really are; the rays of light, as they penetrate the atmosphere, bending gradually downward toward the surface of the earth, so as at last to reach the eye of the spectator in a direction more inclined from the horizon than that in which they issue from the object: and thus the latter appears more elevated in the sky than it really is. In a similar manner the rays of light which fall directly from the stars, in certain circumstances, owing to the motion of the earth, really impinge on the eye of a spectator in a direction somewhat oblique, so that they appear on this account in a station different from what they really occupy; and this constitutes the aberration.

(*Optics.*) A certain deviation in the rays of light, from the true and geometrical focus of reflection or refraction

in curved specula or lenses, arising from two causes, viz.: 1st. The figure of the speculum or lens, giving rise to what is called the *spherical* aberration; and, 2d. The unequal refrangibility of the rays of light giving rise, in lenses only however, to a far more material, and in other respects inconvenient aberration, termed the *chromatic*, or the aberration of *color*, or of *refrangibility*. The object of all specula or lenses, is to collect the rays of light proceeding from any object into a single point, so as to form there a distinct image of the object, either enlarged or diminished, according as our purposes may require: and on this principle depends the whole operation of the telescope, the microscope, and other optical instruments. The more completely the rays can be collected into a focus, so much the more distinctly, in every case, does the image of the object appear at that point, and so much the more perfect is the operation of the instrument. But there are certain curves or figures in the speculum or lens, which are necessary to produce this effect. Parallel rays, for example, can only be collected into one focus by a reflecting speculum of a parabolic form, or by a refracting lens of parabolic or hyperbolic, combined with spherical curves: all other forms cause more or less a dispersion or aberration of the rays from the focus. The aberration of refrangibility arises from this circumstance, that in a homogeneous lens of glass the violet rays are greatly more refracted than the red. The latter are therefore thrown to a greater distance, and the others in proportion almost all deviating from the true focus: hence arises that confusion of images, and that fringe of extraneous color with which objects are surrounded when seen through glasses of this description: which have ever formed the great obstacle to the perfection of the refracting telescope, before the invention of *achromatic* glasses, by which the refracting telescope has been wonderfully improved.

(*Physiol.*) The passage of a fluid into parts not appropriate for it.

(*Med.*) A partial alienation of mind.

Abert, a lake, in Oregon, about 20 miles long and 5 miles wide. Lat. 42° 45′ N., lon. 120° W.

Aberun'eator, *n.* [Lat. *ab*, and *eruncare*, to weed out.] A weeding-machine; a weeder.

Aberyst'with, (*ăb-ŭr-ŭst'with*,) a town of Cardiganshire, N. Wales, seated on the Rheidol, near its confluence with the Ystwith, where it falls into the sea. Trades in lead, flannels, and oak-bark. *A.* is a fashionable watering-place, and seat of a Welsh University.

Abes'ta, or **Aves'ta,** the name of one of the sacred books of the Persian magi, which they ascribe to their great founder Zoroaster. The Abesta is a commentary on two others of their religious books, called *Zend* and *Pazend*; the three together including the whole system of the Ignicolæ, or worshippers of fire.

Abet', *v. a.* [Lat. *abettum*, incitement.] To push forward another; to support him in his designs by connivance, encouragement, or help;—generally taken in an ill sense.

"And you that do *abet* him in this kind,
Cherish rebellion, and are rebels all."—*Shak.*

Abet'ment, *n.* The act of abetting.

Abet'tor, *n.* (*Law.*) One who promotes or procures a deed or crime to be committed; an instigator. See *Accessary*.

Abevacua'tion, *n.* [Lat. *ab*, and *evacuare*, to empty out.] (*Med.*) A partial evacuation.

A'bex, a country of Africa, bordering on the Red sea at the east. It has Nubia and Sennaar on the north, Abyssinia on the west and south. Its principal towns are Suakim and Arkeko. It is subject to the sheriff of Mea and is about 500 miles in length and 100 in breadth. It is a mountainous country, sandy, barren, unhealthy, and much infested by wild beasts.

Abey'ance, *n.* [Old Fr. *abbaiaunce*, expectation.] (*Law.*) Expectation or contemplation of law. When there is no person in existence in whom an inheritance can vest, it is said to be in *abeyance*, that is, in expectation; the law always considering it potentially existing, and ready to vest whenever a proper owner appears.

Abey'ant, *a.* In a state of abeyance or suspension.

Ab'gillus, surnamed Prester John, a king of the Frisons. He attended Charlemagne to the Holy Land, and did not return with him, but made great conquests in Abyssinia, which was called from him the empire of Prester John. Lived in the 8th century.

Ab'hal, *n.* An East Indian fruit, obtained from a species of cypress; used in medicine as an emmenagogue.

Ab'hebbad, or the Lake of Ausa, in the country of Adel; is the receptacle of the great river Huwash, which drains the eastern regions of Abyssinia. During the rains the lake acquires a superficial extent of about 50 leagues in circumference.

Ab'hor, *v. a.* [Lat. *abhorrere*.] To hate with acrimony; to detest with extremity; to loath.

Abhorred', *v. a.* Greatly hated; detested.

Abhor'rence, and **Abhor'rency,** *n.* The act of abhorring; detestation.

Abhor'rent, *a.* Hating; detesting, abominating; struck with abhorrence;—contrary to; foreign from; inconsistent with.

Abhor'rently, *adv.* With abhorrence.

Abhor'rer, *n.* One who abhors.

Abhor'rible, *a.* Abominable; detestable; that is to be abhorred.

Abhor'ring, *n.* The object or feeling of abhorrence.

"They shall be an *abhorring* to all flesh."—*Isa.* lxvi. 24.

Ab'iad Bahrel, a great river in the interior of Africa, which at Haltaia, below Sennaar, joins the Bahr-el-Azrek, or river of Abyssinia; and these unite at Khartoum and form the true Nile.

Abia'thar, (*the father of abundance.*) a high priest of the Jews, son of Ahimelech, who had borne the same office, and received David in his house. This so enraged Saul that he put Ahimelech and 81 priests to death; Abiathar alone escaped the massacre. He afterward was high priest, and often gave King David testimonies of his fidelity. But after this he conspired with Adonijah, in order to raise him to the throne of king David, his father; which so exasperated Solomon against him, that he divested him of the priesthood, and banished him A. M. 3021, B. C. 1014.

A'bib, [Heb. *abib*, an ear of corn.] A name given by the Jews to the first month of their ecclesiastical year, afterward called Nisan. It answered to the latter part of March and beginning of April.

A'bichite, (*Chem.*) A native arsenate of copper, found chiefly associated with other copper ores in Cornwall, and in the Hartz.

Abida-je'bel, a volcanic mountain of Abyssinia, which forms, with the mountain of Aiyalo, or Azalo, the centre of a vast volcanic tract, 30 miles in diameter, studded with small cones, each showing a distinct crater. It is said to be 4000 feet above the plain. Lat 10° 9′ N., long. 41° E.

Abide', *v. n.* [A. S. *bidian*.] To stay or continue in a place; not remove; to dwell.

"The Marquis Dorset, as I hear, is fled
To Richmond, in the parts where he *abides*."—*Shak.*

— To remain; not cease or fail.

"As Mount Zion, which cannot be removed, but *abideth* forever."—*Psalm* cxxv. 1.

— To continue in the same state.

"The fear of the Lord tendeth to life: and he that hath it shall *abide* satisfied."

Abide, *v. a.* To wait for; expect; attend; wait upon; await.

"Poor harmless lambs *abide* their enmity."—*Shak.*
"Bonds and afflictions *abide* me."—*Acts* xx. 23.

— To bear or support the consequences of a thing.

"Ah me! they little know
How dearly I *abide* that boast so vain."—*Milton.*

— To bear or support patiently; to tolerate.

"She could not *abide* Master Shallow."—*Shak.*

Abid'er, *n.* One who abides or dwells.

Abid'ing, *n.* A waiting; a continuance.

Abid'ingly, *adv.* Permanently.

A'bies, *n.* [Lat. a fir-tree.] (*Bot.*) A genus of the tribe *abietineæ*, ord. *Pinaceæ*, composed of evergreen trees of various sizes, important for the valuable timber and the resinous substance that are produced by many of the species. This genus, in the classification of Lindley, includes all the species known under the name Fir, *q. v.*

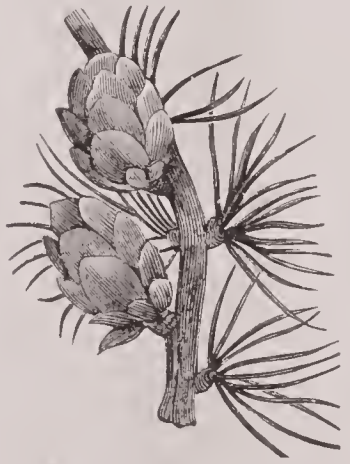


Fig. 10 — ABIES AMERICANA.

Abiet'ic Acid. (*Chem.*) When Strasburg or Canadian turpentine (obtained from *abies picea*, or silver fir, and *abies balsamea*, or balm fir) is distilled with water; the residue exhausted with absolute alcohol; the solution evaporated to dryness; the residual resin boiled with twice its weight of solution of carbonate of potassium; the alkaline liquid poured off; and the residue, which is a mixture of abietin and abietate of potassium, treated with 30 times its weight of water,—abietin separates in the crystalline form, while abitate of potassium remains in solution. This dissolution may be decomposed by sulphuric acid, and the precipitated *abietic* acid purified by digestion in hot aqueous ammonia; as thus obtained, it is a resinous mass which dissolves easily in alcohol, ether, and volatile oils, forming acid solutions, from which it separates in the crystalline state. At 55° it becomes soft and translucent.

Abi'etin. (*Chem.*) It is a tasteless, inodorous resin, soluble in alcohol, especially at the boiling heat. It melts when heated, and solidifies in a crystalline mass on cooling. Its formula is not known. (See *Abietic Acid.*)

Abietineæ, *n. pl.* [From *abies.*] (*Bot.*) A sub-ord. of the *Pinaceæ*, composed of evergreen or deciduous trees or shrubs. Trunks straight and conical: leaves either solitary, or collected in little fasciles; flowers in calkins, consisting of open imbricated carpels in the form of scales in the axil of a bract; fruits forming a strobile or cone. The principal genera are *Pinus* and *Abies*.

Ab'igail, the beautiful wife of Nabal, a wealthy owner of goats and sheep in Carmel. When David's messengers were slighted by Nabal, Abigail took the blame upon herself, and succeeded in appeasing the anger of David. Ten days after, Nabal died, and David sent for Abigail and made her his wife. (1 Sam. xxv. 14, &c.) This name is sometimes given, as a nickname, to a lady's maid. *A.* called herself *handmaid* in her address to David.

Ab'ila, or **Abyla,** a mountain of Africa, opposite that which is called Calpe, on the coast of Spain, only 18 miles distant. These two mountains are named the Pillars of Hercules, and were supposed formerly to have been united, till the hero separated them, and thereby effected a communication between the Mediterranean and Atlantic seas.

Abila. (*Anc. Geog.*) A city of ancient Syria, the capital of the tetrarchy of Abilene. Its site is indicated by some ruins and inscriptions, near the village of Souk. From the tradition of this being the scene of Abel's murder, it is now called Nebi-Abel. It lies between Baalbec and Damascus.

Abildgaard, Philip Christian, a physician of Denmark, and one of the most accomplished naturalists of the 18th century.—Nicholas Abraham, a brother of Philip, author of some useful works on art, and an historical painter of considerable ability. B. 1744, d. 1809.

Abildgaardia, *n.* (*Bot.*) Worthless dwarf species of apetalous grass-like plants; increased by divisions, and grown in any common soil in N. Holland. (Linn. cl. 3, ord. 1, nat. ord. *Cyperaceæ*.)

Ab'ilene, in *Kansas*, a thriving city, cap. of Dickinson co. Has flour and planing mills, creamery and an extensive trade in cattle and grain. Pop. (1890), 3,547.

Abil'ity, *n.* [Fr. *habileté*.] The power of doing, or the being in a position to do, a thing.

The plural, *abilities*, frequently signifies the faculties or powers of the mind, and sometimes the force of understanding given by nature, as distinguished from acquired qualifications.

"Natural *abilities* are like natural plants, that need pruning by study."—*Bacon.*

Abim'elech, [Heb. *father of the king.*] The name of the Philistine king of Gerar, in the time of Abraham; but from its recurrence among that people it was perhaps rather a titular distinction than a proper name, like Pharaoh among the Egyptians.

Ab'ingdon, a town in Berkshire, England, on a branch of the Thames, 55 miles N. W. of London. Trade in grain and malt. *A.* is very old, became the seat of a monastery in 680, which was destroyed by the Danes in 871 and in 1645 Lord Essex held it against Charles I and put every Irish prisoner to death without trial, hence the phrase, "Abingdon law." Was rebuilt under Edgar and called Abbandune or Abbendon, the town of the Abbey.

Abingdon, in *Ill.*, a city of Knox co.;—a p. v. of Lake co.—In *Md.*, a p. v. of Hartford co.—In *Va.*, the county seat of Washington co.;—A twp. of Gloucester co.

Abingdon Law, (*English History*). See Abingdon, a town in England, five lines above.

Ab'inger, James Scarlett, Lord, an English lawyer, born in Jamaica 1769, died in London 1844; he was the most popular advocate of his day. He was made Chief Baron of the Exchequer in 1834.

Ab'ington, in *Connecticut*, a post-village of Windham co., 37 miles E. by N. of Hartford.

Abington, in *Illinois*, a thriving township of Mercer county.

Abington, in *Indiana*, a post-village and township of Wayne county, 72 miles east of Indianapolis.

Abington, in *Iowa*, a village of Jefferson co.

Abington, in *Massachusetts*, a post-township of Plymouth co., 20 miles S. by E. of Boston. *Manf.* boots and shoes.

Abington, in *Nebraska*, a village of Colfax co.

Abington, in *Pennsylvania*, a township of Lackawanna co., about 27 miles N.N.E. of Wilkesbarre.
—A flourishing village in this township. The name of the post-office is Glenburn.

Abington, in the same State, a village of Montgomery co., about 10 m. N. of Philadelphia.

Ab ini'tio. [Lat.] From the beginning.

Abintes'tate, *a.* [Lat. *abintestatus*, having made no last will.] (*Law.*) Inheriting from a person who died intestate, or without making a will.

Ab'inzi, Abinzy, or **Abinksk Tartars,** the name of a Tartar community in Western Siberia, about 600 miles from Tobolsk.

Abipo'nians, a tribe of American Indians, who formerly inhabited the district of El Gran Chaco, in Paraguay; but the hostilities of the Spaniards finally compelled them to remove southward into the territory lying between Santa Fé and St. Jago. The whole nation does not much exceed 5,000.

A'biqua, a township of Marion co., Oregon.

Abirrita'tion, *n.* (*Med.*) A pathological condition opposite to that of irritation; debility; want of strength.

Abis'bal, Henry O'Donnell, Count of, a celebrated Spanish general. B. in Andalusia, 1770. On Napoleon's invasion of Spain, the part he took in the relief of Gerona, 1807, led to his promotion to the command of Catalonia. Though defeated in the plains of Vich by Gen. Souham, he a month afterward forced Augereau to abandon Lower Catalonia; and at the village of Abisbal, he compelled the surrender of a whole French column under Gen. Schwartz. D. in France, 1834.

Abish'ai, son of David's sister Zeruiah, and brother to Joab, was one of the celebrated warriors who flourished in the reign of David. He killed with his own hand 300 men, with no other weapon but his lance; and slew a Philistine giant, the iron of whose spear weighed 300 shekels. (1 Sam. xxvi., 2 Sam. xxiii.)

Ab'ject, *a.* [Lat. *abjectus*, thrown away as of no value.] Mean, or worthless, spoken of persons; contemptible or of no value, used of things; without hope or regard, used of condition; destitute, mean, and despicable, used of actions.

"To what base ends, and by what *abject* ways
Are mortals urg'd thro' sacred lust of praise?"—*Pope*

Ab'ject, *n.* A man without hope; a man whose miseries are irretrievable.

"Servants and *abjects* flout me."—*Herbert.*

Abject'edness, *n.* The state of being abject.

Abjec'tion, *n.* [From *abject.*] Meanness of mind; want of spirit; servility; baseness;—also, the act of bringing down or humbling, and the state of being rejected or cast away.

"An *abjection* from the beatific regions where God, and his angels and saints, dwell forever."—*Bishop Taylor.*

Ab'jectly, *adv.* In an abject manner.

Ab'jectness, *n.* The state of being abject.

Abju'dicate, *v. a.* [Lat. *abjudicare.*] To give away by judgment.

Abjudica'tion, *n.* Rejection.

Abjura'tion, *n.* [Lat. *abjuratio.*] The act of abjuring. A public and solemn recantation of opinion. The "abjuration of heresy" was an act frequently required by the Roman Catholic church. History affords several examples of this act. Henry IV. abjured the Protestant religion on ascending the throne of France, in 1593; the queen of Sweden abjured her religious opinions in 1651; Turenne, in 1688, and Augustus II. of Poland, in 1706. Galileo was obliged to abjure his philosophical opinions by the Inquisition in 1633.

(*Law.*) See *Naturalization.*

Abjura'tory, *a.* Containing abjuration.

Abjure', *v. a.* [Fr. *abjurer.*] To renounce or deny upon oath; as, to *abjure* allegiance to a government;—to renounce, reject, or retract solemnly; as, to *abjure* an error;—to give up; to reject, as if by a final resolution.

"No, rather I *abjure* all roofs, and choose
To wage against the enmity o'the air."—*Shak.*

Abjur'er, *n.* One who abjures.

Abka'sia, or **Abasia,** a country inhabited by a warlike tribe to the N. W. of the Caucasus, on the Kouban. They are descended from Greek colonists, and prefer a life of rapine and adventure to any other.

Ablacta'tion, *n* [Lat. *ablactatio.*] (*Med.*) The weaning of a child from the breast, or of young beasts from their dam —(*Hort.*) The process of grafting, now called inarching or grafting by approach.

Abla'queate, *v. a.* [Lat. *ablaqueare*, to turn up the earth around the foot of a tree.] To lay bare the roots of a tree.

Ablaqnea'tion, *n.* An old term in gardening, signifying the operation of removing the earth and baring the roots of trees in winter, to expose them more freely to the air, rain, &c.

Abla'tion, *n.* The act of taking away. (*Med.*) An evacuation.

Ab'lative. [Lat. *ablatus*, taken away.] (*Grammar.*) The sixth case of the Latin nonu implied in English by the prepositiou *from.*

Ab'lay, a country of Great Tartary, governed by a Kalmuck chief, under the protection of Russia. It lies east of the river Irtisch, and extends 400 leagues aloug the southern frontiers of Siberia.

Ablaze', *adv.* [See *blaze.*] On fire; in a blaze.

A'ble, *a.* [Fr. *habile.*] Having strong faculties, or great strength or knowledge, riches, or any other power of mind, body, or fortune; having sufficieut power; enabled; as, *able* to work; *able* to endure pain.

"He was served by the *ablest* men that were to be found."—*Bacon.*

Able, *v. a.* To uphold or back up.

"None does attend, none, I say none; I'll *able* 'em."—*Shak.*

A'ble, or **Abel,** Thomas, chaplain to Catherine of Arragon. His attachment to his royal mistress brought him into great trouble. He suffered death for denying the king's supremacy, 1534.

A'ble-bod'ied, *a.* Strong of body; robust.

Ableg'mina, those choice parts of the entrails of victims which were offered by the Romans in sacrifice to the gods. They were sprinkled with flour and burnt upon the altar, the priests pouring some wine on them.

Ab'len, and **Ablet,** *n.* [Fr. *ablette.*] The bleak, *Leuciscus alburnus*; a small fresh-water fish.

A'bleness, *n.* Ability of body or mind; ability; capability.

Ab'lepsy. [Fr. *ablepsie.*] (*Med.*) Want of sight; blindness.

Abliga'tion, *n.* A tying up from.

Abliguri'tion. [Lat. *abliguritio.*] A prodigal spending on meat and drink.

Ab'locate. [Lat. *ablocare.*] To let out to hire; to lease.

Abloca'tion, a letting out to hire.

Abloom', *adv.* In a blooming state.

Ab'luent, *a.* [Fr; Lat. *abluo*, to wash away.] That which washes away; that which has the power of cleansing.

Ab'luent, *n.* (*Med.*) A detergent.

Ablu'tion, *n.* [Lat. *ablutio.*] Literally, a washing away.

(*Eccl.*) A ceremony consisting in bathing the body, or a part of it, in water, which has been practised more or less extensively by the disciples of almost every form of faith. *Ablutions,* or lustrations, as they are more commonly called, even constituted a part of the Mosaic ceremonial, and were practised among the Jews on various occasions, both by the priests and by the people. They occupy an important place in the Brahminical and other religions of India, where the waters of the Ganges are considered as having so purifying a power, that even if a votary, who cannot go to that river, shall call upon it to cleanse him, in prayer, while bathing in another stream, he will be freed from any sin or pollution he may have contracted. But the religion by which ablutions have been enjoined most punctiliously, and in the greatest number, is the Mohammedan. According to the precepts of the most rigid doctors of that faith, it may almost be said that scarcely the most ordinary or trifling action can be rightly performed without being either preceded or followed by an entire or partial lustration. The simple ceremony of the Christian baptism may be regarded as an adoption of this natural type by the author of our faith. Although, however, that is the only instance in which dipping in or sprinkling with water has been enjoined under the dispensation of the New Testament, the early Christians also appear to have been in the habit of undergoing ablution with water, before partaking of the communion. The sprinkling with holy water, in use in the Catholic church, may be considered as a species of ablution; and that term is also applied both to the water in which the priest, who consecrates the host, washes his hands, and to a drop of wine and water which used anciently to be swallowed immediately after the holy wafer.

Ablu'tionary, *a.* Pertaining to ablution.

Ablu'vion. [Lat. *abluvio.*] That which is washed off; act of washing away by water.

A'bly, *adv.* In an able manner; with great ability.

Ab'negate, *v. a.* [Lat. *abnegare.*] To deny.

Abnega'tion, *n.* [Lat. *abnegatio.*] Denial; renunciation;—applied rather to rights or objects of desire than to statements; as, the *abnegation* of self or evil desires.

Ab'negative, *a.* Denying; renouncing; negative.

Ab'negator, *n.* One who denies.

Ab'ner, the cousin of Saul, whom he served with great loyalty against David. Murdered by Joab, 1048 B. C.

Ab'net. [Heb. *abnet*, from the rad. *banat*, to bind.] The girdle of a Jewish priest.

Ab'noba, now **Ab'enan,** a long range of mountains in Germany, extending from the Rhine to the Neckar, having different names in the different countries through which they stretch: the *Oden*, or *Odenwald*, about the river Maine; the *Spessart*, between Hesse and Franconia; *Baar*, in Wirtemberg.

Ab'nodate, *v. a.* [Lat. *abnodare.*] To cut knots from trees.

Abnoda'tion, *n.* The act of cutting away the knots of trees.

Abnor'mal, *a.*, [Lat. *ab*, from, and *norma*, a rule,] is employed, in physical science, to denote any state of irregularity or deviation from the general form, or law, or nature.

Abnor'mity, *n.* The state or quality of being abnormal; irregularity; deformity.

Åbo, a city in the Russian province of Finland, and chief town of the govt. of the same name. It is situated near the extremity of the promontory formed by the gulfs of Bothnia and Finland, and is divided into two parts by the river Aurajoki. Previous to 1817, Åbo was the capital of Finland. Vessels drawing 9 or 10 feet of water go up to the town; but those drawing more, anchor 3 miles S.W. of the river, where there is a good harbor; and thence the goods are sent by small craft to Abo. Pop. 31,671.

Å'bo, Archipelago of, an extensive group of low, rocky islands in the Baltic sea, spreading along the S. and W. coasts of Finland, opposite the city of Åbo, rendering the navigation difficult and dangerous.

Aboard', *adv.* [Sax. *a*, for *on*, and *board.*] (*Naut.*) The inside of a ship. Hence, any person who enters a ship is said to *go aboard*; but when an enemy enters in the time of battle, he is said to *board*, a phrase which always implies hostility.—*To fall aboard of*, is to strike or *encounter* another ship when one or both are in motion, or to be driven upon a ship by the force of the wind or current.—*Aboard-main-tack*, the order to draw the main-tack, *i. e.*, the lower corner of the mainsail, down to the *chess-tree.*

Abode', pret. of *abide.*

Abode, *n.* Habitation, dwelling, place of residence.

"I know thy *abode* and thy going out."—2 *Kings* xix. 27.

—Stay, continuance in a place.

"Sweet friends, your patience for my long *abode.*"—*Shak.*

—*To make abode*; to dwell, to reside; to inhabit.

"Deep in a cave the sibyl *makes abode.*"—*Dryden.*

Abode, *v. a.* To foreshow;—*v. n.*, to be an omen. (*O.*)

Abode'ment, *n.* A secret anticipation of something future; an impression upon the mind of some event to come; prognostication; omen. (*O.*)

Abod'ing, *n.* Presentiment; prognostication. (*O.*)

Ab'oite, *in Indiana*, a post-village and township of Allen co. *Pop.* (1890) 970. The village is on the canal connecting Fort Wayne with Peru.

Also, in the same county, a river joining Little River.

Abol'ish. [Fr. *abolir.*] To put an end to; to annul; to destroy; to annihilate; as, to *abolish* laws, slavery, &c.

Abol'ishable, *a.* [Fr. *abolissable.*] Capable of being abolished.

Abol'isher, *n.* One who abolishes.

Aboli'tion, and **Abol'ishment,** *n.* [Fr. *abolition.*] The act of abolishing. *Abolition* is most frequently used.

Aboli'tionism, *n.* The principles of the abolitionists.

Aboli"tionists, *n. pl.* A term used in the United States to designate the party who desired the immediate and total abolition of slavery. See Slavery.

Aboli"tionize, *v. a.* To imbue with the principle of abolitionism.

Abol'la, *n.* A warm kind of garment, lined or doubled, worn by the Greeks and Romans, chiefly out of the city, in following the camp.

Abo'ma, *n.* (*Zoöl.*) A species of large serpent, inhabiting the morasses of South America. See Boa.

Aboma'sum, or **Aboma'sus,** *n.* [Lat.] (*Anat.*) The fourth stomach of a ruminant animal.

Abo'mey, the capital of the kingdom of Dahomey, in Africa. Lat. 7° 59′ N., Long. 1° 20′ E. Pop. said to be 24,000. It is said that within the royal palace are barracks, in which the 5000 Amazons of the king's army live in celibacy, under the care of eunuchs.

Abom'inable, *a.* [Lat. *abominabilis.*] Very hateful; detestable; worthy of abhorrence.

Abom'inableness, *n.* The state of being abominable; hatefulness; odiousness.

Abom'inably, *adv.* In an abominable manner; most hatefully; detestably.

Abom'inate, *v. a.* [Lat. *abominare.*] To abhor, detest, hate utterly.

Abomina'tion, *n.* [Fr. from Lat. *abominatio.*] Hatred, detestation; as, to have in *abomination*;—the object of hatred.

"Every shepherd is an *abomination* to the Egyptians."
Gen. xlvi. 34.

—That which causes pollution or wickedness.

"Ashtaroth, the *abomination* of the Sidonians."—2 *Kings* xxiii. 13.

Aboo, Abu, Abuje, Abughad, a celebrated mountain of Rajpootana, in India, rising to an elevation of 5000 feet above the level of the sea, N. Lat. 42° 40′; E. Lon. 72° 48′. On the very top is a small round platform containing a cavern, with a block of granite, bearing the impression of the feet of Bata-Briga, (an incarnation of Vishnu,) which is the great object of pilgrimage to the Jains, Shrawaks, and Banians.

Aboo-arish, a narrow and barren strip of land, with a capital of the same name, on the border of the Red sea.

Aboon', *adv.* Above. (Scot.)

Aborig'inal, *a.* [Lat. *ab*, and *origo*, origin.] First; original; primitive; as, the *aboriginal* tribes of America.

Aborig'inal, *n.* An original inhabitant; one of the aborigines.

Aborig'ines, *n. pl.* Originally a proper name, given to certain people in Italy, who inhabited the ancient Latium.—In modern geography this term is applied to the primitive inhabitants of a country, in contradistinction to colonies, or new races of people.

Abort', *v. n.* [Lat. *abortare.*] To bring forth before the time. (*O.*)

Abor'tient, *a.* (*Bot.*) Sterile, barren.

Abor'tion, *n.* [Lat. *abortio.*] The immature product of an organ;—any fruit or product that does not come to maturity, or anything which fails in its progress, before it is matured or perfect; as, his attempt proved an *abortion.*

(*Midwifery.*) Miscarriage, or the expulsion of the fœtus from the uterus, before the seventh month, after which it is called premature labor. It most commonly occurs between the eighth and eleventh weeks of pregnancy, but may happen at a later period. The principal causes of miscarriage are blows or falls; great exertion or fatigue; sudden frights and other violent emotions of the mind; the abuse of spirituous liquors; excessive bleeding, profuse diarrhœa or colic, &c. Abortion often happens without any obvious cause, from some defect in the uterus, or in the fœtus itself, which we cannot satisfactorily explain. The notorious frequency of artificial abortion forms an odious feature in the manners of ancient times. Seneca makes it a ground of distinction for Helvia, that she had never, like others of her countrywomen, destroyed the child in her womb, in order to preserve her shape.

(*Law.*) When abortion is produced with a malicious design, it becomes a misdemeanor, and the party causing it may be indicted and punished. When, in consequence of the means used to produce abortion, the death of the woman ensues, the crime is murder.

Abor'tive, *a.* Brought forth in an immature state; hence, failing before it is complete; as, an *abortive* enterprise;—pertaining to abortion;—procuring or causing abortion; as, *abortive* medicines.

Abor'tive, *n.* That which is brought forth or born prematurely; that which is thought to produce abortion.

Abor'tively, *adv.* In an abortive manner; immaturely.

Abor'tiveness, *n.* The state of abortion.

Abort'ment, *n.* An untimely birth. (*Obs.*) See *Abortion*

Abou Hanifah. See Aba.

Abou-Hannes, *n.* (*Zoöl.*) An African bird, considered by some naturalists to be identical with the ancient Ibis. Although solitary in its habits, it is sometimes seen in small bands of from six to ten, and is capable of a lofty and powerful flight.

Fig. 11.—Abou-Hannes.

Abonkir', a small town of Egypt, standing at the eastern extremity of the long neck of land between the sea and the lakes Mareotis and Maadie, upon which Alexandria, about twelve miles to the westward, is also situated. Eastward lies the spacious bay of Abonkir reach-

ing to the month of the Nile. In this bay, Nelson found the French fleet which had conveyed Bonaparte into Egypt and destroyed or captured the greatest part of it (1st of August, 1798). In other respects, Aboukir is not of much importance.

Aboulfeda, or **Abulfeda,** hereditary prince of Hamah. The most celebrated of the Arabian writers on history and geography. Among his contemporaries he was also distinguished both as a ruler and a warrior. His descent was in a direct line from Ayoub, father to Saladin, and from whom the house of that conqueror received the appellation of Ayoubites. B. at Damascus in 1273, his valor and other eminent qualities soon recommended him to the favor of the sultan Melik-el-Nassir. He took an active part in the victory of Damascus (1303) by which Syria was for the time delivered from the incursions of the Tartars. The rest of Aboulfeda's life was spent in splendor and tranquillity, devoted to the government of his territory, and to the pursuit of science. The two works by which Aboulfeda is known in Europe, are his Geography and his History.

Abound', *v. n.* [Lat. *abundare*, to overflow.] To be in great plenty; to be copiously supplied; — followed by *with* or *in*; as, to *abound with* provisions; to *abound in* corn.

Abound'ing, *n.* Increase: prevalence.

About', *prep.* [A. S. *abutan.*] Around, surrounding, encircling;

"*About* his neck she cast her trembling hands."—*Dryd.*

— Not far from; near, in place, time, quantity, &c.; hence, much used in approximative statement.

"He went out *about* the third hour."—*Matt.* xxi. 3.

— Concerning, with regard to, relating to.

"The painter is not to take so much pains *about* the drapery as *about* the face."—*Dryd.*

— Engaged on, employed upon; hence, before a verbal noun or an infinitive, ready to; on the point of; in the act of.

"Let us know what it is our brave countrymen are *about*."—*Addison.*

— Appendant to the person: as, cloths, &c.

"If you have that *about* you . . . ."—*Milton.*

About, *adv.* Circularly; in circuit.

"A mile *about*, and a third of a mile *across*."

— Nearly; approximatively; with close correspondence in manner, degree, &c.: as, *about* as high.

— Here and there; every way.

"Wandering *about* from house to house."

— To a reversed position; in the opposite direction; around; as, to face *about*; to turn one's self *about*.

— *To bring about*, to bring to the point or state desired; as, he has *brought about* his purposes.

— *To come about*, to come to some certain state or point.

"The wind they long had wish'd was *come about*."—*Dryd.*

— *To go about* a thing; to prepare to do it.

"Why *go* ye *about* to kill me?"—*John* vii. 19.

(*Naut*) *To go about* signifies the alternation of a ship's course.

(*Mil.*) *About* means a change in the position of a body of troops; "right-about," and "left-about," are commands given to execute semicircular turns to the right or the left.

About'-sledge, *n.* The largest hammer used by smiths.

Above', *prep.* [A. S. *abutan.*] Higher in place.

"*Above* the brims they force their fiery way."—*Dryd.*

— More in quantity or number.

"They are numbered from twenty years old and *above*."—*Ex.* xxx. 14.

— Higher in rank, power, or excellence.

"There is not riches *above* a sound body."—*Ecc.* xxx. 16.

— Superior to; unattainable by.

"Things may be *above* our reason, without being contrary to it."—*Swift.*

— Beyond; more than.

"We were pressed out of measure, *above* strength."—2 *Cor.* i. 8.

Above', *adv.* Overhead.

"To men standing *above*, men standing below, seem . . . ."—*Bacon.*

— In the regions of heaven.

"Your praise the birds shall chant in every grove,
And wiuds shall waft it to the pow'rs *above*."—*Pope.*

— Before; as, I said *above*, that, &c.

— Higher in rank or power; as, he appealed to the court *above*.

From above, from an higher place, from heaven.

Above all, in the first place; chiefly.

"We admire *above all*, the elegance of his expression."—*Dryd.*

Above, *adj.*, is often used elliptically as an adjective, by omitting the word *mentioned*, *quoted*, &c.; as, the *above* observations.

Above'-board, *adv.* Above the board or table; — in open sight; without deception or artifice.

Above'-deck, *a.* On deck; without artifice.

Above'-ground, *a.* Alive.

Above'-stairs, *adv.* On the floor above.

Aboville, FRANCIS MARIE, a French general, who served in the American war. B. 1730; d. 1819.

A'bra, *n.* A Polish silver coin, worth about a shilling sterling.

Abra'banel, Abarbanel, or **Avravanel,** ISAAC. A celebrated rabbi, claiming descent from king David: was born at Lisbon A. D. 1437. He became counsellor to Alphonso V., king of Portugal, and afterward to Ferdinand the Catholic; but in 1492 was obliged to leave Spain with the other Jews. He died at Venice, aged 71. He has left some works on interpretations and explanations of the Bible. Abrabanel passed for one of the most learned of the rabbis; and the Jews gave him the names of the Sage, the Prince, and the Great Politician.

Abraeadab'ra, *n.* A magical word among the ancients, recommended as an antidote against several diseases. It was to be written upon a piece of paper as many times as the word contains letters, omitting the last letter of the former every time, and suspended from the neck by a linen thread. It was the name of a god worshipped by the Syrians, the wearing of whose name was a sort of invocation of his aid.

A B R A C A D A B R A
A B R A C A D A B R
A B R A C A D A B
A B R A C A D A
A B R A C A D
A B R A C A
A B R A C
A B R A
A B R
A B
A

At present, the word is used chiefly in jest, to denote something without meaniug.

Abrade', *v. n.* [Lat. *abradere*, to scrape off.] To rub or wear off: to waste by frictiou.

Abrad'ing, *n.* [Lat. *ab*, from, and *rado*, I scrape or rub off.] Applied to the sloping surface of banks of earth, which crumble down from the effects of frost, or the alternate action of drought and moisture.

A'braham, [Heb. *father of multitude*,] son of Terah, and brother of Nahor and Haran; the progenitor of the Hebrew nation and of several cognate tribes. His history is recorded with much detail in the Scriptures, as the very type of a true patriarchal life. His character is free, simple, and manly; full of hospitality and family affection; truthful to all who were bound to him by their ties, though not untainted with Eastern craft toward aliens; ready for war, but not a professed warrior or plunderer; free and childlike in religion, and gradually educated by God's hand to a sense of its all-absorbing claims. Terah was an idolater. Abraham appears as the champion of monotheism, and to him are referred the beginnings of the Mosaic polity. In obedience to a call of God, Abraham, with his father Terah, his wife Sarah, and his nephew Lot, left his native Ur of the Chaldees, and dwelt for a time in Haran, where Terah died. After his father's death, Abraham, now 75 years old, pursued his course, with Sarah and Lot, to the land of Canaan, whither he was directed by the divine command (Gen. xii. 5), when he received the general promise that he should become the founder of a great nation, and that all the families of the earth should be blessed in him. As the country was suffering with famine, Abraham journeyed southward to the rich cornlands of Egypt. Fearing that the great beauty of Sarah might tempt the powerful monarch of Egypt, and expose his own life to peril, he represented her as his sister, but the deception was discovered, and Pharaoh with some indignation dismissed him from the country. Abraham left Egypt with great possessions, and, accompanied by Lot, returned to one of his former encampments between Bethel and Ai. As the soil was not fertile enough to support the two kinsmen, Abraham proposed that each should follow his own fortune. Lot, eager to quit the nomadic life, chose the fertile plain of the Jordan; and Abraham pitched his tent among the oak-groves of Mamre, close to Hebron, where the promise that his descendants should become a mighty nation, and possess the land in which he was a stranger, was confirmed with all the solemnity of a religious ceremony. At the suggestion of Sarah, who despaired of having children of her own, he took as his concubine Hagar, her Egyptian maid, who bare him Ishmael, in the 86th year of his age. Thirteen years elapsed, during which revelation was made, that a son of Sarah, and not Ishmael, should inherit both the temporal and spiritual blessings. The covenant was renewed, and the rite of circumcision established as its sign. At length, Isaac, the long looked-for child, was born, and Ishmael was driven out, with his mother Hagar, as a satisfaction to Sarah's jealousy. Some 25 years after this event, Abraham received the strange command to take Isaac, and offer him for a burnt-offering at an appointed place. He hesitated not to obey, but the sacrifice was stayed by the angel of Jehovah. Sarah died at Hebron, and was buried in the cave of Machpelah, which Abraham purchased of Ephron: — the first instance on record of a legal conveyance of property. Abraham lived to see the gradual accomplishment of the promise in the birth of his grandchildren, Jacob and Esau, and at the goodly age of 175 he was "gathered to his people," and laid beside Sarah, in the tomb of Machpelah, by his sons Isaac and Ishmael.

Abraham'ie, *a.* Pertaining to Abraham; as, the *Abrahamic* covenant.

Abraham'ites, *n.* An order of monks exterminated for idolatry by Theophilus in the ninth century. Also the name of another sect of heretics who had adopted the errors of Paulus.

Abrahamit'ical, *a.* Relating to Abraham.

Abraham-town, a post-office of Marion co., Florida

Abralhos, a cluster of islets and sand-banks on the coast of Brazil, between 17° and 18° S. Lat. The islets are low, covered with grass and a little scattered brushwood. Their highest point rises about 100 feet above the level of the sea.

Abram's creek, a small stream of Columbia co., New York, falling into the Hudson river, 4 miles above Hudson city.

Abran'chians, (*Zoöl.*) [Gr. *a*, without, *branchia*, gills.] An order of animals, class *Anellidæ*, so called because they possess no organs of respiration, as the leech.

Abran'tes, a fortified frontier town of Portugal, in Estremadura, on the Tagus, 79 m. N.E. of Lisbon. *P.* 6,000.

Abrantes, MARSHAL, DUKE OF. See JUNOT.

Abrantes, DUCHESSE D', a French woman of considerable literary acquirements. B. at Montpelier, 1784; d. 1838. By her mother, Pannonia Comnena, she was a descendant from the imperial Byzantine family of the Comneni; she married Marshal Junot after his return from Egypt. Her principal work, *Mémoires de la Duchesse D'Abrantes*, is an authority on the court of Napoleon.

Abra'sion, *n.* [Lat. *abrado*, I rub off.] In Numismatology, implies the waste of coin, or the loss by wear and tear in the pocket. This forms a considerable item in the expense of a metallic currency, and various means have been employed to lessen it, — by alloying the coins so as to render them harder: by raising the border, so as to lessen the surface exposed to be rubbed, &c.

(*Med.*) A superficial excoriation; an ulceration of the skin.

Abras'ite, (*Min.*) A mineral of the zeolite family, found on Vesuvius. It occurs, united with Phillipsite, in quadratic octahedrons, aggregated in masses. Transparent, with grayish-white color. Called, also, *gismondine* and *zeagonite*.

Abraum', *n.* [Ger. *abraumen*, to take away.] A kind of clay used to darken mahogany.

Abrax'as, (*Zoöl.*) A genus of nocturnal Lepidoptera, in which is included the common magpie-moth. Its color is a yellowish-white clotted with black, and a band of pale orange marks the wings. It deposits its eggs on the leaves of the currant and gooseberry in July or August, and the caterpillars are hatched in September. Its chrysalis is black.

Abrax'as, or **Abrasas,** the supreme god of the Basilidian heretics. It is a mystic or cabalistic word, said to be composed of Greek letters, $\alpha, \beta, \rho, \alpha, \xi, \alpha, \varsigma$, which together, according to the Grecian mode of numeration, make up the number 365. For Basilides taught that there were 365 heavens between the earth and the empyrean; each of which heavens had its angel or intelligence, which created it; each of which angels, likewise, was created by the Supreme Being, or first Creator. The Basilidians used the word *abraxas* by way of charm or amulet.

Abreast', *adv.* [Prefix *a*, and *breast.*] Side by side, with breasts in a line; as, the riders rode *abreast*.

(*Naut.*) Opposite to; off; up with; as, "a ship *abreast* a headland."

Abrep'tion, *n.* [Lat. *ab*, and *rapere*, to snatch.] A carrying away; the state of being seized and carried away. (*O.*)

Abreuvoir', *n.* [Fr. *abreuvoir.*] A receptacle for water.

(*Masonry.*) The joint between stones to be filled up with mortar.

A'bricock, *n.* See APRICOT.

Abridge', *v. a.* [Fr. *abreger.*] To make shorter in words, keeping still the same substance; — to contract, to diminish, to cut short; — to deprive of; as, to *abridge* one of his right.

Abridg'er, *n.* One who abridges.

Abridg'ment, *n.* That which diminishes; a reduction or deprivation; as, an *abridgment* of expenses, or pleasure. — In *Literature*, the reduction of a book into a smaller compass; the book so reduced is sometimes called an *epitome*, or *compendium*. To condense a book, without detriment to symmetry and connection of the whole, demands the exercise of both judgment and skill, and not unfrequently of taste: to the absence of which requisites must be imputed the frequent imperfection of this class of works. The advantage of epitomes or abridgments, when ably executed, can scarcely be too highly estimated, for, from the enormous increase of literature, they are yearly growing more important, and will eventually become a matter of necessity.

Abroach', *adv.* In a posture to run out or yield the liquor contained: properly spoken of vessels; — hence, in a state to be diffused or advanced; in a state of such beginning as promises a progress.

"Alack! what mischiefs might be set *abroach*,
In shadow of such greatness?"—*Shak.*

Abroach'ment, *n.* (*Law.*) The act of forestalling the market.

Abroad', *adv.* Without confinement; widely; at large.

"Again, the lonely fox roams far *abroad*."—*Prior.*

— Out of the house, camp, or other enclosure.

"Welcome, sir,
This cell's my court; here have I few attendants,
And subjects none *abroad*."—*Shak.*

— In another country; as, to go *abroad* for an education.

— In all directions, this way and that.

"An elm displays her dusky arms *abroad*."—*Dryd.*

— Before the public at large; extensively; as,

"He....began....to blaze *abroad* the matter."—*Mark* i. 45.

Ab'rogable, *a.* Capable of being abrogated.

Ab'rogate, *v. a.* [Lat. *abrogare.*] To annul, to repeal; to abolish authoritatively; — applied to the repeal of laws, decrees, ordinances, &c.

Abroga'tion, *n.* [From Lat. *ab*, from; *rogo*, I ask.] The annulment of a law by competent authority. A phrase derived from the practice of the Roman popular assemblies, in which the several tribes, *curiæ*, &c., were said *rogare suffragia*, to demand the suffrage; whence also the modern word *prerogative*. See *Comitia*.

Abro'ma, *n.* [From *a*, neg., and *broma*, food; *i. e.* not fit to be eaten.] (*Bot.*) A genus of evergreen shrubs, order *Byttneriaceæ*, distinguished by their hairy lobed leaves, and terminal or axillary clusters of yellow or purple flowers. They are natives of India, Java, and New Holland. The bark of *Abroma augusta* furnishes a very tough fibrous tissue, suited for manufacturing into cordage, and which requires no artificial cleaniug.

Abro'nia, *n.* (*Bot.*) A genus of handsome dwarf trailing perennial herbs, distinguished by their five-leaved involucre, surrounding a close head of many flowers.

Abrot'anum, *n.* (*Bot.*) A species of *Artemisia*, commonly called *Southernwood.*

Abrud-banya, a town of Austria, province of Transylvania, situated on the river Ampoy. Mines of gold and silver. Pop. 4,100.

Abrupt', *a.* [Lat. *abruptus* broken off.] Broken, craggy.

"Resistless, roaring, dreadful, down it came,
Tumbling through rocks *abrupt.*"—*Thomson.*

—Sudden, without the customary or proper preparations.

"To know the cause of your *abrupt* departure."—*Shak.*

—Unconnected; having sudden transitions from one subject to another; as an *abrupt* style.

(*Bot.*) Anything which happens suddenly. A leaf which is suddenly terminated without tapering to a point; a stem which is suddenly bent, are *abrupt.*

Abrup'tion, *n.* [Lat. *abruptio.*] A sudden breaking off; a violent and sudden separation of bodies.

Abrupt'ly, *adv.* In an abrupt manner.

Abrupt'ness, *n.* The state of being abrupt; craggedness; suddenness; unceremonious haste or vehemence; as, *abruptness* of manner; *abruptness* of sentences.

A'brus, *n.* [Gr. *abros*, elegant.] (*Bot.*) A genus of plants, order *Fabaceæ*, having papilionaceous flowers, and pods containing bright red seeds with a broad black scar on one side of them.

Abruz'zo. A territory in South Italy. While Naples existed as a separate kingdom, the Abruzzi divided into: *Abruzzo Ulteriore Primo*, capital *Teramo; Abruzzo Ulteriore Secondo*, capital *Aquila; Abruzzo Citeriore*, capital *Chieti*; but these names were abolished at the formation of the kingdom of Italy, and the new administrative divisions of the Abruzzo are called, after the names of the chief towns, Aquila, Chieti, and Teramo. This territory is bounded on the north and west by the States of the Church, east by the Adriatic, and south by the provinces of Terra di Lavoro, Molise, and Capitanata. It has an area of 5,000 square miles; and though presenting to the Adriatic a coast of about 80 miles in length, yet it has not a single good port. It is mostly rugged, mountainous, and covered with extensive forests, but contains also many fertile and well-watered valleys. The Apennines traverse its whole extent, running generally from N.W. to S.E., and there they attain their greatest elevation. Near Aquila is Monte Corno, called *Il Gran Sasso d'Italia*, or the great rock of Italy, which rises to the height of 9,521 feet. Monte Majella, and Monte Velino, attain the height of 8,500 and 8,317 feet respectively. The principal rivers are the Tronto, Trentino, Pescara, and Sangro. A little to the south of the village of Albi, in *Abruzzo Ulteriore Secundo*, is Lake Celano, the *Lacus Fucinus* of the Romans. (See FUCINO, (LAKE OF.) The climate varies greatly with the elevation of the soil, but, generally speaking, it is temperate and healthy. Agriculture is but little attended to or understood, although in many of the lower parts of the country the land is of considerable fertility. Its principal productions are corn, hemp, flax, almonds, olives, figs, grapes, and chestnuts. The manufactures are very inconsiderable, being chiefly woollen, linen, and silk stuffs, and earthen and wood wares. Bears, wolves, and wild boars inhabit the mountain fastnesses, and in the extensive oak forests numerous herds of swine are fed, the hams of which are in high repute. Pop., census of 1872, the prov. of Aquila had 332,784; prov. of Chieti, 339,986; and prov. of Teramo, 246,004; total Abruzzi, 918,774. Jan., 1897, estimated total pop. 1,360,378.

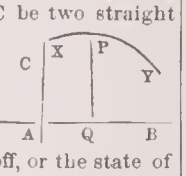
Ab'salom, SON OF DAVID. A handsome, but bold and aspiring prince, who, rebelling and usurping the government, was at length slain by Joab, David's general. An existing monument in the valley of Jehoshaphat bears the name of *Tomb of Absalom*; but it is contested whether it be a tomb, and the Ionic pillars round its base show that it belongs to a much later period.

Fig. 12.— TOMB OF ABSALOM.

Ab'salon, or **Axel,** Archbishop of Lund, minister and general of the Danish king Waldemar I. B. 1128, d. 1201. He put down the Vendish pirates and is author of the Waldemar's Code. For defence against pirates he constructed a small fort, which was the origin of the capital of Denmark.

Ab'scess, *n.* [Lat. *abscedo*, I separate.] (*Med.*) A collection of pus in the cellular membrane, or in the viscera, or in bones. Abscesses are variously denominated, according to their seat, as, *empyema*, when in the cavity of the pleura; *vomica*, in the lungs; *panaris*, in any of the fingers; *hypopyon*, in the anterior chamber of the eye; *lumbar* abscess, &c. (See these words.) The formation of an abscess is the result of inflammation terminating in suppuration. This is known by a throbbing pain, which lessens by degrees, as well as the heat, tension, and redness of the inflamed part; and if the pus is near the surface, a cream-like whiteness is soon perceived, with a prominence about the middle, then a fluctuation may be felt, which becomes gradually more distinct, till at length the matter makes its way externally. When an abscess is superficially seated, the early treatment consists chiefly in promoting the formation of pus by the application of moist and warm bandages or poultices. The next step is the removal of the pus. When this is too long delayed, serious disturbance of the organ, or blood poisoning may ensue.

Ab'sciss, or **Abscis'sa,** *n.* [Lat. *ab scindo*, I cut off.] (*Geom.*) A segment cut off from a straight line, by an ordinate to a curve. The position of a point on a plane is perfectly determined when its distances, measured in given directions, from two straight lines given by position, are known; and as curve lines may be regarded as formed by the continuous motion of a point, their various properties may be investigated by means of the relation common to all points of the same curve between the two distances so measured. Thus, let A B and A C be two straight lines given by position, and P any point in a curve X Y. Draw P Q parallel to A C, and meeting A B in Q, then P Q is called the ordinate of the point P, and A Q is the *abscis.*



Abscis'sion, *n.* The act of cutting off, or the state of being cut off.

(*Rhet.*) A figure of speech, when, having begun to say a thing, a speaker stops abruptly, as supposing the matter sufficiently understood. Thus, "He is a man of so much honor and candor, and such generosity.... but I need say no more."

Abscond', *v. a.* [Lat. *abscondere*, to hide.] To hide one's self; to retire from the public view; generally used of persons in debt, or criminals eluding the law.

Abscond'ence, *n.* Concealment. (*o.*)

Abscond'er, *n.* One who absconds.

Abseota, a post-office of Calhoun co., Michigan, 120 miles W. of Detroit.

Absecum, Abseecm, a post-village of Atlantic co., New Jersey, on a creek of the same name, 2 miles from Absecum bay, 75 miles S. of Trenton.

Ab'sence, *n.* [Fr. *absence.*] The state of being absent, opposed to presence; —inattention, heedlessness, neglect of the present object.

"I continued my walk, reflecting on the little *absences* and distractions of mankind."—*Addison.*

(*Law.*) Want of appearance.

Ab'sent, *a.* Not present; as, my *absent* friends; —inattentive, regardless of the present object.

"What is commonly called an *absent* man is commonly rather a very weak or a very affected man."—*Chesterfield.*

Ab'sent, *v. a.* To withdraw, to forbear to come into presence.

"If any member *absents* himself, he is to be fined."

Absenta'neous, *a.* Pertaining to absence; habitually absenting one's self.

Absenta'tion, *n.* The act of absenting one's self.

Absentee', *n.* One who absents himself from his office, post, duty, country, estate, &c.

Absentee'ism, *n.* The state or habit of an absentee.

Absent'er, *n.* One who absents himself from his place.

Absent'ment, *n.* A state of remaining absent from.

Absimarus, a soldier of fortune who raised, against the Byzantine emperor Leontius, an army which proclaimed him emperor, A. D. 698. He slit the ears and nose of Leontius, and threw him into a convent. He was taken in 705 by Justinian II., who, after having used him as a footstool at the Hippodrome, ordered him to be beheaded.

Ab'sinthe, *n.* [Fr.] An extract of the plant *Absinthium*, distilled with brandy. It is used with water as a cordial, and is said to give appetite; but it is prejudicial to the health if taken too frequently.

Absin'thine, *n.* (*Chem.*) The bitter principle of wormwood, or *artemisia absinthium.*

Absin'thium, or common wormwood, a plant of the genus *artemisia*, ord. *asteraceæ.* It grows about rubbish and rocks. The leaves of wormwood have a strong, disagreeable smell, so intensely bitter as to be proverbial. The flowers are more aromatic and less bitter than the leaves, and the roots discover an aromatic warmth without bitterness. This species of wormwood has powerful medicinal qualities as a tonic, stomachic, &c. It is found in the mountainous districts of New England.

Absis', *n.* See *Apsis.*

Absist', *v. a.* [Lat. *absistere*, to withdraw.] To stand or leave off.

Absist'ence, *n.* A standing off.

Ab'solute, *a.* [Lat. *absolutus.*] Completed, finished, perfect in itself; total: as, an *absolute* beauty.

(*Metaphys.*) A term employed to indicate that which exists without limitation of any kind. Another term, of the same meaning, is the *unconditional.* The absolute stands opposed to the relative or conditional. *Absolute truths* are truths which are necessary and universal; such are the axioms of mathematical science, and, in the estimation of certain schools of thought, the first principles of theology and morals.

(*Politics.*) A government is strictly said to be absolute when the supreme head is above the control of law, and has unrestricted power of legislation.

Absolute number is the known quantity which possesses one side of an equation; thus, in $x^2+12x=24$, the absolute number is 24, which is equal to the square of x added to 12 x.

Absolute equation (*Astron.*) is the sum of the optic and eccentric equation.

Absolute space, (*Phys.*,) space considered without relation to material objects or limits.

Ab'solutely, *adv.* In an absolute manner; positively, completely.

Ab'soluteness, *n.* The quality of being absolute; despotism.

Absolu'tion, *n.* [Fr. *absolution.*] (*Civil Law.*) An acquittal or sentence of a judge declaring the accused innocent of the crime laid to his charge.—In the Roman Catholic Church, it is a remission of sins pronounced by the priest in favor of a penitent.

Ab'solutism, *n.* (*Politics.*) Irresponsible, unlimited sovereignty, whether in the hands of one or of many, in contradistinction from that which is restrained by fundamental laws, or exercised in coöperation with the representatives of the people.

Ab'solutist, *n.* One who is a partisan of despotism.

Absol'utory, *a.* That absolves; absolving; absolvatory.

Absol'vable, *a.* That may be absolved.

Absol'vatory, *a.* Relating to pardon; forgiving; absolutory.

Absolve', *v. a.* [Lat. *absolvere.*] To clear, to acquit of a crime, in a judicial sense; —to set free from an engagement or promise; to pronounce a sin remitted, in the ecclesiastical sense.

Absolv'er, *a.* One who absolves.

Ab'sonant, *a.* [Lat. *absonans.*] Discordant; contrary; opposed to *consonant.*

Ab'sonous, *a.* [Lat. *absonus.*] Unmusical; —absurd; contrary; as, *absonous* to our reason.

Absorb', *v. a.* [Fr. *absorber.*] To swallow up; to suck up; to imbibe; as a sponge; —to engage wholly; to engross; as, *absorbed* in business.

Absorbabil'ity, *n.* A state or quality of being absorbable.

Absorb'able, *a.* That may be absorbed.

Absorb'ent, *a.* [Fr. *absorbant.*] Imbibing; swallowing.

Absorbent ground, a term given by painters to a water-color mixture, which is laid upon the canvas or wood, and which, upon the oil-color being applied, at once imbibes the oil, leaving the colors in which the design is made dry and brilliant.

Absorb'ents, *n.* (*Anat.*) A name given to certain small, delicate vessels which imbibe fluids that come in contact with them, and carry them into the blood. They are denominated *lacteals* or *lymphatics*, according to the liquids which they convey.

(*Med.*) Substances used to absorb or neutralize the acids sometimes formed in the stomach: chalk and magnesia are examples.—(*Surg.*) Spongy substances used in dressing wounds, such as lint and amadou.

Absorokas, or **Crows,** an Indian tribe in Missouri. Not familiar with the habits of civilized life; they have about 1,000 warriors, but are rapidly decreasing.

Absorp'tion, *n.* [Fr. *absorption.*] The interpenetration of certain bodies by other bodies or influences, which by this means disappear or become lost. There are several important examples of this in Physics.

(*Bot.*) The chief function of the root, by which food is taken up in a state of solution for the use of the plant. (See *Endosmose.*)

(*Chem.*) The disappearance of a gaseous fluid on entering into combination with a liquid or solid; thus, when the gas ammonia is passed into water, absorption takes place, and the result is the liquid commonly called spirit of hartshorn.

(*Physiol.*) A term employed to designate that natural function of the body which is exercised by the absorbent vessels; as, the *absorption* of the chyle by the lacteal vessels.

Absorption of heat is the name given to the phenomenon by which the heat-rays seem to disappear within the substance of bodies subjected to their influence, the effects differing greatly according to surface and color. As the subject is closely connected with the phenomena of radiation and reflection, it will be considered at greater length under the art. *Heat.*

Absorption of light will be best explained by considering the causes of transparency, opacity, and color. Transparency in a body is caused by one part of the light striking on it being transmitted through its substance, another being reflected from its surface, and a third being absorbed or lost in its interior. When a body reflects the whole of the light, it is said to be opaque, in which case, however, a small portion is absorbed. For example, a piece of blue glass absorbs the red and yellow rays, and transmits the blue; a piece of orange glass, acting just in the contrary manner, transmits the red and yellow rays and absorbs the blue. The same thing happens with opaque-colored bodies, with the exception that the unabsorbed ray is reflected instead of being transmitted. In a white opaque object, nearly the whole of the white light is reflected from its surface, a small portion being absorbed without any separation of the colored rays. In a black opaque object, nearly the whole of the white light is absorbed without suffering any change. No object is absolutely transparent or opaque, even air absorbing a small portion of light and color, and gold and silver transmitting green and purple rays respectively, when procured in sufficiently thin films. Perfect absorption or reflection is also unknown, for the darkest substance reflects a little light, otherwise it would be invisible; and the brightest speculum metal absorbs an infinitesimal portion of it. Philosophers are as yet ignorant of the causes of absorption of light; several

theories have been propounded, but they seem only to make the matter still more difficult of comprehensiou.

Absorp'tive, *a.* Having power to absorb or imbibe.

Absorp'tivity, *n.* The power or capacity of absorption.

Abs'que hoc, [Lat.] Without this.—(*Law.*) The technical words of exception made use of in a traverse.

Abs'que tali causa, [Lat.] Without such cause.

Abstain', *v. a.* [Fr. *abstenir*, to keep from.] To forbear; to refrain voluntarily.

Abstain'er, *n.* One who abstains.

Abste'mious, *a.* [Lat. *abstemius*, from *ab*, *abs*, and *temetum*, strong drink.] Abstiuent; very temperate; refraining.

Abste'miously, *adv.* Temperately; abstinently.

Abste'miousness, *n.* The quality of being abstemious.

Absten'tiou, [Fr. *abstention*.] The act of holding off. (*Law.*) Act of preventing an heir from taking possession.

Absterge', *v. a.* [Lat. *abstergere*.] To make clean by wiping; to wipe.

Abster'gent, *a.* That cleanses; purgative.

Absterse', *v. a.* To cleanse; to absterge; to purify.

Abster'sion, *n.* The act of wiping clean.

Abster'sive, *a.* Having the quality of cleansing.

Ab'stiuence, and **Abstineney,** *n.* [Fr. *abstinence*, from Lat. *abstineo*, I abstain.] The act or habit of refraining from something to which we have a propensity, or in which we find pleasure; but it is more particularly applied to the privation or sparing use of food. Abstinence has been enjoined and practised for various ends, as sanatory, moral, or religious. Physicians relate wonderful cures effected by abstinence: moralists, as the Pythagoreans, Stoics, and others, recommend it as a means of bringing the animal part of our nature into greater subservience to the spiritual; and it is likewise enjoined by various religions sects. Abstinence of flesh on certain days is obligatory in the Roman Catholic church.

Total abstinence. The time during which life can be supported under total abstinence from food or drink, is usually stated to vary from eight to ten days; the period has, however, in certain cases been much prolonged. The phrase *total abstinence*, as ordinarily employed, is restricted to abstineuce from intoxicating liquors. This is strictly enjoined by many advocates of the temperance reform, and by the leading temperance societies.

Ab'stinent, *a.* Using abstinence; abstemious.

Ab'stinently, *adv.* With abstinence.

Ab'stinents, *n. pl.* (*Eccl. Hist.*) A religious sect which appeared in France and Spain iu the third century, aud which opposed marriage, condemned the use of flesh meat, and placed the Holy Spirit in the class of created beings.

Abstort'ed, *a.* [Lat. *abstortus*, twisted.] Forced away. (o.)

Abstract', *v. a.* [Fr. *abstraire*, from Lat. *abstrahere*.] To draw from; as, one thing from another; — to separate, to consider by itself, as ideas; —to epitomize; to reduce; —to take fraudulently for one's use from the property of another; as, to *abstract* goods or money from a parcel.

(*Chem.*) To drive off by distillatiou.

Abstract, *v. n.* To draw off; as, his miud was *abstracted* by other objects.

Abstract, *a.* Separated from something else; — not connected with sensible objects — opposed to *concrete*; — abstruse; difficult.

Abstract mathematics, signifies that branch of the science which deals with magnitude, figure, and quantity in general, and without reference to any particular magnitude, figure, or quantities.—*Abstract mathematics* is opposed to *mixed mathematics*, which deals with the application of mathematics to uavigation, astronomy, &c.—*Abstract numbers*, iu *arithmetic*, a term which signifies numbers independent in themselves, and without being applied to any individual thing,—as 4, 8, 12, &c.,—in distinction from numbers applied, or in the concrete; as 4 men, 8 feet, 12 ships, &c.—*Abstract terms* signify the mode or quality of a being, without any regard to the subject iu which it is; as, whiteness, length, morality, death.

Ab'stract, *n.* A small quantity containing the virtue or power of a greater; the summary or epitome of a treatise-book, public or private record, &c.

Abstract'ed, *p. a* Separated; disconnected; refiued, purified; abstruse, difficult, abstract; inattentive to the present objects.

Abstract'edly, *adv.* In an abstracted manner; separately.

Abstract'edness, *n.* The state of being abstracted.

Abstract'er, *n.* One who abstracts.

Abstrae'tiou, *n.* [Fr.] The act of abstracting; —absence of mind; inattention to present objects.

(*Psychol.*) That operation of the mind by which it takes cognizance of qualities separately from the thing in which they exist; as, for example, of *whiteness*, apart from snow, from lime, from milk, or from any other substance or liquid.—An abstraction is the idea which is the result of the above process,—an abstract idea, which, however fugitive in itself, speedily clings to a word, and becomes incorporate with it. The question whether abstract ideas, such as beauty, truth, time, space, have any real existence, or are only forms of things and wholly relative, is, and always has been, the great bone of metaphysical contention. It was the point in dispute between the *Realists* and *Nominalists* of the middle ages, and still divides thiukers into two great schools. (See *Personification*.)

(*Law.*) The taking surreptitiously for one's own use part of the property of another.

(*Chem.*) A separatiou of volatile parts by the act of distillation.

Abstrae'tive, *a.* Having the power of abstraction.

Abstrac'tively, *adv.* In an abstracted manner.

Ab'straetly, *adv.* Iu an abstract state or manner.

Ab'straetness, *n.* The quality of being abstract.

Abstringe', *v. a.* [Lat. *abstringere*.] To unbiud. (o.)

Abstruse', *a.* [Lat. *abstrusus*.] Difficult to be compreheuded or understood.

Abstruse'ly, *adv.* In an abstruse manner; obscurely.

Abstruse'uess, *n.* The quality of beiug abstruse.

Absume', *v. a.* [Lat. *absumere*.] To waste; to cousume.

Absurd', *a.* [Fr. *absurde*.] Unreasouable, without judgmeut; applied to men; —inconsistent, contrary to reason; applied to sentiment or practice.

Absurd'ity, *n.* [Fr. *absurdité*.] The quality of being absurd; waut of judgment, applied to meu; want of propriety, applied to things; — that which is absurd.

Absurd'ly, *adv.* In an absurd manner.

Absurd'uess, *n.* The same as *Absurdity*.

Absurd'um, REDUCTIO AD. (*Geom.*) A term used to denote a mode of demonstration in which the truth of a proposition is established not by a direct proof, but by proving that the contrary is *absurd*, or impossible. There are many examples of this mode of demoustratiou in the "Elements of Euclid."

Abu, or **Bu,** [Arab. *father*,] is prefixed to many Arabic names, as the equivalent syllable *ab* is prefixed to Hebrew names; as, *Abu*-bekr, *father of the virgin*.

Abu-arieh, a petty state in the S.W. of Arabia, on the borders of the Red Sea, between 15° 50′—17° 40′ N. lat., and 41° 30′—43° E. lon., consisting of the narrow slip of low land which lies between the coast aud the mountainous district of *Haschid-u-Bekel*. It forms part of the *Tehema* or low lands of Yemen, being almost wholly a sandy plain, extremely hot and dry. Its chief product is dhoura, or barley, which forms the principal food of the people.

Abu-Bekr, (*father of the virgin*,) the father of Ayesha, wife of Mohammed, was a man of great influence in the Koreish tribe; and in 632, when Mohammed died, was made the first caliph or successor of the Prophet. After defeating his enemies in Arabia, and warring successfully agaiust Babylonia, Syria, and the Byzautiue emperor Heraclius, Abu-Bekr D. 634 A.D., aged 63. He was surnamed *the Just*. His charity was unbounded, while his manner of living was so strict that he possessed at his death only the one robe he wore, a camel, and au Ethiopian slave. His tomb is shown by the ide of that of the Prophet at Mecca.

Abu-Said Khau, the last sultan of the race of Ziugis-Khan. D. 1336.

Abu-Temam, the greatest of all Arabic poets, lived in the 9th century. The Arabs say of him, that "no one could ever die whose name had been praised in the verses of Abu-Temam."

Abul Fazi, vizier of the great Mogul Akbar, in Hindostan. He attempted to establish a liberal system of government, and was murdered in 1608 by the secret order of Jehanghir, son of the emperor. He is the author (besides other works) of the "Ayin Akbari," a highly esteemed statistical aud political accouut of the Mogul empire in India.

Abulghazi Bahadoor, khan of Khiva in 1644, abdicated in his son's favor. D. 1663. Author of a history of the Turks, translated into Germau.

Abu'na, [Ar. *our father*.] The high priest, or sole bishop, of the Abyssinian church.

Abun'dance, *n.* [Fr. *abundance*, from Lat. *abundantia*.] Overflow; more than enough; copious supply.

Abun'dant, *a.* Overflowing; plentiful.

Abundant numbers, in *Arith.*, are those uumbers the aliquot parts of which, added together, make more than the number itself; thus, the aliquot parts of 20, (1, 2, 4, 5, 10,) on being added together, make 22.— An *abundant number* is opposed to a *deficient number*, of which the sum of the divisors is less than the number itself, as 16, whose divisors are 1, 2, 4, 8, the sum of which is 15; and to a *perfect number*, of which the sum of the divisor is equal to itself, as 6, whose divisors are 1, 2, 3.

Abun'dantly, *adv.* Iu pleuty; — amply, liberally, more than sufficient.

Abus'able, *a.* That may be abused.

Abusaubul. See IPSAMBOOL.

Abuse', *v. a.* [Fr. *abuser*.] To use a person or thing in any manner deviating from the rule or liue of right.

Abuse', *n.* The ill use of anything; — a corrupt practice, bad custom; — unjust censure, rude reproach, contumely; — the violation of a female.

Abus'er, *n.* One who abuses, maltreats, deceives, defiles.

Abu'sive, *a.* Practising abuse; as, an *abusive* author; — containing abuse; rude; reproachful; scurrilous.

Abu'sively, *adv.* In au abusive mauner; rudely; reproachfully.

Abu'siveness, *n.* The quality of being abusive.

Abut', *v. a.* [Lat. *abuttare*.] (*Arch.*) To project in a solid mass upon another object, or a certain poiut without actual contact; —used with *upon* or *against*.

Abu'ta, *n.* (*Bot.*) An ornamental evergreen climber. ord *Menispermaceæ*. From the branches of this plant a drink is made by the natives of Cayenue, and used by them against obstructions of the liver.

Abu'tilou, *n.* (*Bot.*) A genus of plants, belonging to the nat. ord. *Malvaceæ*. The most interesting species is the *Abutilon esculentum*, commonly called *Bençao de Deos*, the flowers of which are boiled and eaten as vegetables in Brazil.

Abut'ment, *n.* [From *abut*.] (*Arch.*) The solid part of a pier from which the arch immediately springs. Abutments are either artificial or natural. The former are usually formed of masonry or brickwork, and the latter are the rock or other solid materials on the banks of a river, in the case of a bridge, which receive the foot of the arch. It is obvious that they must be of sufficient solidity and strength to resist the arch's thrust.

Abuttal, or **Abbuttals,** *n. pl.* [Fr. *abutter*, to bound or limit.] (*Law.*) The buttings and boundings of lands, east, west, north, and south, with respect to the places by which they are limited and bounded. The *sides* of the land are properly said to be *adjoining*, and the *ends abutting*, to the thing contignous.

Abut'ter, *n.* One who, or that which, abuts.

Abydenus, a handsome and learned youug man, one of Aristotle's scholars, whom he loved too passionately; and who wrote divers pieces of history concerning Cyprus, Delos, and Arabia.

Abydos, a town and castle of Natolia, on the straits of Gallipoli. Iu its neighborhood Xerxes, when he invaded Greece, crossed with his immense army the Hellespont, on a bridge of boats. Memorable also from being the scene of the loves of Hero and Leander, and from Byron having adopted its name in his "Bride of Abydos."—Also an ancient city of Upper Egypt, supposed to have beeu the ancient This, and to have been second only to Thebes. Lat. 26° 10′ N., long. 32° 3′ E.

Abyo, one of the Philippine Islands, between Mindanao and Luzon. Lat. 10° N., long. 122° 15′ E.

Abys'mal, and **Abyss'al,** *a.* Pertaiuiug to, or resembling, an abyss; bottomless.

Abyss', and **Abysu',** *n.* [Lat. *abyssus*.] A term used to denote, in general, anything profound or bottomless; an immeasurable space. Iu Scripture, it is employed to denote the deepest parts of the sea, from their being unfathomable; and in a figurative sense, it implies hell, or the bottomless pit.

Abyssinia, a kingdom in Eastern Africa, bounded on the N. by Nubia, E. by the Red Sea and Duncala, W. by Soudan, and S. by the Gallas Country. *Area*, abt. 158,000 sq. m.—*Desc.* This country may be described as an elevated table-land, divided by two mountain tracts of great extent, into a southern, a western, and a northeastern region.—*Climate.* The rainy season lasts from April to September; which is followed by a cloudless sky and a vertical sun. Cold nights suddenly succeed these scorching days, yet the earth keeps remarkably cool, partly owing to the six months' rain, when no sun appears, and partly to the perpetual equality of nights and days.—*Inhab.* The Abyssinians belong mostly to the Shemitic race, and resemble the Arabs both in physi-

Fig. 13.—ABYSSINIAN.

cal characteristics and structure of language.—*Wild animals.* There is no country iu the world productive of a greater variety of quadrupeds; but there are no tigers. The hyenas, however, are very numerous, and dreadful in their ravages. Elephants and buffaloes are very numerous, aud the double-horned rhinoceros is found. Besides these, giraffes, zebras, quaggas, and wild asses are plentiful. Boars, in some of the woods, are common, and the smaller animals, such as porcupines, ferrets, otters, polecats, rabbits, and squirrels, abound. There are several species of eagles and vultures. The bee is so plentiful that its honey produce supersedes the necessity of importing sugar. Locusts frequently devastate the fields, and hippopotami abound in some of the larger rivers. To supply all these animals with food, in a wild state, the fertility of Abyssinia must be immense.—*Domestic animals.* These consist of cattle, sheep, goats, asses, mules, and horses. The sanga ox is found in Antalo, with horns sometimes extending to the length of four feet. *Prod.* Corn of different kinds, dates, tamarinds and coffee, which is indigenous.—COMMERCE.—*Imps.* Cotton, raw silk, metals, and leather. *Exps.* Slaves, gold, and ivory. *Rel.* (See ABYSSINIAN CHURCH.)—*Pop.* 4,500,000. Lat between 8° 30′ and 15° 50′ N.; Long. between 35° and 52° E. *Adm.* It was ruled by emperors who were supposed to be descended from Solomon and the queen of Sheba. The barbarous manner in which two representatives of the English government were treated by the late emperor Theodore, and the refusal of the latter to give satisfaction to just claims, compelled England to proclaim war against him. In the autumn of 1867, an army of about 10,000 men, uuder the command of Sir Robert Napier, landed at Massouah. The conquest of Magdala, April 10, 1868, and the death of Theodore, followed. This war cost Euglaud $44,895,000. After the departure of the English, civil war prevailed, and Kassa, prince of Tigre, proclaimed himself ruler, as King John. Iu 1872, difficulties occurred with Egypt, and in 1875–76 an Egyptian invasion was successfully

(CONTINUED IN SECTION II.)

Abyssin'ian, *n.* A native or inhabitant of Abyssinia.

Abyssiu'ian, *a.* Relating to Abyssinia.

Abyssiuian Church, (*Eccl. Hist.*) The name of a sect of the Christian church established in Abyssinia. The forms and ritual of the Abyssinian church are a strange compound of Paganism, Judaism, and Christianity. It is governed by a bishop, who is styled *Abuna*,

and is sent in Abyssinia by the Coptic bishop of Alexandria.

Acaca'lis, *n.* A shrub bearing a flower and fruit like those of a tamarisk.

Aca'cia, *n.* [Fr. from Gr. *akazo*, to sharpen—many of the species having thorns or prickles.] A very extensive genus of trees or shrubby plants, inhabiting the tropical parts of both the old and new world, and, in a very few instances only, extending into temperate latitudes. This genus belongs to the nat. ord. *Leguminosæ*, or *Fabaceæ*. Some of the species produce catechu and gum-arabic. The bark of the others yields a large quantity of tannin, which, in the form of an extract, is annually imported from Van Diemen's Land in considerable quantity; the species from which this substance is produced are chiefly *Acacia decurrens* and *mollissima*. As objects of ornament, they are usually of striking beauty, and it may be doubted whether, in the whole vegetable kingdom, such a brilliant coloring, and elegant foliage, combined with a most graceful aspect, and are found united in the same individuals. *General character of the genus.* Flowers polygamous; calyx, with either 4 or 5 teeth; petals, either 4 or 5, sometimes distinct from each other, sometimes adhering in a monopetalous corolla; stamens varying in number from 10 to 200; pod, not separating into many joints; juiceless, two-valved. Some species have true leaves that are twice or thrice pinnate, with a multitude of minute, shining, or, at least, even leaflets; others have, in a perfect state, no leaves, properly so called, but, in their stead, the leaf-stalks enlarge, and assume the appearance, and no doubt also the functions, of true leaves. Nearly 300 species are known, and among the most remarkable are:—*Acacia catechu* (*Mimosa catechu*, Linn.), a tree found in mountainous places, principally in Bengal and Coromandel. Its unripe pods and wood yield, by decoction, one of the sorts of catechu of the shops. (See CATECHU.)—*Acacia Arabica*, the gum-arabic tree, an inhabitant of the East Indies, Arabia, and Abyssinia, where it forms a tree thirteen to fourteen feet high, of inelegant appearance. This is one of the plants that yield the useful substance called gum-arabic, which is produced by wounding the bark: after which the sap runs out, and hardens in transparent lumps. (See GUM.)—*Acacia pubescens*, downy acacia, a native of the east coast of New Holland, and one of the most beautiful of green-leaf plants. It produces a vast abundance of yellow blossoms, which weigh down the slender graceful branches, and perfume the air with a faint but pleasant odor.—*Acacia julibrissin*, the silk-tassel acacia, a native of Persia, and a small tree, remarkable by its light, airy foliage, and for the great beauty of its clusters of lilac flowers, the long and slender stamens of which stream in the wind, and glitter in the sun, like a number of silken tassels artificially fastened to the boughs. This species is commonly cultivated in temperate parts of Europe and America.—*Cultivation.*—Most of the species may be multiplied by cuttings stuck in silver sand, placed under a bell-glass, and kept in a warm place, to which no direct solar light has access. Others, and among them *Acacia julibrissin*, have the power of producing shoots from pieces of the root placed in earth in a hot-bed, and by these the nurserymen generally propagate them.

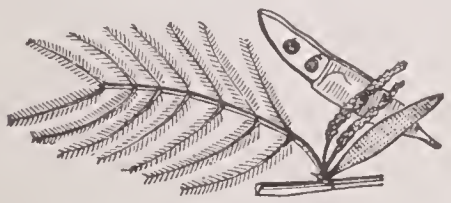


Fig. 14.—ACACIA CATECHU.

Aca'cius, St., Bishop of Amida, in Mesopotamia. He sold the church-plate, to redeem 7,000 starving Persian slaves. Versanius, the king, was so affected by this noble action, that he sought an interview with the bishop, which resulted in a peace between that prince and Theodosius I, A. D. 420.

Acade'mia, a post-office of Juniata co., Pennsylvania. *Also*, a post-village of Knox co., Tennessee.

Acade'mian, *n.* A member or scholar of an academy.

Academ'ic, and **Academ'ical,** *a.* Belonging to an academy, as "*academic* courses;" or belonging to the doctrine of Plato.

Academ'ically, *adv.* In an academical manner.

Academ'icals, *n. pl.* The dress peculiar to officers and students in an academy, college, or university.

Academi'cian, *n.* [Fr. *academicien.*] A member of an academy.

Academ'ics, a name given to a series of philosophers who taught in the Athenian Academy, the scene of Plato's discourses. They are commonly divided into three sects:—1. The Old Academy, of which Plato was the immediate founder, was represented successively by Speusippus, Xenocrates, and Polemon. (See *Platonism.*) 2. To them succeeded Arcesilaus, the founder of the Middle Academy. Under his hands, the Platonic method assumed an almost exclusively polemical character. His main object was to refute the Stoics, who maintained a doctrine of perception identical with that promulgated by Dr. Reid in the last century. Socrates is said to have professed, that all he knew was, that he knew nothing. Arcesilaus denied that he knew even this. Wisdom he made to consist in absolute suspension of assent; virtue, in the probable estimate of consequences. He was succeeded by Lacydes, Telecles, Evander, and Hegesinus. 3. The new academy claims Carneades as its founder. His system is a species of mitigated scepticism. He was succeeded by his disciple, Clitomachus. Charmides, the third and last of the new academicians, appears to have been little more than a teacher of rhetoric: an accusation, indeed, to which the whole school is in no small degree liable.

Acade'mus, or **Ecademus,** an Athenian whose house was employed as a philosophical school in the time of Theseus. He had the honor of giving his name to a sect of philosophers, or rather three sects, called *Academics.*

Acad'emy, *n.* [Gr. *academia.*] A name derived from that of a place near Athens, where there was a famous school for gymnastic exercises, and in which the Sophists gave their lectures. (See *Academics.*) Cicero had a country seat on the Neapolitan coast, to which he gave, in memory of the famous Athenian school, the name of Academia. It was here he wrote his *Academic questions.* After the restoration of letters, in the 15th century, the term *Academy* was revived in Italy, but with a signification somewhat different from what it had been in ancient times. It was, and is till now, used in all Europe (except England) to imply, not a school in which philosophy is taught by a master to his pupils, but an association of individuals formed for the cultivation of learning or science, and usually constituted and endowed by the head of the state in which it is established. The members of the academies, known under the name of *academicians*, are usually classified as *Ordinary*, *Honorary*, and *Corresponding.* The results of their labors in their various departments are reported at their periodic meetings, and printed in the records of the academy. Prizes are generally established as the rewards of distinguished merit in original discovery, or excellence in the treatment of subjects proposed for competition. Among the numerous academies so constituted, the most celebrated are: the *A. della Crusca*, founded at Florence, in 1582, which, by the publication of its excellent dictionary, established the Tuscan dialect as the standard of the national language of Italy; the *A. Française*, instituted in 1635 by Cardinal Richelieu, and now entitled the *Institut de France, q. v.;* the *Berlin A. of Arts and Sciences*, founded in 1700 by Frederick I; the *Imperial A. of Sciences of St. Petersburg*, planned in 1724 by Peter the Great, and established in the following year by Catherine I.; the *Royal Spanish A.*, founded at Madrid in 1714; and the *A. Imperiale de Médecine*, of Paris, founded in 1820.

In England, and in America, the word *Academy* is loosely applied to any species of school which professes to communicate more than the mere elements of instruction. (See *University, College, Gymnasium, School.*) The associations of the learned, which, in all material respects, resemble the academies of France, Italy, Germany, &c., are called *societies, associations, museums, lyceums, institutes*, &c., and will, therefore, be more conveniently considered under those terms. As reference, the inquirer will find under the head *Society* the names of many of the earlier scientific and literary American institutions distributed under different names in this work. (See WEST POINT and MILITARY SCHOOLS.)

Acad'emy, in *Georgia*, a village of Columbia co.

Acad'emy Figure. (*Paint.*) A term used to signify a design, generally executed with black and white chalk, after a living model.

Aca'dia, the original French name of the territory now known as Nova Scotia, New Brunswick, and the greater part of Maine (*Parkman*). See NOVA SCOTIA.

Aca'dia, the former name of a county in the province of Quebec, Canada.

Aca'dialite, *n.* (*Min.*) A red *chabazite* mineral found in Nova Scotia.

Ac'ajou, or **Cashew-nut,** *n.* (See ANACARDIUM.) Acajou is also the French name for mahogany.

Ac'alcph, and **Acalepha,** *n.* (*Zoöl.*) A member of the class *Acalephæ.*

Acale'phæ, or **Ac'alephs,** *n. pl.* [Gr. *akalephe*, a nettle.] (*Zoöl.*) A class of marine invertebrate animals, comprehended in the branch of *Radiata*, and otherwise called Jelly-fishes. It embraces an extensive number of animals, of which the genus *Medusa* of Linnæus may be taken as the type. This genus has a nervous system and senses; a muscular system; a reproductive system; the power of stinging when touched; and is phosphorescent. With their strange bodies and their wonderful faculties, the *acalephæ* which crowd the surface of the ocean, are still one of the mysteries of the creation. In them, "we find the most important functions of life performed in bodies which are often little more than a mass of jelly. They grow frequently to a large size, so as to measure several feet in diameter, and yet we cannot always determine what are their organs of nutrition; they move with rapidity, and continue their motions for a long time, and yet we cannot always satisfactorily demonstrate their muscular system. Their secretions are frequently very abundant, and yet the secreting organs remain to be discovered. They seem too weak to seize any vigorous animal, and yet fishes are sometimes their prey. Their delicate stomachs appear to be wholly incapable of acting upon such food, and yet it is digested within a very short time. Most of them shine at night with very great brilliancy, and yet we know little or nothing of the organs by which their phosphorescence is elaborated. Many of them sting the hand which touches them, but how, or by what means they do so, still remains a mystery. If we take one of the largest, weighing, perhaps, five or six pounds, and set it aside to let the portions of its fluid substances drain away, we find that all the solid matter left is but a film of cellulosity, a cobweb weighing not as many grains as did the living creature pounds. And, lastly, if we examine the fluid drained away, we find that it is sea-water, indistinguishable from that wherein the creature swam while yet alive. What must we say to this? That the salt water of the sea, imprisoned in a web so delicate as scarcely to be visible, is moulded into beauteous shapes infinitely diversified; and that, being possessed of life, the mass thus formed becomes susceptible of being endowed with properties like those we have discussed."—*Acalephæ* have been separated into three orders: *Ctenophoræ* or Beroid Medusæ, *Discophoræ* or Medusæ proper, and *Hydroidæ*, exhibiting a great variety of peculiar structure and form. The figure hereunto annexed represents the shape and size of a species of the Beroid Medusæ, the *Cydippe pileus.* When taken from its native element and placed in a glass jar for close inspection, the body of this elegant animal looks like a little globe of purest ice, and is, indeed, almost as deliquescent, for when exposed it melts away almost to nothing,—no residue being left except a film, so delicate as to be scarcely visible. Still, while alive, few objects could excite more pleasurable emotions in the observer.

Fig. 15.—CYDIPPE PILEUS.

Acale'phoid, *a.* (*Zoöl.*) Resembling the medusæ, or jelly-fishes.

Acal'ycine, and **Acalycinous,** *a.* (*Bot.*) Without a calyx or flower-cup.

Acal'ypha, *n.* (*Bot.*) The Greek name of a genus of plants of no beauty, and of the easiest culture. *Euphorbiacæ* fam. (Linn. cl. 21, ord. 8.)

Acama'pixtli. See ACCUMPIXTLI.

Acambou, a kingdom on the coast of Guinea, where the king is absolute.

Acamp'tosomes, *n. pl.* [Gr. *a*, without, *kampto*, I bend, *soma*, the body.] (*Zoöl.*) An order of cirripeds, including all those in which the body is entirely enveloped in a calcareous compound shell, and so attached that it cannot be unfolded and protruded.

Acau'ny, an inland country and town of Guinea, affording the best gold in great plenty.

Acan'tha. (*Myth.*) A nymph loved by Apollo, and changed into the flower Acanthus.

Acan'tha, *n.* [Gr. *thorn, spine.*] (*Bot.*) A prickle.—(*Zoöl.*) A spine or prickly fin.—(*Anat.*) The vertebral column; the spinous process of a vertebra.

Acantha'ceæ, *n. pl.* (*Bot.*) An order of plants, alliance *Bignoniales*, characterized by having axile placentæ, wingless exalbuminous seeds attached to hard placental processes, and large fleshy cotyledons. They are nearly related to *Scrophulariaceæ*, and for the most part tropical. In such regions they are extremely common, constituting a large part of the herbage. For the most part they are mucilaginous and slightly bitter, but generally of little use to man. Many of the species are mere weeds; others bear handsome flowers with gaudy colors, but seldom with any odor; a very small number have been occasionally employed medicinally as emollients or diuretics. The roots of Acanthaceæ are either annual or perennial. The stems are usually four-cornered when young, but afterward become nearly round. Their flowers are often enclosed within large, leafy, imbricated bracteæ. The calyx is usually composed of either four or five parts, which overlap each other, and occasionally grow together at the base. The corolla is monopetalous and irregular. The stamens are either two or four, but in the latter case are of unequal lengths. The pistillum is superior and turcilled. The seed-vessel contains two cells, which burst when ripe, often with elasticity, and expose a few roundish seeds hanging to the cells by curiously hooked processes. The stems of all the species emit roots very readily from their tumid articulations; on which account gardeners universally increase them by cuttings of the full-grown branches. They are always easy to cultivate, provided they are not kept in too cold or too dry a situation. The annual kinds freely produce seeds, by which they are readily multiplied. The most common genera are Justicia, Acanthus, Ruellia, Thunbergia, Barleria, and Eranthemum; *q. v.*

Acan'thine, *n.* The sweet juice of ivy-buds.

Acan'thite, *n.* (*Min.*) An orthorhombic sulphide mineral of the Galena division. *Comp.* sulphur 12·9, silver 87·1.

Acan'thion, *n.* (*Pal.*) A genus of Rodentia, known at present only by their osteology. The genus was established by F. Cuvier.

Acanthoceph'ala, *n.* [Gr., *spiny-headed.*] (*Zoöl.*) A group of intestinal worms or *Entozoa*, which attach themselves to the mucous coat of the intestines of animals, by means of a proboscis surrounded with minute recurved spines.

Acanthoc'inus, *n.* (*Zoöl.*) A genus of Coleopterous insects belonging to Latreille's *Longicorn* group, and remarkable for the spiny projections from its antennæ. The species *Acanthocinus speculifer*, represented in the accompanying figure, derives its specific name (which

means mirror-bearing) from its having a bright, burnished disc on each of the elytra. See CERAMBYCIDÆ.

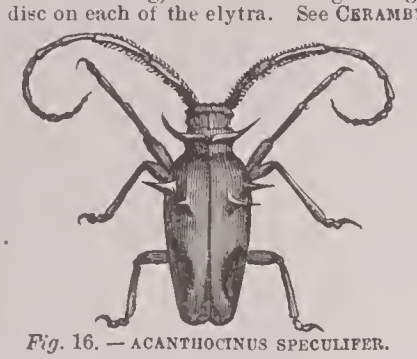


Fig. 16. — ACANTHOCINUS SPECULIFER.

Acanthodac'tylus, *n.* [Gr. *spine-toed.*] (*Zoöl.*) The generic name of the *Cape spine-foot*, an African lizard. Its toes are very long, especially those of the hind-feet, and are edged with a fringe composed of sharply pointed scales.

Acantho'derma, *n.* [Gr. *acantho*, a prickle, and *derma*, a hide.] (*Zoöl.*) A genus of fossil fishes, allied to the Balistes.

Acantho'des, *n.* (*Pal.*) A genus of fossil ganoid fishes of diminutive size.

Acantho'limon, *n.* (*Bot.*) A genus of plants, order *Plumbaginaceæ*. They are natives of Asia, and readily distinguished by their rigid, sharp-pointed leaves, resembling those of Juniper.

Acan'thonin, *n.* [Gr., *thorn-clawed.*] (*Zoöl.*) The *thorn-clawed crab*, a genus of decapodous *Crustacea;* so named on account of the large and boldly hooked extremities of its limbs.

Acantho'phis, *n.* [Gr., *serpent's spine.*] (*Zoöl.*) A genus of venomous serpents, peculiar to Australia, and characterized by a horny spine, simulating a sting, at the end of the tail.

Acanthop'oda, *n.* [Gr., *spine-footed.*] (*Zoöl.*) A tribe of clavicornous beetles (*Scarabæidæ*), chiefly distinguished by having the outside of their feet armed with spines.

Acanthopteryg'ii, and **Acanthopteryg'ians,** *n. pl.* [Gr., *spiny-finned*] (*Zoöl.*) Cuvier's first order of fishes, characterized by the bony spines which form the first rays of their dorsal and anal fins; and generally, also, the first ray of the two ventral fins.

Acanthopteryg'ious, *a.* (*Zoöl.*) Having fins which are bony and prickly.

Acanthu'rus, *n.* [Gr. *akanthos*, spine; *oura*, tail.] (*Zoöl.*) The Surgeon-fish, a genus of acanthopterygious fishes, fam. *Teuthidæ*, chiefly distinguished by the sharp and lancet-like spines with which they are armed on each side of the tail. They abound in the tropical seas, where they are generally seen in large shoals of two or three hundred each, swimming with great strength, and feeding principally on different kinds of sea-weed. The genus contains a large number of species, many of which are extremely beautiful, both in form and color.

Fig. 17. — SURGEON, (*Acanthurus phlebotomus.*)

Acan'thus, *n.* [Lat., from Gr. *akantha*, a thorn.] (*Arch.*) The name by which the broad raffled leaf used in the enrichment of the Corinthian capital is known. It is thus called because of its general resemblance to the leaves of a species of the acanthus plant; or rather because of a pretty traditional story which the Roman author Vitruvius tells of the fancied origin of the Corinthian capital, in which the leaves are said to be imitated from those of the acanthus. (See CAPITAL, CORINTHIAN.) The same leaf, however, is commonly used in architectural and sculptural enrichments generally; in the enrichment of modillions, of mouldings, and of vases, as well as of foliated capitals; and we gather from Virgil, that the acanthus was by the ancients also employed as an ornament in embroidery. In the first book of the *Æneid*, verse 649, and again at 711, a veil or vest is said to be interwoven or embroidered with the crocus-colored or saffron acanthus. This ornament, in the ancient Greek and Roman models, is very characteristic of the styles of architectural enrichment of those nations; in the Roman, it is full and somewhat luxuriant, and in the Greek more restrained, but simple and graceful.

(*Bot.*) A genus of herbaceous plants, order *Acanthaceæ*, found in the south of Europe, Asia Minor, and India. The commonest species is *Acanthus mollis*, or *Brank-ursine*, a native of many parts of the south of Europe, growing in shady, moist places, among bushes. Its stem is about two feet high, and is covered from the middle to the top with fine large white flowers, slightly tinged with yellow. The leaves are large, soft, deeply cut, hairy, and shining; and surround the lower part only of the stem. Both the leaves and the roots, which are perenuial, abound in mucilage, which has caused them to be substituted in domestic medicine for the marshmallow. It is this species which is usually supposed to have given rise to the notion of the Grecian capital. But it appears, from the investigation of Dr. Sibthorp, that it is nowhere to be found, either in the Greek islands, or in any part of the Peloponnesus; and that the plant which Dioscorides must have meant was the *Acanthus spinosus*, still called *Acantha*, which is found, as he describes it, in rocky, moist situations. It differs from *Acanthus mollis* in having a dwarfed stem, flower tinged with pink instead of yellow, and spiny leaves.

Ac'anus, *n.* [Gr. *akanos*, a prickle.] (*Pal.*) A genus of fossil fishes allied to the perches.

Acan'zii, *n. pl.* Turkish light-horse.

A'capella. (*Mus.*) Italian words applied to compositions sung in the old church style, without instrumental accompaniment; as, a mass *a capella*—*i. e.*, a mass purely vocal.

Acapul'co, a city of Mexico, situated on a bay of the Pacific ocean. The harbor is very commodious, and defended by a strong castle; but the town is mean and unhealthy. On December 4, 1852, an earthquake destroyed all its principal buildings, besides a great portion of the houses of the inhabitants. — *Exp.*, silver, indigo, cochineal, and skins. Pop. 3,000.

Acar'idæ, and **Acaridans,** *n. pl.* (*Zoöl.*) A tribe of Arachnida, including *mites* or *acari* and *ticks*.

Acar'nania, a division of ancient Greece, now forming, with Ætolia, a department of the kingdom of Greece. Area, 1,571 square miles. *Desc.*, mountainous and woody, intersected with fertile valleys, several of which contain beautiful lakes. *Prod.*, flocks and herds: has some copper, and abundance of sulphur and coal. Pop., with Ætolia, 162,020.

Acar'oid resin. (*Chem.*) The resin of the *Xanthorrhea hastilis*, a liliaceous tree growing in New Holland; also called resin of Botany Bay. It has a yellow color, an agreeable odor, and is soluble in alcohol, ether, and caustic potash.

Acar'pous, *a.* [Gr. *a*, priv., and *karpos*, fruit.] (*Bot.*) Sterile; not bearing fruit.

Ac'arus, *n.*; *pl.* ACARI. [Gr. *akari*, a mite.] (*Zoöl.*) The mite; a genus of insects of the tribe *Acaridæ*, order *Arachnida*. They are oviparous, have eight legs, two eyes, and two jointed tentacula, and are very prolific. All the species are extremely minute, or even microscopic, as the cheese-mite (*acarus domesticus*), and many of them parasitic; of the latter, the itch-insect (*sarcoptes scabici*) is a remarkable example. It is a microscopic animal, found under the human skin, in the pustules of a well-known cutaneous disease. Many others infect the skin of different animals, and sometimes in considerable numbers. That which is figured below will give a general idea of their general appearance. They are found attached to the poor creature upon which they live by means of a curiously constructed mouth, that is firmly implanted into the skin, as to make it difficult to remove the acarus without tearing off its head, except with the assistance of a knife. It consists of four lancette blades (Fig. 18), each furnished with sharp teeth, so arranged, that while the instrument freely pierces the skin, to draw it back again by force is out of the question; and although the acarus can probably detach it by its own efforts, it is useless to employ foreign violence for that purpose. In the centre, between these barbed lancets, is the passage to the stomach of the parasite. The mites are active insects, and possess great powers of life, resisting, for a time, the application of boiling water, and living long in alcohol.

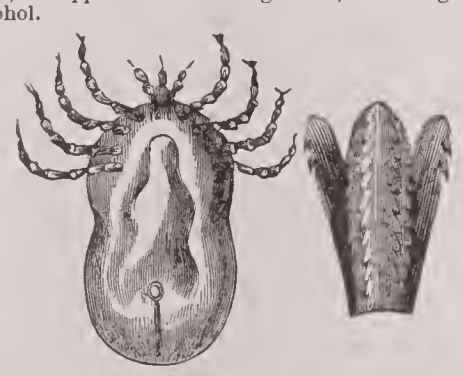


Fig. 18. — ACARUS RICINUS.

Acas'ta. (*Myth.*) One of the Oceanides.

Acas'to, a post-village of Clarke co., Missouri, about 32 miles N.W. of Keokuk, Iowa.

Acas'tus, son of Pelias, king of Thessaly; married Astydamia or Hippolyte, who fell in love with Peleus, son of Æacus, when in banishment at her husband's court. Peleus, rejecting the addresses of Hippolyte, was accused before Acastus of attempts upon her virtue, and soon after, at a chase, exposed to wild beasts. Vulcan, by order of Jupiter, delivered Peleus, who returned to Thessaly, and put to death Acastus and his wife.

Acatalec'tic, *n.* and *a.* [Gr.] (*Pros.*) A term applied in ancient poetry to such verses as have all their feet and syllables without any defect at the end; those which are not so, being called catalectic.

(*Med.*) Not discoverable; uncertain.

Acatalep'sia, and **Acatalepsy,** *n.* [Gr.] (*Med.*) Uncertainty in the prognosis or judgment of diseases.

Acathar'sia, and **Acatharsy,** *n.* [Gr.] (*Med.*) Omission of purgatives.

(*Surg.*) Filth from a wound; impurity.

Acaules'cent, Acau'line, Acaulose', Acau'lous, *a.* [Gr. *a* privative, and *kaulos*, a stem.] (*Bot.*) A term applied to plants having very short or inconspicuous stems, as the sweet violet.

Acca Laurentia, the wife of Faustulus the shepherd, and the nurse of Remus and Romulus. Some say she was a courtesan, and have called her Lupa. The Romans made her a goddess, and devoted a holiday to her service.

Ac'cad. (*Anc. Geog.*) One of the four cities which are said to have been the beginning of Nimrod's kingdom. (*Gen.* x. 10.) It is supposed that the ruins called *Akkerkoof*, in Sittacene, pertain to the ancient Accad. They are situated about 9 miles W. of the Tigris, at the point where it makes its nearest approach to the Euphrates.

Accatink', a post-village of Fairfax co., Virginia.

Accede', *v. n.* [Lat. *accedere*, Fr. *accéder*.] To come over to a view or a proposal; as, to *accede* to a treaty, to a request.

Accelera'ndo. (*Mus.*) Italian word, the meaning of which is: gradually increasing in quickness.

Accel'erate, *v. a.* [Fr. *accelerer*, from the Lat. *accelerare*.] To quicken the speed or process of events, objects, or transactions.

Accelera'tion, *n.* [Lat. *acceleratio*, hastening: Fr. *acceleration*.] The act of accelerating; a hastening.

(*Mech.*) The motion of a moving body, when its velocity is continually increasing. With whatever velocity a falling body moves in the first second, it will, at the end of two seconds, move with twice that velocity, and so on; the force of gravity increasing as the body approaches the earth. This is, however, not mathematically true, as a little time is lost through the increased density and consequent resistance of the air at each moment.

Acceleration of the stars. A term applied in ancient astronomy to the time by which the fixed stars anticipate the diurnal motion of the earth.

Acceleration of the moon, is the increase of the moon's mean motion from the sun, compared with the diurnal motion of the earth, which is calculated at about ten seconds in a century.

Acceleration and *retardation of the tides*, are certain irregularities between the times of high water, which difference would be constant supposing the tides occurred at regular intervals. The tides are caused by the attractions exercised by the sun and moon on the waters of the earth. The earth being nearer to the moon than to the sun, it is by her that the greatest influence is produced. The moon takes 24 h. 50 m. to perform one revolution round the earth; high water ought, therefore, to arrive at exact intervals of 12 h. 25 m. This interval is, however, continually changing at different times and places, being influenced by three principal causes: — the relative distances of the sun and moon, of the earth and moon, and the moon's distance from the equator. Local circumstances, such as currents, prevailing winds, &c., are other causes of these irregularities.

Accel'erative, and **Accelera'tory,** *a.* Accelerating motion or velocity.

Accel'erator, *n.* (*Anat.*) The name of a muscle of the pubis, the use of which is to drive the urine forward, to accelerate its passage.

Accendibil'ity, *n.* [Lat. *accendere.*] Inflammability.

Accen'dible, *a.* That may be inflamed.

Accen'dones, *n. pl.* [Lat.] Among the Romans, special gladiators, whose duty it was to animate and encourage the combatants in the amphitheatre.

Ac'cent, *n.* [Lat. *accentus*, from *ad*, to, and *cano*, I sing; Fr. *accent*.] (*Gram.*) The greater or less stress laid in pronouncing on each syllable of a word is termed the *accent* of that syllable. There are three kinds of accents, viz.: the *acute*, the *grave*, and the *circumflex*. The acute accent, marked thus (′), shows that the voice is to be raised in pronouncing the syllable over which it is placed. The grave accent is marked thus (`), and points out when the voice ought to be lowered. The circumflex accent is compounded of the other two, and marked thus (~) or (^); it denotes a quavering of the voice between high and low. Some call the long and short quantities of syllables accents; but erroneously. The three accentual marks are also employed in the French language, but in it they mark only a difference in the pronunciation, not in the accent; the modification of the vowel sounds not being all of them expressed by distinct letters.

(*Math.*) To avoid the confusion arising from the use of many letters in an algebraical problem, it is customary to signify different magnitudes of the same kind, or magnitudes similarly connected with the question, by the same letter, distinguishing these magnitudes one from another by accents. — after a number, the mark (′) denotes a minute of a degree, and (″) a second of a degree.

(*Music.*) A raising of the tone, in order to obtain variety and expression.

Accent', and **Accent'uate,** *v. a.* [Fr. *accentuer*.] To pronounce or to mark words with the proper accents grammatically.

Accent'or, *n.* (*Zoöl.*) A group of insessorial birds, belonging to the family *Sylvicolidæ*, and including the Hedge-sparrow or Hedge-chanter of Western Europe, which is about the size of the Redbreast. Many species are peculiar to North America.

(*Mus.*) One who sings the highest part in a trio.

Accentori'næ, *n. pl.* (*Zoöl.*) A sub-family of birds, formed by Gray, and comprising the Accentors.

Accent'ual, *a.* That pertains to accent.

Accent'uate. See ACCENT.

Accentua'tion, *n.* [Fr.] The act of placing or pronouncing accents.

Accept', *v. a.* [Fr. *accepter*, from Lat. *accipere*.] To take, to receive willingly: to agree to; — to estimate; to receive as worthy.

(*Com.*) To promise the payment of a sum named in a bill of exchange.

Accept'able, *a.* [Fr. *acceptable*.] That which is likely to be accepted; grateful: pleasing.

Acceptabil'ity, and **Accept'ableness,** *n.* The quality of being acceptable.

Accept'ably, *adv.* In an acceptable manner; so as to please — followed by *to.*

Accept'ance, *n.* The act of accepting; favorable reception.

"Such with him
Finds no *acceptance,* nor can find."—*Milton.*

(*Law.*) An engagement to pay a bill of exchange according to the tenor of such acceptance, which may be either absolute or conditional. An absolute acceptance is either general or qualified, and is usually written across the face of the bill of exchange thus: —"*Accepted, payable at Messrs.* ——, *Bankers, N. Y.;*" if it is to be qualified, the words, "*and not otherwise or elsewhere,*" are added, and then follows the signature of the person accepting. If the acceptance be qualified, non-presentation of the bill of exchange at the specified place, and in improper time, would exonerate the person who accepted it, and all the other parties; but the person who accepted it would not be exonerated if the acceptance were general. It may be conditional; as, *It will not be accepted until the ship with the wheat arrives;* or, *Cannot accept till stores are paid for;* these are undertakings to accept when the ship with the wheat arrives, or the stores are paid for.

Accept'ant, *n.* One who accepts; an acceptor.

Accepta'tion, and **Acception,** *n.* The act of accepting; — the accepted meaning of a word. — *Acception* is obsolete.

"My words, in common *acceptation,*
Could never give this provocation."—*Gray.*

Accept'er, *n.* One who accepts.

Acceptila'tion, *n.* [Lat. *acceptilatio.*] (*Law.*) The verbal extinction of a verbal contract, with a declaration that the debt has been paid when it has not, or the acceptance of something merely imaginary in satisfaction of a verbal contract.

Accept'or, or **Accept'er,** the person upon whom a bill of exchange is drawn; he is called a *drawee* before, and *acceptor* after acceptance; he is the first and principal party liable to pay the amount of the bill, for hardly anything but payment or release will discharge him.

Access', or **Ac'cess,** *n.* [Fr. *accès,* from Lat. *accessus.*] An external passage; — admittance; admission; — increase; addition.

(*Law.*) Approach, or the means of approaching.

Ac'cessarily, *adv.* In the manner of an accessary.

Ac'cessariness, *n.* The state of being accessary.

Ac'cessary. See ACCESSORY.

Accessibil'ity, *n.* [Fr. *accessibilité.*] The quality of being accessible.

Acces'sible, *a.* That which may be approached.

Acces'sibly, *adv.* In an accessible manner.

Acces'sion, *n.* [Fr. from Lat. *accessio.*] Augmentation by something acquired. — The commencement of a sovereign's reign. — The absolute or conditional acceptance by a nation of a treaty already concluded between other countries.

(*Law.*) The right of property arising from *accession* is grounded on the right of occupancy, and derived from the Roman law; thus, if any given corporal substance receive an *accession,* either by natural or artificial means, as by the growth of vegetables, the pregnancy of animals, or the conversion of wood or metal into utensils, the original owner of the thing is entitled by his right of possession to the property of it under its improved state; but if the thing itself was changed into a different species, as by making wine, oil, or bread out of another's grapes, olives, or wheat, it would belong to the new operator, who has only to make a satisfaction to the former proprietor for the materials so converted.

Access'ive, *a.* Additional.

Accesso'rial, *a.* Pertaining to an accessory; as, *accessorial* agency.

Ac'cessorily, *adv.* In the manner of an accessory.

Ac'cessoriness, *n.* The state of being accessory.

Ac'cessory, and **Ac'cessary,** *a.* [Lat. *accedo,* I approach.] Additional.

Accessory, and **Accessary,** *n.* That which advances or promotes a design; an accompaniment.

(*Law.*) A person guilty of an offence by connivance or participation, either before or after the act committed, as by command, advice, or concealment, &c. In high treason, all who participate are regarded as principals.

(*Paint.*) Those things introduced into a picture for the purpose of explaining and helping the principal objects in telling the story.

Acciacatu'ra, *n.* [It. *acciaccare,* to squeeze.] (*Music.*) A grace-note, one semitone below that to which it is prefixed.

Acciaio'li, RENATUS, a Florentine, who conquered Athens, Corinth, and part of Bœotia. Lived in the beginning of the 15th century. He bequeathed Athens to the Venetians; Corinth to Theodosius Paleologus, who married his eldest daughter; and Bœotia, with Thebes, to his natural son Anthony, who also got Athens; but this was retaken in 1455 by Mohammed II.

Ac'cidence, *n.* [Lat. *accidentia.*] A small book containing the first rudiments of grammar.

Ac'cident, *n.* [Lat. *accidens,* falling.] Denotes, in a general sense, any casual event. — Among logicians, it signifies: 1. Whatever does not essentially belong to a thing; 2. Such properties in any subject as are not essential to it; 3. In opposition to substances, all qualities whatever are called accidents; as sweetness, softness, hardness, &c.

(*Gram.*) Something belonging to a word, but not essential to it; as gender, number, inflection.

(*Law.*) The happening of an event without the concurrence of the will of the person by whose agency it was caused; or the happening of an event without any human agency.

(*Heraldry.*) In coat-armor, an additional mark, which may be omitted without effecting any change in the dignity.

Ac'cident, a village of Garrett co., Maryland.

Acciden'tal, *n.* [Fr. *accidentel.*] A quality or property not essential to the subject.

Acciden'tal, *a.* That happens by chance, unexpectedly; casual; fortuitous.

Accidental colors are those which depend on the affections of the eye. The term is applied to the ocular spectrum which is generally perceived after the eye has been for some time steadily fixed upon a colored object. Thus, if we look for some time upon a yellow piece of cloth, and suddenly turn the eye from it, we will see the color of indigo; red will give a bluish green, and so on. These colors are also called complementary colors, because, when taken in conjunction with those of the spectrum, they make up all the colors of a white light.

Accidental point, in perspective, that point in the horizontal line where the projections of parallel lines meet the perspective plane.

Acciden'talism, *n.* (*Paint.*) The effects produced accidentally by rays of light. (See ACCIDENTALS.)

Acciden'tally, *adv.* In an accidental manner; non-essentially.

Acciden'talness, *n.* Quality of being accidental.

Acciden'tals, *n. pl.* (*Paint.*) Those fortuitous or chance effects occurring from luminous rays falling on certain objects, by which they are brought into stronger light than they otherwise would be, and their shadows are consequently of greater intensity. This sort of effect is to be seen in almost every picture by Rembrandt, who used them to a very great extent. With these effects may be classed such accidental lights as those from a forge or a candle, or some such object, of which the use is extremely important to the painter of still life. In the celebrated *Notte* of Correggio is a fine example of *A.,* in which the light appears to emanate from the infant Jesus.

(*Music.*) Those flats and sharps which are prefixed, in a movement, to notes which would not be considered so by the flats and sharps in the signature.

Acciden'tary, *a.* Accidental.

Accip'enser, *n.* See ACIPENSER.

Accip'iter, *n.* A member of the order *Accipitres.*

Accip'itres, *n. pl.* [Lat. *accipiter,* a hawk.] (*Zoöl.*) The families *Vulturidæ* (vultures), *Falconidæ,* (falcons and hawks), and *Strigidæ* (owls); *q. v.*

(*Surg.*) A bandage which was put over the nose; so called from its likeness to the claws of a hawk, or from the tightness of its grasp.

Accipitri'næ, *n. pl.* (*Zoöl.*) The Sparrow-hawks, a sub-family of birds, ord. *Accipitres,* fam. *Falconidæ.* The sparrow-hawk of America (*Falco sparverius*) is 11 to 12 inches long. Its general color is light rufous or cinnamon, with white and black spots on the head and neck. It feeds upon small birds, mice, and other small animals, and never attacks poultry. It greatly differs from the sparrow-hawk, or Kestrel, of Europe (*Accipiter* or *Falco nisus*), which is a bold and spirited bird, making great depredations among pigeons, partridges, and the young of domestic poultry.

Fig. 19. — THE SPARROW-HAWK.

Accip'itrine, *a.* Pertaining or relating to a bird of the order *accipitres.*

Accis'mus, *n.* [Lat.] (*Rhet.*) A feigned refusal: an ironical dissimulation

Ac'cius, LUCIUS, a Latin tragic poet, none of whose works are extant. Flourished about 170 B. C. There was also, in the same age, an orator of the name of Accius, against whom Cicero defended Cluentius. He was a native of Pisaurum.

Acclaim', *v. a.* [Fr. *acclamer,* from Lat. *acclamare.*] To salute with applause; to declare by acclamation; as, "in *acclaiming* thee."

Acclaim', *n.* See ACCLAMATION.

Acclama'tion, and **Acclaim,** *n.* [Fr. *acclamation.*] A calling out in favor; — vivid and unanimous approval of persons or things; — *acclaim* is seldom used.

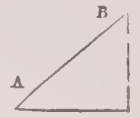
(*Numis.*) Those Roman medals on which the people are represented as expressing their joy.

Acclam'atory, *adv.* Expressing acclamation.

Ac'climate, *v. a.* To acclimatize.

Acclima'tion, Accli'matement, Acclimatiza'tion, and **Accli'mature,** *n.* The act of acclimating; the state of being acclimated. — (The first of these synonyms is generally used in relation to man.)

Accli'matize, *v. a.* [Fr. *acclimater,* from Lat. *ad,* to, *clima,* a climate.] To accustom an animal or plant to a climate not natural to it. A change of climate induces a certain change in the constitution of the individual, greater or less, according to the amount of difference between the two climates. In cases where the difference is extreme, diseases and even death may be the result. The change produced by acclimation may be either an improvement or a deterioration. Some plants or animals possess the power of bearing changes of climate to a much greater extent than others; and, frequently, a change which cannot be effected in one individual, may be brought about more gradually in the course of a few generations. The power of bearing changes of climate is remarkable in the human species, particularly in the Anglo-Saxon race. An attention to diet, clothing, &c., does much in modifying the influences of climate.



Acclivity, *n.* [Lat. *acclivus.*] A steepness reckoned upward of a slope. *Declivity* is a steepness downward; thus, A B is an acclivity, and B A a declivity.

Accli'vous, *a.* Rising with a slope.

Ac'cola, *n.* [Lat.] (*Law.*) A husbandman; a borderer.

Accolade', *n.* [Fr. *accolade,* from Lat. *ad,* to, *collum,* the neck.] An ancient mode of conferring knighthood, by the sovereign embracing the new-made knight, and giving him a slight blow on the shoulder. Gibbon calls this blow "the emblem of the last affront which it was lawful for him to endure." Some antiquaries derive the origin of this custom from the blow given to the Roman slave by his master when giving him his freedom.

(*Mus.*) A brace connecting several staves.

Ac'colent, *n.* [Lat. *accolens.*] A borderer.

Accol'ti, BENEDICT, a celebrated Italian lawyer, b. at Arezzo, 1415. He wrote a history of the Crusades, from which Tasso drew the text of his *Jerusalem Delivered.* D. 1466.

FRANCIS, brother to Benedict, was called the prince of lawyers. D., vastly rich, about 1470.

BENEDICT, a cardinal, related to the above, called the Cicero of his age, and distinguished by several Popes. D. 1549.

BENEDICT, an Italian conspirator, who, with five others, meditated the murder of Pius IV. Put to death 1564.

Accomac', and **Accomack',** a county of Virginia, bordering on Maryland, comprising a number of the little islands which lie off the coast, between the Chesapeake and the Atlantic. So named after a tribe of Indians who frequented this region. This county was formed in 1672 of a part of Northampton county. Capital, Accomack Court-House, or Drummond; area, 480 square miles; surface level and partially fertile. *Prod.,* Indian corn, potatoes, wheat, and wool.

Accomack Court-House, or *Drummond Town,* a small post-village, capital of the above county, 193 miles E. by N. of Richmond.

Accombina'tion, *n.* The act of combining together.

Accom'modable, *a.* That may be fitted or adapted.

Accom'modate, *v. a.* [Fr. *accommoder.*] To supply with conveniences of any kind; to adapt; to fit; to adjust; to reconcile; to compose.

— *v. n.* To be conformable.

— *a.* Suitable; fit; — affording or disposed to afford accommodation.

Accom'modated, *p. a.* Adapted; supplied.

Accom'modating, *p. a.* Affording or disposed to afford accommodation.

Accom'modation, *n.* The state of being accommodated; the act of fitting or adapting.

"The organization of the body with *accommodation* to its functions."
"The *accommodations* of a public house."

(*Law.*) A friendly agreement; an amicable composition between persons at variance.

Accommodation bill of exchange. A bill that one person accepts for another, there being no consideration between them, for the purpose of raising money upon it for the present necessity of one or both of them. In general, the parties who have drawn, indorsed or accepted bills or other commercial paper for the accommodation of others, are, while in the hands of a holder who received them before, other than the person for whom the accommodation was given, responsible as if they had received full value.

Accommodation stage-coach; accommodation-train. A stage-coach or train of cars designed to accommodate passengers, as to time, in distinction from the mail-stage or express-train.

Accom'modative, *a.* Giving accommodation.

Accom'modator, *n.* One who accommodates.

Accom'panier, *n.* One who accompanies.

Accom'paniment, *n.* That which accompanies.

(*Mus.*) The instrumental part of a composition which moves with the voice, to which it is to be kept subordinate. Also, the parts which in a concerted piece move with a particular instrument, whose powers it is the object of the composition to exhibit.

(*Paint.*) Any object accessory to the principal subject, and serving to its ornament or illustration; an accessory.

(*Her.*) Such things as are usually applied about the shield, as the belt, &c.

Accom'panist, *n.* (*Mus.*) The performer who takes the accompanying part.

Accom'pany, *v. a.* [Fr. *accompagner.*] To go with another as a companion; to keep company with; — to attend; to escort.

— *v. n.* To be with another as a companion.

(*Mus.*) To perform the accompanying part.

Accom'plice, *n.* [Fr. *complice*, from Lat. *ad*, to, and *complico*, to fold together.] One who is involved with another in the circumstances and responsibilities of his conduct.

(*Law.*) One of many equally concerned, or a copartner in a felony; generally applied to those admitted to give evidence against their fellow-criminals. (See ABETTOR.)

Accom'plicesship, *n.* The state of being an accomplice. (R.)

Accomplic'ity, *n.* Complicity. (R.)

Accom'plish, *v. a.* [Fr. *accomplir.*] To bring to an issue of full success; to fill up an act to the measure of its intention, to fulfil, to consummate; — as, my design is *accomplished;* the prophecy is *accomplished;* to *accomplish* a period of time. — To adorn.

"The armorers *accomplishing* the knights,
With busy hammers closing rivets up,
Give dreadful note of preparation."—*Shak.*

Accom'plishable, *a.* That may be accomplished.

Accom'plished, *p. a.* Complete in some quality; elegant, refined, polite; — refers commonly to acquired qualifications, without including moral excellence; as, an *accomplished* gentleman.

Accom'plisher, *n.* One who accomplishes.

Accom'plishment, *n.* [Fr. *accomplissement.*] Completion, full performance, perfection; the act of accomplishing; as, the *accomplishment* of a design; — embellishment, elegance, ornament of mind or body.

"I was silly enough to think that gaming was one of their *accomplishments.*"—*Chesterfield.*

Accompt', *n.* See ACCOUNT.

Accompt'ant, *n.* See ACCOUNTANT.

Accord', *v. a.* [Fr. *accorder.*] To set in harmony or conformity with; to act suitably to; as, I *accord* with you; they *accorded* the lute's music to the voice.

Accord', *v. n.* To agree; to consent; to concur; to suit one with another.

"The heroes pray'd, and Pallas *accords* their vow."
"My heart *accordeth* with my tongue."

Accord', *n.* Concurrence of action or opinion; unlon; — a compact: an agreement.

(*Mus.*) Harmony of sounds; concord.—See CONCORD.

(*Paint.*) Harmony of light and shade.

(*Law.*) A satisfaction agreed upon between the party injuring and the party injured, which, when performed, is a bar to all actions upon this account.

Own accord. Voluntary motion: spontaneous feeling or action. "Doing that of his *own accord.*"

Accord', a post-office of Ulster co., New York.

Accord'able, *a.* [Fr.] Agreeable. (R.)

Accord'ance, and **Accord'ancy.** [O.Fr. *acordance.*] Agreement, applied to a person; conformity, applied to a thing:—followed by *with* or *to.*

(*Mus.*) Melody.

Accord'ant, *a.* [Fr.] Corresponding; consonant; agreeing; agreeable.

Accord'antly, *ad.* In an accordant manner.

Accord'er, *n.* An assistant; a helper.

Accord'ing, *p. a.* Which is in harmony or accordance.

"The *according* music of a well-mixed state."—*Pope.*

According to, a prepositional phrase, having the meaning of: in a manner suitable to, agreeably to; in proportion; — with regard to.

"*According* to the beautiful lines of the poem."—*Addison.*

"God made all things in number, weight, and measure, and gave them to be considered by us *according* to these properties."

According, (followed by *as.*) This adverbial phrase is noted as vicious by some authors, but the better modern lexicographers, especially Webster and Worcester, think that it is of good use.

"Are all things well
According as I gave directions?"—*Shak.*

Accord'ingly, *a.* Agreeably; suitably; conformably.

Accor'dion, *n.* [From *accord.*] (*Mus.*) A musical instrument invented in Germany. It consists of a small oblong box, of from 8 to 20 inches in length, with an inside row of small elastic springs, or laminæ, fixed in a metallic plate at one end, in such a manner as to allow them to vibrate freely. A bellows, or folding apparatus, unites the upper and lower parts, and supplies the springs with the necessary air to put them in motion. To these the air is admitted by valves, which, in the same manner as in an organ, are acted on by the keys. A base note, or drone, is also added. The compass of the most perfect instrument is from G, the fourth space on the base cleff, to E, the seventh additional space above the treble, all the semitones inclusive. Previous to the introduction of this instrument in Europe, it was well known to the Chinese. The soft tones of the accordion have great effect upon savage nations, as asserted by Roman Catholic missionaries, who carry with them accordions to attract the people to their discourses. — The flutina is another species of accordion, and there is an organ-accordion, invented some few years ago.

Accor'dionist, *n.* A player on an accordion.

Accor'so, FRANCESCO, an Italian lawyer, b. at Florence, 1182, d. at Bologna 1260; author of "The Great Gloss," an enormous compilation of all commentaries on the code, institutes, and digests.

Accost', *v. a.* To come up to a person and speak to him; to address.

"I first *accosted* him."—*Dryden.*

Accost'able, *a.* [Fr.] Easy of access; affable; familiar.

Accost'er, *p. a.* (*Her.*) Placed side by side.

Accouche'ment, *n.* [Fr.] (*Med.*) Childbirth; parturition; delivery; labor; travail.

Accoucheur', *n.* [Fr.] (*Med.*) A physician who assists women in childbirth.

Accoucheuse', *n.* [Fr.] (*Med.*) A midwife; — called also in French *sage-femme.*

Account', or **Accompt,** *n.* [From Lat. *ac, ad,* and *computare,* to sum up.] A computation of debts or expenses; a register of facts relating to money; the state or result of a computation; as, the *account* stands thus between us: — such a state of persons or things as may make them more or less worthy of being considered in the reckoning, value, or estimation; — distinction, dignity, rank; as, "men of *account;*"—a reckoning verified by finding the value of a thing equal to what it was accounted; — a reckoning referred to, or sum charged upon any particular person; and thence, figuratively, regard, consideration, sake; — a narrative, relation; as, an *account* of a battle; — the review or examination of an affair taken by authority; — the relations and reasons of a transaction, given to a person in authority; — explanations; assignment of causes; — an opinion concerning things previously established; — the reasons of anything collected.

On no account; on every account; on all accounts. In these and other similar sentences, *account* is taken for reason, ground, consideration, &c.

Account current, a running account between two or more parties; or a statement of the particulars of such an account.

Account'-book, *n.* A book in which accounts are kept.

Accountabil'ity, *n.* The state of being accountable; accountableness.

Account'able, *a.* Liable to be called to account; amenable; responsible; answerable.

Account'ableness, *n.* The state of being accountable.

Account'ably, *ad.* In an accountable manner.

Account'ant, *n.* One who is versed in accounts. One whose business it is to compute, adjust, and rauge accounts in due order. Also used figuratively:

"The Spaniard . . . . . .
A strict *accountant* of his beads."
Byron.—Ode to Napoleon.

Account'antship, *n.* The office of an accountant.

Account'ing, *n.* The act of reckoning up accounts.

Accoup'le, *v. a.* [Fr. *accoupler.* See COUPLE.] To join; unite; yoke; link together.

Accoup'lement, *n.* Act of coupling; a junction.

Accou'tre, and **Accou'ter,** *v. a.* [Fr. *accoutrer.*] To provide with dress, trappings, ornaments, equipments; as, "he was *accoutred* as a young man."

Accou'trements, and **Accouterments.** [Fr. *accoutrement.*] (*Mil.*) The dress, equipage, &c. of a soldier.

Acc'ra, a kingdom of about 500 miles area, and also one of the English ports, Gold Coast, Western Africa. Lat. 5° 30′ N., lon. 0° 12′ W.

Accred'it, *v. a.* [Fr. *accréditer.*] To place trust in; as, to *accredit* a statement. — To confer trust upon another; as, to *accredit* an ambassador. — To trust; to intrust; to delegate.

Accred'ited, *p. a.* Intrusted; confidential.

Accres'cent, *a.* (*Bot.*) A persistent calyx, that continues to grow after the flowering, so as to form a sort of bladder round the fruit, as in the winter cherry.

Accrescimento, *n.* [It.] (*Mus.*) The increase, by one half, of its original duration, which a note gains by having a dot placed at the right of it.

Accrete', *a.* (*Bot.*) Grown together.

Accre'tion, *n.* [Lat. *accrescere,* to increase.] An increase by natural addition of new parts.

(*Med.*) The growing together of parts naturally separate, as the fingers or toes.

(*Law.*) Land gained from the sea, or a river, by the washing up of sand or soil, so as to form firm ground. If this accretion be by small and imperceptible degrees, it belongs to the owner of the land immediately adjacent to it.

Accre'tive, *a.* Increasing by growth.

Ac'crington, a manufacturing town of Lancashire, England; *pop.* 38,603. It is considered the center of the cotton-printing business.

Accroach', *v. a.* [Fr. *accrocher.*] To draw to one's self, as with a hook; to assume the exercise of the royal power.

Accrue', *v. n.* [Fr. *accroître,* pp. *accrû.*] To grow; to add to; to augment, to increase; to arise, to spring from; to be produced or derived from, in addition, or accession.

Accru'ment, *n.* Addition; increase. (R.)

Accuba'tion, *n.* [Lat. *accubatio,* reclining.] A term used to express the posture taken by the ancient Greeks and Romans at their tables. This posture exhibited their bodies extended upon couches, with their heads resting on pillows, or on their elbows, supported by pillows.

Accu'bitus, *n.* (*Arch.*) A Latin word applied to a room annexed to large churches as a place of repose for the clergy.

Accum'bency, *n.* State of reclining on the elbow, or being accumbent.

Accum'bent, *a.* [Lat. *accumbere,* to lie down.] (*Bot.*) A term applied to cases where one part of an organ is applied to another by its edge; it is chiefly used in contradistinction to *incumbent,* where one part is applied to another by its back or face.

Accumpixtli, or **Acumupixtli,** the first king of the ancient Mexicans, a legislator, and the founder of the capital of his kingdom. D. 1420.

Accu'mulate, *v. a.* [Fr. *accumuler,* from Lat. *cumulus,* a heap.] To heap together; to increase; to collect; to gather; as, "By this means, he *accumulated* a great sum of money."

Accumula'tion, *n.* [Fr.] The act of accumulating; that which is accumulated.

Accumulation of power is applied to that kind of motion existing in some kinds of machines at the end of intervals of time, during which the velocity of the moving body has been constantly accelerated.

Accu'mulative, *a.* Causing accumulation.

Accu'mulatively, *ad.* In an accumulative manner

Accu'mulator, *n.* One who accumulates. *Elec.* An arrangement for storing electrical force.

Ac'curacy, *n.* [Lat. *accurare,* to do with care.] Care: caution; — exactness; correctness; nicety; as, "we will consider the *accuracy* of the calculations."

Ac'curate, *a.* Exact, as opposed to negligence or ignorance, applied to persons; — exact, without default or failure, applied to things.

"No man has made more *accurate* trials than Reaumur."—*Colson.*

Ac'curately, *ad.* In an accurate manner; exactly, correctly.

Ac'curateness, *n.* Accuracy.

Accurse', *v. a.* [See CURSE.] To doom to misery; to invoke misery upon any one; as,

"*Accurst* I am, while God rejects my cry."

Accursed', *p. a.* Doomed to misery.

Accu'sable, *a.* [Fr.] That may be accused or censured; blamable; — followed by *of.*

Accusa'tion, *n.* [Fr. from Lat. *ad,* to, and *causare,* to plead.] The act of accusing; blame; censure.

(*Law.*) The formal charging of any person with a crime or misdemeanor, so that he may be brought to justice and punishment. A neglect to accuse may in some cases be considered a misdemeanor, or misprision. It is a rule that no man is bound to accuse himself, or to testify against himself in a criminal case.

Accu'sative, *a.* Producing accusation; accusatory.

(*Gram.*) The fourth case of Greek and Latin nouns. That inflexion of the noun which expresses the passing over of an action from one substance to another; it consequently follows verbs active in all languages. In English it survives only in pronouns; and is used after all prepositions without distinction.

Accu'satively, *adv.* In an accusative manner.

Accusato'rial, *a.* Accusatory.

Accu'satory, *a.* Relative to, or containing, an accusation.

Accuse', *v. a.* [Fr. *accuser,* from Lat. *accusare,* to call to account.] To bring to a legal trial. To charge; and, thence, to bring an imputation generally against another. To incriminate; to impeach; to arraign.

Accus'er, *n.* One who makes an accusation.

Accus'ing, *p. a.* Implying accusation; censuring.

Accus'tom, *v. a.* [Fr. *accoutumer.*] To habituate; to inure; to familiarize; to train.

Accus'tomarily, *ad.* Usually.

Accus'tomary, *a.* Usual.

Accus'tomed, *a.* Usual; customary; frequent; familiar.

Ace, *n.* [Lat. *as,* a unit.] In games, signifies that side of the dice whereon one is marked. In cards, it denotes those which bear only one figure; as, for example, the "*ace* of hearts," which displays but one heart.

Acel'dama, *n.* The potters' field, or field of blood, purchased with the thirty pieces of silver which Judas took to betray our Saviour. It is still shown to travellers.

Acen'tric, *a.* [Gr. *a,* priv., and *centron,* a point.] Not centred.

Aceph'al, Accph'alan, *n.* [Gr. *acephalos,* without head.] (*Zoöl.*) An animal of the sub-kingdom Mollusca, class *Acephala.*

Aceph'ala, Accph'alans. [Gr. *acephalos,* headless.] (*Zoöl.*) A class of molluscous animals, comprehending those which have not a head, but a mouth only, concealed in the bottom, or between the folds, of their mantle. The class is subdivided according to the modifications of the respiratory organs, into the *Lamellibranchiata, Tunicata, Brachiopoda,* and *Bryozoa* orders; (see these words.) The oyster, lamp-cockle, and squirter, or ascidia, are their several representatives. In the system of Cuvier it includes only the lamelli-branchiata and hetero-branchiata (Tunicata) orders.

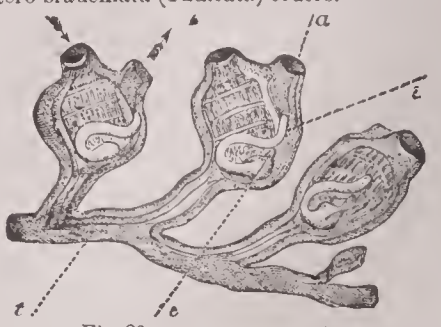


Fig. 20. — SOCIAL ASCIDIÆ.

See *Ascidiæ.*

The preceding figure represents a species of the order of *Tunicata* (gen. *ascidiæ*), which includes the lowest of the Acephalous Mollusca.

Aceph'ali, *n. pl.* (*Eccl. Hist.*) Several sects of schismatics in the Christian church, who rebelled against their Christian head, or refused to acknowledge any; for example, the *monophisite* monks and priests in Egypt, who did not acknowledge the patriarch Peter Mongus, because he had not, in 483, expressly condemned the council of Chalcedon.

Aceph'alist, *n.* One who acknowledges no head or superior.

Aceph'alophores, Accphalopora. The names given by Blainville to the *acephala.* (See above.)

Acceph'alous, *a.* (*Anat.*) Those malformed fœtuses which are without a head.

(*Bot.*) This term is occasionally employed to designate ovaries, the style of which springs from their base, instead of their apex, as in *Lamiaceæ*.

Acc'-point, *n.* The side of a card or die that has only one spot.

A'cer, *n.* [Lat., the maple.] (*Bot.*) A genus of arborescent or shrubby plants, ord. *Acerineæ*, many of which are extremely valuable for the sake either of their timber, or of their ornamental appearance. The *Acer rubrum*, or red maple, is a tree 50 ft. in height, very common in low woods throughout the Atlantic states. Its trunk is covered with smooth bark, marked with large white spots, becoming dark with age. In spring its appearance is remarkable for the deep crimson flowers with which it is thickly clothed. The wood, particularly that of the variety called *curled maple*, is much used in cabinet-work. The *Acer saccharinum*, or sugar-tree, is a tree 70 feet in height, 3 feet in diameter, found throughout the United States, and constituting the greater part of some of the forests of New England. The wood is hard and has a satin lustre, but it is readily attacked by insects, and is not of much value, except when its grain is accidentally waved, and then it is in request for the cabinet-makers. The branches become numerous and finely ramified in open situations, and in summer are clothed with a foliage of uncommon luxuriance and beauty. The flowers are very abundant, and, suspended on long, thread-like pedicels, are most delicately beautiful. The saccharine matter contained in its ascending sap, obtained by tapping the trunk in the spring, is perhaps the most delicious of all sweets; an ordinary tree yields from 5 to 10 pounds in a season. — The *Acer Pennsylvanicum*, or whistle-wood, is a small tree or shrub 10 to 15 feet high, very common in the northern woods of America, prized in Europe in ornamental gardening. The bark is smooth, and beautifully striped lengthwise with green and black. Flowers large, yellowish-green, succeeded by long clusters of fruit, with pale-green wings.

Acera'ceæ, and **Aceri'neæ,** *n. pl.* (*Bot.*) An order of plants, alliance *Sapindates*, comprehending only the genus *Acer* (maples), and *Negundo* (ash-leaved maples). They are known — 1. by their flowers being what is called unsymmetrical, that is, not having the various parts agreeing in number: for instance, while the calyx and corolla are divided each into five parts, there are seven, eight, or nine stamens, and three divisions of the pistillum; 2. by their stamens being hypogynous and inserted upon a disk; 3. by their winged fruit, or *keys*; and, 4. by their petals having no appendages upon them. The species are all trees or shrubs, with opposite stalked exstipulate leaves, and are found exclusively in the north of Europe, Asia, America, and India. A sweet, mucilaginous sap is common in these plants, from which sugar can be manufactured.

Acer'ans, Acera, *n.* [Gr. *a*, without, and *keras*, a horn.] (*Zoöl.*) A family of apterous insects, characterized by the absence of antennæ: and a family of gastropodous mollusks, including those species which have no tentacles.

Ac'erate, *n.* (*Chem.*) A salt formed of aceric acid and a base.

Acerb', *a.* [Lat. *acerbus.*] Acid, with an addition of roughness; as many fruits before they are ripe.

Acer'bate, *v. a.* To make sour.

Acer'bi, Giuseppe, an Italian traveller, b. Mantua, 1773, d. Mantua, 1846. He has published in English and French an account of his travels to the North Cape.

Acer'bitude, *n.* Sourness; acerbity.

Acer'bity, *n.* Sharpness; generally applied to that sharpness which we call bitterness; — and hence, harshness; bitterness; acrimony; applied to persons or things: as, *acerbity* of temper, *acerbity* of pain.

Accren'za, or **Cirenza,** a city of South Italy, capital of Basilicata. The see of an archbishop, and seated on the Brandano, at the foot of the Apennines. Pop. 2,000.

Acer'ic Acid. [Lat. *acer*, the maple.] An acid obtained from the sap of that tree.

Acer'ineæ. See Aceraceæ.

Acer'no, an episcopal town of South Italy, in Principato Citeriore, 14 miles N.E. of Salerno. *Manf.*, iron and paper. Pop. about 3,000.

Acerose', *a.* [Lat. *acerosus.*] (*Bot.*) Needle-pointed; fine and slender, with a sharp point.

Ac'erous, *a.* Chaffy; like chaff.

(*Bot.*) Same as Acerose.

Acer'ra, *n.* A term applied by the ancients to a kind of altar placed near the bed of a dead person. Incense and other perfumes were consumed on it by fire previous to the funeral, and *acerræ* were the pots in which the incense was burnt.

Acer'ra, an episcopal town of South Italy, Terra di Lavoro, seated on the Aguo, 7 miles N.E. of Naples. Pop. about 11,000.

Aces'cency, *n.* [Lat. *acescere*, to turn sour.] Act of turning sour; moderate sourness.

Aces'cent, *a.* Turning sour or acid. Substances which readily run into the acid fermentation are so said to be: as some vegetable and animal juices and infusions. The suddenness with which this change is effected, during a thunder-storm, even in corked bottles, has not been accounted for.

Aces'tes, or **Ægestus,** son of Crinisus and Ægesta, and king of the country near Drepanum, in Sicily. He assisted Priam in the Trojan war, entertained Æneas during his voyage, and helped him to bury his father on Mount Eryx. In commemoration of this, Æneas built a city there, and called it Acesta.

Acetab'uliform, *a.* (*Bot.*) Shaped like a cup or saucer.

Acetab'ulum, *n.* [Lat., *a little cup* or *dish.*] A term applied to the suckers on the arms of the cuttle-fish, and other dibranchiate cephalopods, which have been hence recently termed *acetabulifera*.

(*Anat.*) *Acetabulum* signifies the cavity of the hip-joint.

(*Zoöl.*) The socket on the trunk in which the leg is planted.

(*Antiq.*) Among the Romans, *acetabulum* was a measure equal to one eighth of a pint.

Ace'tal, *n.* (*Chem.*) A thin, colorless fluid, boiling at 221° Fah., its specific gravity being 821. It is one of the products of the slow oxidation of alcohol vapor under the influence of finely divided platinum.

Aceta'mide, *n.* (*Chem.*) A white crystalline solid, produced by heating acetate of ethyl with strong aqueous ammonia to about 248°. It melts at 172° and boils at 431°. It deliquesces when exposed to the air, and dissolves readily in water. *Form.*, $NH_2C_2H_3O$.

Aceta'rious, *a.* [From Lat. *acetum*, vinegar.] (*Bot.*) Anything belonging to the salad tribes of vegetables.

Ac'etary, *n.* (*Bot.*) An acrid pulp found in some fruits; — a salad.

Ac'etate, *n.* (*Chem.*) Salt formed by the union of a base with acetic acid. Many of the acetates are of great importance in the arts, principally the following.

Acetate of Alumina, extensively manufactured for the use of the dyer and calico-printer. The common *red mordant* is prepared by precipitating 100 parts alum in solution or sulphate of alumina by means of 120 of crystallized acetate of lead: the sulphate of potash of the alum remains undecomposed in the solution. When the liquor is used as a mordant, it is thickened with gum and applied by means of blocks to the cloth. — Many other acetates are also used in calico-printing; for example, that of *Manganese*, *Zinc*, and *Iron*.

Acetate of Ammonia, a very soluble salt, frequently used medicinally as a diaphoretic.

Acetate of Barium is more soluble in cold than in hot water, and slightly soluble in alcohol. It is occasionally used as a precipitant for sulphuric acid; when distilled it furnishes acetone.

Acetate of Copper. See Verditer, and Verdigris.

Acetate of Lead. See Sugar of Lead, and Goulard's Extract.

Acetate of Lime crystallizes in silky, anhydrous needles, which are very soluble in water: if heated to 248° it becomes strongly phosphorescent by gentle friction.

Acetate of Potash, employed medicinally as a diuretic, is an anhydrous, foliated, very deliquescent, fusible salt, abundantly soluble in alcohol.

Acetate of Silver, occasionally employed as a reagent, is readily obtained by mixing a concentrated solution of nitrate of silver with a solution of acetate of potash, or acetate of soda. It is sparingly soluble in cold water, but readily dissolved by hot water, which on cooling deposits it in thin, flexible, silky needles.

Acetate of Sodium crystallizes in oblique monocliuic prisms: it fuses readily. This salt is prepared in large quantities during the purification of wood-vinegar.

The acetates are distinguished by the pungent odor of acetic acid which they emit when heated with sulphuric acid.

Ac'etated, *a.* Combined with acetic acid.

Acet'ic acid. (*Chem.*) This acid is produced by the oxidation or destructive distillation of organic bodies containing its elements — carbon, hydrogen, and oxygen. When pure, it is a colorless liquid of specific gravity 1.073, which crystallizes at a temperature below 60° F. It has a pungent smell, and is highly corrosive. Vinegar and pyroligneous acid (*see those words*) are impure varieties of acetic acid. Its chemical composition, when pure and free from water, is $C_2H_4O_2$. Its uses are numerous and important. In the arts, it is employed for the preparation of the various acetates, especially those of iron and alumina, which are the chief mordants of the calico-printer; for dissolving gums in making varnishes; and for photographic purposes. In medicine, it is used externally as a local irritant, and internally as a febrifuge.

Acetifica'tion, *n.* [Fr.] The operation by which vinegar is made.

Acet'ify, *v. a.* To convert into acetic acid or vinegar.

Acetom'eter, and **Acetimeter,** *n.* (*Chem.*) An instrument for estimating the strength of vinegar and other acids.

Ac'etone, *n.* (*Chem.*) A colorless volatile fluid, having the composition C_3H_6O, obtained by the distillation of the acetates of the alkaline earths. It has a peculiar odor, and is very inflammable. It is sometimes called *pyroacetic spirit*. As a remedy for asthma, it is occasionally used in medicine.

Acetose', *a.* [Fr. *aceteux.*] Acetous; sour.

Acetos'ity, *n.* Sourness; tartness.

Ace'tous, *a.* Something that produces acidity.

Ac'etyle, *n.* (*Chem.*) An hypothetic radical of acetic compounds, composed of carbon and hydrogen.

Ach, a town of Suabia, in the landgraviate of Nellenburg, on the river Ach, 14 miles N.E. of Schaffhausen.

Achaby'tos, a lofty mountain in Rhodes, on the summit of which stood a temple to Jupiter.

Achæ'a, (*Myth.*) A surname of Pallas, whose temple, in Daunia, was defended by dogs who fawned upon the Greeks, but fiercely attacked all other persons. A name applied to Ceres, and derived from *achos*, a word expressive of her grief for the loss of her daughter Proserpine.

Achæ'a, a Greek province. (See Achaia.)

Achæ'ans, a generic term employed by Homer to designate the whole Hellenic host before Troy, from their mythological ancestor Achæus, grandson of Helen. (See Achæi.)

Achæ'menes, the founder of the royal dynasty of Persia, the Achæmenides.

Achæ'nium, and **Achenium,** *n.* (*Bot.*) A one seeded fruit, having a dry shell, or pericarp, which is closely applied to the seed, though separable from it. This pericarp is indehiscent, that is to say, it remains closed, and the seed can only become free by its decay. Several *achænia* are formed by a single flower. The little hard bodies scattered over the surface of the strawberry, and those we find clustered together in the centre of the buttercups, are achænia.

Achæ'i, the descendants of Achæus, the son of Xuthus, and grandson of Heleu. Achæus having committed manslaughter, was compelled to take refuge in Laconia, where he died, and where his posterity remained under the name of *Achæi*, until they were expelled by the Heraclidæ. Upon this, they passed into the northern parts of Peloponnesus, and, under the command of Tisamenus, the son of Orestes, took possession of the country of the Ionians, and called it Achaia. The successors of Tisamenus ruled until the time of Gyges's tyranny, when Achaia was parcelled into twelve small republics. Three of these — Patræ, Dymæ, and Pharæ — became famous as a confederacy, 284 years B. C., which continued formidable upward of 130 years, under the name of the *Achæan League*, and was most illustrious whilst supported by the splendid virtues and abilities of Aratus and Philopœmen. They directed their arms for three years against the Ætolians, and rose to be powerful by the accession of neighboring states, and freed their country from foreign slavery. At last, however, they were attacked by the Romans, and, after one year's hostilities, the Achæan League was totally destroyed, B. C. 147. From this period the Peloponnesus was reduced to the condition of a Roman province, bearing the name of Achaia. — The name of *Achæi* is generally applied to all the Greeks indiscriminately, by the poets.

Achæor'um statio. (*Anc. Geog.*) A place on the coast of the Thracian Chersonesus, where Polyxena was sacrificed to the shades of Achilles, and where Hecuba killed Polymuestor, who had murdered her son Polydorus.

Achai'a. A district in the N. of the Peloponnesus, anciently divided into 12 little states, and now forming, along with Elis, a nomarchy of the kingdom of Greece; *pop.* 113,719. *Desc.*, mountainous, inclosing valleys of great fertility. *Agr.* defective. Sheep and goats are numerous. — From Achaia comes the name of the celebrated Achæan League, which first held its meetings at Helice, and then at Egium, 373 B. C. See Achæi.

Achan'ia, *n.* (*Bot.*) A genus of shrubby plants, order *Malvaceæ*, so called, from the Greek, because the corolla does not open out, but remains always rolled together.

A'chard, Franz Karl, a German chemist, b. in Berlin, 1754. He devoted himself to the development of the beet-sugar manufacture, and, after six years of laborious endeavor, he discovered the true method of separating the sugar from the plant. He was appointed director of the class of physics in the Academy of Science, in Berlin, and d. 1821.

Acharn'æ. (*Anc. Geog.*) A large town of Attica, where the Tyrans encamped when they marched against Trasybulus, and where the Lacedæmonians, under their king Archidamus, pitched their tents when they made an irruption into Attica, at the beginning of the Peloponnesian war. Aristophanes, in the comedy which takes its title from this town, represents the inhabitants as charcoal-makers; and other comic writers stigmatize them as rough and boorish.

Achates, a friend of Æneas, whose fidelity was so exemplary, that *fidus Achates* (the faithful Achates) became a proverb.

Achates. (*Anc. Geog.*) A river in the south of Sicilia, between Camarina and Gela; now the Dirillo.

Acha'tina, *n.* (*Zoöl.*) A genus of terrestrial gastropods, known by the trivial name of *agate-snails:* characterized by an oval, oblong ventricose shell, striated longitudinally; with the aperture ovate, and never thickened or reflected, and a smooth, straight columella, truncated at the base. All the species are oviparous, and one, the *Achatina zebra*, produces eggs with a hard, white, calcareous shell, and as large as those of the sparrow.

Fig. 21. — Achatina virginia.

Ache, *n.* [A. S. *ace*, *acan*, pain, to be in pain.] A continued pain.

Ache, *v. n.* To be in pain; to cause pain; as, "Your eyes will *ache*."

Acheen, a kingdom on the N.W. part of Sumatra, powerful enough, in former times, to expel the Portuguese from the island, and important enough for its sovereigns to receive embassies from some of the greatest potentates of Europe. *Desc.*, comparatively healthy, being freer from woods and swamps than the other parts of the island. *Prod.*, chiefly fine fruits, rice, cotton, gold dust, and sulphur. *Commerce — Imp.*, salt, soap, wine, opium, arms, gunpowder, and manufactured goods; *Exp.*, mace, cloves, nutmegs, pepper, sugar, coffee, and rice. *Rel.*, Mahometan. — The Acheenese are taller, stouter, and darker-com-

plexioned than the other Sumatrans. They are more active and industrious than their neighbors, and have more sagacity and penetration. — ACHEEN, the capital of the kingdom, is seated near the mouth of a river, on the N. W. point of the island. Lat. 5° 22′ N.; Lon. 95° 34. E. In May, 1873, a war broke out between the Acheenese and the Dutch; the city of *A.* was bombarded by a Dutch fleet, but resisted bravely, and it was not until January, 1874, that the city was taken. *A.* is a Dutch prov.

Achecnese′, *n. sing. & pl.* An inhabitant, or the inhabitants, of Acheen.

Acheloides. (*Myth.*) A patronymic name given to the Sirens, or daughters of Achelous.

Achelous. (*Myth.*) The son of Oceanus and Terra, or Tethys, god of the river of the same name in Epirus. As one of the numerous suitors of Dejanira, daughter of Œneus, Achelous entered the lists against Hercules, and being inferior, changed himself into a serpent, and afterwards into an ox. Hercules broke off one of his horns, and Achelous, being defeated, retired into his bed of water. The broken horn was given to the goddess of Plenty.

Achenbach, ANDREAS, a German painter, b. 1815. His best work is "Waterfall of Hardangerfjeld" in Norway.

Ache′nium. See ACHÆNIUM.

Achenwall, GOTTFRIED. B. at Elbing, Prussia, 1717; d. 1772. He was professor of philosophy at Göttingen, and the originator of statistical tables.

Achernar, *n.* (*Astron.*) A large star in the southern extremity of the coustellation Eridamus.

Ach′eron. [Gr. *achos*, grief.] (*Myth.*) The river of sorrow which flowed round the infernal realms of Hades, according to the mythology of the ancients. There was a river of Thesprotia, in Epirus, of the same name, and also one in Italy, near which Alexander, king of the Molossi, was slain; both of which, from the unwholesome and foul nature of their waters, were supposed to communicate with the infernal stream.

"Sad *Acheron*, of sorrow black and deep." — *Milton.*

Acherontia, *n.* (*Zoöl.*) A genus of Lepidopterous insects, fam. *Sphingidæ*, which embraces some of the largest European Lepidoptera, the most remarkable of which is the *Acherontia atropos*, or death's-head hawk-moth.

Fig. 22. — ACHERONTIA ATROPOS.

Ach′erset, *n.* An ancient measure of corn, supposed to have been about eight bushels.

Achernsia. (*Anc. Geog.*) A lake of Campania, near Capua. Diodorus mentions that, in Egypt, the bodies of the dead were conveyed over a lake called Acherusia, and received sentence according to the actions of their lives. The boat which carried them was called Baris, and the ferryman Charon. Hence arose the fable of Charon and the Styx, &c.

Achiev′able, *a.* Capable of being achieved.

Achiev′ance, *n.* Achievement. (o.)

Achieve′, *v. a.* [Fr. *achever.*] To perform, to finish a design prosperously.

"Our toils, my friends, are crown'd with sure success;
The greater part perform'd, *achieve* the less." — *Dryden.*

—To gain: to obtain.

"Experience is by industry *achiev'd.*" — *Shak.*

Achieve′ment, *n.* [Fr. *achèvement.*] The performance of an action.

(*Her.*) An escutcheon, or ensign armorial, granted for the performance of great actions.

Achiev′er, *n.* One who achieves.

Achill, (*ăk′il,*) a wild, mountainous, and boggy island, in the county Mayo, Ireland. Area, 35,283 acres, of which there are not 1,000 under cultivation. *Pop.* (on the decrease) about 4,000.

Achille′a, *n.* (*Bot.*) A genus of plants belonging to the order *Asteraceæ*. The *Achillea millefolium*, commonly called the Yarrow, or Milfoil, is common in fields in the Northern States. Its white or rose-colored flowers adorn many of our meadows, particularly those with silicious soils, from June to September. From these flowers, which are occasionally substituted for hops in brewing, an essential oil is obtained, and an infusion of the leaves and flowering heads is said to be a valuable stomachic. The pretty garden plant known as White Bachelor's Button is a cultivated variety of a species of *Achillea*. The generic name is derived from *Achilles*, who is said to have discovered the medicinal properties of the milfoil while studying botany under Chiron, the fabulous centaur.

Achilles, son of Peleus, king of the Myrmidons, in Thessaly, and of Thetis, daughter of Nereus. He was educated by Phœnix, a refugee, at his father's court. Fate had decreed that, if he fell before Troy, he should gain everlasting renown; if he returned home, he should enjoy a long but inglorious life. He chose the former alternative, and joined the Grecian army, in which he was pre-eminent in valor, strength, swiftness, and beauty. During the first nine years of the war, we have no minute detail of his actions; in the tenth, a quarrel broke out between him and the general-in-chief, Agamemnon, which led him to withdraw entirely from the contest. In consequence, the Trojans, who before scarcely ventured without their walls, now waged battle in the plain with various issue, till they reduced the Greeks to extreme distress. The Greek council of war now sent its most influential members to soothe the anger of Achilles, and to induce him to return to arms, but without effect. Rage and grief, caused by the death of his friend Patroclus, slain by Hector, induced Achilles to return to battle. Thetis procured from Hephæstus a fresh suit of armor for her son, who, at the close of a day of slaughter, killed Hector, and dragged him at his chariot-wheels to the camp. Here ends the history of Achilles, so far as it is derived from Homer. By later authors, a variety of fable is mixed up with this simple narrative. Thetis is said to have dipped him, while an infant, in the Styx, which rendered him invulnerable except in the heel, by which she held him, and he was killed at last by a wound in the heel. The centaur Chiron is made his tutor, instead of Phœnix, and feeds him upon the marrow of lions and other wild beasts, to improve his strength and courage. At the age of nine years, Thetis, anxious to prevent his going to Troy, removed him, disguised as a girl, to the court of Lycomedes, king of the island of Scyros. Here he became the father of Neoptolemus, or Pyrrhus, by the king's daughter, Deidamia, rather precociously; for he had not been a year on the island, when Ulysses was sent by the confederate Greeks to seek him, in consequence of an oracle, which declared that Troy could not be taken without the help of Achilles. Ulysses arrived at the island, discovered him among the females of Lycomedes' household, and carried him away to join the army. He was betrothed to Iphigenia, daughter of Agamemnon. The manner of his death is variously told. Some make him fall in battle; others say that he was treacherously slain in a temple, on the occasion of his nuptials with Polyxena, daughter of Priam; but it is generally agreed that he was killed by Paris, Apollo aiding him, and directing his arrow. He was entombed on the promontory of Sigæum, and a mighty barrow raised over his remains, which still rivets the attention of travellers; though it must always remain doubtful to whose memory this mound of earth was really raised. When Alexander saw his tomb, it is said that he placed a crown upon it, exclaiming, "that Achilles was happy in having, during his life-time, a friend like Patroclus, and, after his death, a poet like Homer."

Achillis tendo, *n.* [Lat.] (*Anat.*) A tendon, so called, because, as fable reports, Thetis, the mother of Achilles, held him by that part when she dipped him in the river Styx, to make him invulnerable. It is the strong and powerful tendon of the heel, which is formed by the junction of divers muscles, and which extends from the calf to the heel. When this tendon is unfortunately cut or ruptured, as it may be, in consequence of a violent exertion or spasm of the muscles, of which it is a continuation, the use of the leg is immediately lost; and unless the part be afterward successfully united, the patient will remain a cripple for life. The indications are to bring the ends of the divided parts together, and to keep them so, until they have become firmly united.

Achim′enes, *n.* (*Bot.*) A genus of handsome tropical herbs, order *Gesneraceæ*, chiefly distinguished by their funnel-shaped corolla, five-parted sub-equal calyx, and scaly underground tubers.

Ach′ing, *n.* Continued pain; uneasiness.

Ach′irite, *n.* (*Min.*) A silicate of copper, so named from *Achir Malmed*, the merchant by whom it was first introduced into Europe; — also called DIOPTASE, q. v.

Achlamyd′eous, *a.* [Gr. *a*, without, and *chlamys*, a tunic.] (*Bot.*) Plants which have neither calyx nor corolla, and whose flowers are consequently destitute of a covering, or naked.

Achmet, GEDUC, or OCCOMAT, a Turkish general, b. 1430 in Albania. After the death of Mohammet II., 1482, he declared for Bajazet, raised him to the throne, and was nevertheless afterward assassinated by him.

Achmet I., emperor of the Turks, who succeeded his father, Mahomet III., in 1603. He was then only fifteen, and began his reign by endeavoring to suppress a rebellion, which lasted two years. He next engaged in a war with the Germans, in which he was assisted by the famous Bethlem Gabor. Peace was concluded in 1606; but he continued to be disturbed by insurrections, and the security of his throne was threatened by a pretender to his rightful inheritance. He indulged in sensual pleasures and in field sports; but, though proud and ambitious, was less sanguinary than his predecessors. D. 1617.

Achmet II., successor to his brother Solyman in 1691, d. 1695.

Achmet III., son of Mahomet IV.; ascended the imperial throne in 1703, on the deposition of his brother, Mustapha II. He sheltered Charles XII. of Sweden, after the battle of Pultowa, and declared war against the Russians, but, soon after, concluded an advantageous peace. He likewise made war on the Venetians, and recovered from them the Morea; but in an attack on Hungary his army was defeated, by Prince Eugene, in 1716, at the battle of Peterwardein. Achmet was dethroned in 1730. D. in prison, 1736.

Achmet Pacha, a Turkish general under Solyman the Magnificent. He compelled the Knights Hospitallers to evacuate Rhodes after a desperate siege, 1522. Sent to Egypt to suppress a rebellion, he assumed the insignia of royalty. His treason was promptly punished. He was stifled in a bath, and his head was sent to the Sultan.

Achmet, RESMI EFFENDI, a Turkish statesman, ambassador to Vienna, 1757, and to Berlin, 1763, plenipotentiary to the peace of Kanardji. He was subsequently disgraced, and died blind, 1788. He wrote the history of the war of 1768–1774, between the Turks and Russians, and the narrative of his embassies. These two works have been translated into German.

Achmetschem. See SIMFEROPOL.

Achmin, or **Ackmin,** a town on the right bank of the Nile, in Middle Egypt. *Manuf.*, coarse cotton cloth. Pop. 3,000. Lat 26° 38′ N., Lon. 31° 55′ E. This is the Panopolis of the ancient Greeks, and the Chemnis of the Egyptians. The ruins of the former are still visible in some magnificent granite pillars.

Ach′mite, *n.* (*Min.*) A mineral of a brown-black or red-brown color on the outside, blackish on the fractured surface. It melts at a black bead before the blowpipe. It crystallizes in oblique four-sided prisms. It occurs, though rarely, imbedded in granite at Eger. (See ACMITE.)

Achonry, a town and parish of Ireland, in the county of Sligo, on the Shannon, 16 miles W.S.W. of Sligo. Area of par. 60,896 acres. *Pop.* 13,500.

A′chor, *n.* (*Med.*) The scald-head; so called from the branny scales thrown off it. A disease which attacks the hairy scalp of the head, for the most part of young children, forming soft and scaly eruptions. The achor differs from the favus and tinea only in the degree of virulence. It is called *favus* when the perforations are large; and *tinea* when they are like those which are made by moths in cloth; but generally by tinea is understood a dry scab on the hairy scalp of children, with thick scales and an offensive smell.

A′chor, or **Achortown,** a post-village of Columbiana co., Ohio, about 3 miles W. of the Pennsylvania line.

A′chras, or SAPOTA, *n.* (*Bot.*) A genus of plants, order *Sapotaceæ*. They are natives of the tropical parts of India, Africa, and America. Several species yield luscious fruits; thus, the *Achras sapota* produces the sappodilla plum, and the *Achras mammosa* the marmalade. The barks of certain species are used medicinally in the treatment of fevers, and the milky juices of others yield substances resembling gutta-percha.

Achray, Loch, a small but picturesque lake in the county of Perth, Scotland, 15 miles N.W. from Stirling. Introduced in the "Lady of the Lake" of Sir W. Scott.

Achromat′ic, *a.* [Gr. *akromatos*, without color.] (*Opt.*) Free from color, not showing color from the decomposition of light.

Achromatic Lenses. The white, or rather colorless ray of light, is composed of several colored rays, which have various degrees of refrangibility. (See REFRACTION, LIGHT, COLOR.) When the direct ray is refracted, it divides itself into colored rays, deviating in various degrees from the right line of the primitive ray. The rays thus refracted by the convex object-glass of an old telescope do not meet exactly in one point, the focus of the glass, but rather at several points, so as to produce the various colors, red, blue, and yellow, which surround the object and diminish its distinctness. This imperfection has been corrected by the invention of the *achromatic lenses*, usually composed of two separate lenses, a convex and a concave, of substances having different refractive and dispersive powers, as crown and flint glass, through which the light emerges undecomposed. The dialitic telescope, lately invented by the Viennese optician Plössl, has the compound object-glass placed at regulated distances apart, which allows a shortening of the tube. (See ABERRATION, LIGHT, LENS, PRISM, CHROMATIC, REFRACTION, OPTICS.)

Achromatic′ity, *n.* The state of being achromatic.

Achro′matism, *n.* The destruction of the primary colors which accompany the image of an object seen through a prism or lens; — want of color.

Achro′matize, *v. a.* To deprive of color.

Achron′ical. See ACRONYCAL.

Achsai, a town of Circassia, near the Terek, 150 miles S.E. from Georgievsk.

Achtyrka, a town of European Russia, on the Kharkov, about 60 miles N.W. of the city of Kharkov. *Manuf.*, principally woollen. Pop. upward of 14,000.

Achyr, a strong town and castle of Ukraine, on the river Uorsklo, about 127 miles E. of Kiew.

Achyran′thes, *n.* (*Bot.*) A genus of erect, procumbent, and sometimes climbing trees and shrubs, order *Amaranthaceæ*.

Aci, or **Aci Rea′le,** a seaport town in Sicily, prov. of Catania, well built with lava, having a castle and many fine edifices. *Manf.*, silks, linens, cutlery, and filigree work, in which an extensive trade is carried on. *Pop.* 37,216. Here was the cave of Polyphemus and the grotto of Galatæa. It is celebrated for its mineral waters.

Acia, *n.* [Gr. *akc*, a point.] (*Surg.*) A needle with thread in it for chirurgical operations.

Acic′ula, *n.* [Lat., *a needle.*] (*Bot.*) The bristle-like rachis, or the single-flowered spikelets of certain grasses. (*Zoöl.*) A spine or prickle.

Acic′ular, and **Acicula′te,** *a.* Needle-shaped.

Acic′ularly, *ad.* In the manner of needles or sharp points.

Acic′uliform, *a.* Having the form of needles.

Ac′id, *a.* [Lat. *acidus.*] Sour, sharp or biting to the taste, like vinegar; — tart; as "*acid* fruits." — See ACIDS.

Acidif′erous, *a.* (*Chem.*) Containing or producing acid.

Acid′ifiable, *a.* (*Chem.*) That which is capable of being converted into an acid. Such substances are also termed radicals, and *acidifiable* bases.

Acidifica′tion, *n.* The act of giving acid properties.

Acid'ifier, *n.* (*Chem.*) The principle producing acidity.
Acid'ify, *v. a.* (*Chem.*) To convert into an acid; to make sour.
Acidim'eter, *n.* [Lat. *acidum*, acid, and *metrum*, a measure.] (*Chem.*) An instrument for ascertaining the strength of acids.
Acidim'etry, *n.* (*Chem.*) An expeditious method of ascertaining the quality of free acid contained in any given liquid, based upon the law of definite proportions. It is employed as a means of determining the actual or intrinsic value of the crude acids met with in commerce. To facilitate this process, tables have been constructed by Dr. Ure and others. See VOLUMETRIC ANALYSIS.
Acid'ity, and **Acidness,** *n.* [Fr. *acidité.*] Sourness; sharpness to the taste.
Ac'ids, *n. pl.* [Lat. *acidus*, sour.] (*Chem.*) A numerous and important class of chemical bodies, which are distinguished by the property of combining with bases to form salts. (See BASES, and SALTS.) They are generally sour to the taste; in most instances they have a great affinity for water, and are soluble in it; they redden nearly all the vegetable blues; they unite with metals and their oxides, alkalies, and earths. It was long held that oxygen was contained in all the acids. This element does indeed enter into the composition of the greatest number; but it has been ascertained that in very many cases the acidifying principle is hydrogen. It has consequently been considered necessary to divide acids into *oxyacids* (or *oxacids*), formed by oxygen, and *hydracids*, formed by hydrogen. These, again, are subdivided into *anhydrous acids*, or acids without water, and *hydrated acids*, or acids containing water. According, however, to the latest researches of chemists, all acids are hydracids. The acids furnished by the mineral kingdom are termed *mineral acids. Metallic acids* are formed by the combination of oxygen and a metal; and *organic acids* are those which contain carbon, or are formed with organic substances. In the system of chemical nomenclature proposed by the eminent French chemists Guyton de Morveau and Lavoisier, the mineral acids are designated by an adjective formed out of the name of their elements, and terminating in *ous* or *ic*: thus, sulphur*ous* acid, phosphor*ic* acid, implying that they are formed the first of sulphur and oxygen, the second of phosphorus and oxygen. If the acid be formed by hydrogen, the term is commenced with *hydro;* thus, hydrochloric acid signifies that the compound contains hydrogen and chlorine. The two syllables *ous* and *ic* affixed to the names of acid compounds, indicate two different modifications; *ic* always denoting an acid which contains more oxygen than the acid whose name terminates in *ous:* for example, sulphur*ic* acid has for its acidifying principle more oxygen than sulphur*ous* acid. It was first thought that a substance could not form with oxygen more than the two above-mentioned compounds; but cases were subsequently discovered wherein a substance was found to make with oxygen as many as five different combinations. In order to distinguish these combinations from the others, it was found necessary to employ three prefixes borrowed from the Greek; for example, *hypo* (under), *hyper* (above), or briefly *per* (in the highest degree.) Thus, hyposulphurous acid is an acid composed of sulphur and a smaller proportion of oxygen acid than sulphurous acid; perchloric acid contains more oxygen than chloric acid, &c. (For further details upon this subject, see CHEMICAL NOMENCLATURE.) The organic acids, which are much more numerous than the mineral acids, and which all contain carbon and hydrogen, a large proportion of oxygen, and some nitrogen, have no regular nomenclature. The most important of these chemical bodies are: among the mineral acids, sulphuric, sulphurous, hydrosulphuric, nitric, phosphoric, arsenious, arsenic, chromic, hydrofluoric, hydrochloric, chloric, iodic, carbonic, boracic, and silicic; among the organic acids, formic, hydrocyanic, oxalic, acetic, malic, tartaric, succinic, benzoic, citric, &c. (See those words.) Acids are extensively employed in medicine, principally in cases of inflammation, fever, palpitation of the heart, and irritation of the skin.
Acid'ulæ, *n. pl.* (*Med.*) Medicinal springs impregnated with carbonic acid.
Acid'ulate, *v. a.* [Fr. *aciduler.*] To imbue slightly with acids.
Acidula'tion, *n.* (*Chem.*) Art or process of acidulating.
Acid'ulous, *a.* [Fr. *acidule.*] Slightly acid.
Acidulous waters. Mineral waters which contain so great a quantity of carbonic acid gas, as to render them acidulous, or gently tart to the taste.
Ac'iform, *a.* [Lat. *acus*, needle, and *forma*, shape.] Shaped like a needle.
Acilius Glabrio, a Roman consul, of plebeian origin, B. C. 191. Sent against Antiochus, king of Syria, he was victorious, and on his return he had a triumph. He was the first to whom a statue of gold was erected in Italy. Accused by the Patricians of keeping back the public spoils, he succeeded in escaping condemnation. His "Annals of Rome," written in Greek, are full of fables.
Another *Acilius Glabrio*, consul in the reign of Domitian, and put to death, on a charge of conspiracy, was remarkable only by his strength, having fought and killed a lion in the circus, without receiving a wound.
Acina'ceous, *a.* [Lat. *acinus*, a grape-stone.] Full of kernels.
Acinac'iform, *a.* (*Bot.*) Cimeter-shaped.
Acin'iform, *a.* Having the form of a cluster of grapes.
Acinose', Acinous, *a.* Consisting of minute granular concretions.
Ac'inus, *n.; pl.* **Acini.** (*Anat.*) A cluster of the ultimate secerning follicles of certain conglomerate glands; as the liver.
(*Bot.*) The separate carpels of a succulent fruit consisting of many carpels; as the raspberry.

Fig. 23. — RUBUS IDÆUS. (*Raspberry.*)
1. Perigynous stamens. 2. Fruit (aggregated carpels or acini). 3. Section of the fruit.

Acipen'ser, *n.* [Lat. *acipenser*, a sturgeon.] (*Zoöl.*) A genus of fishes in the Linnæan system, the distinguishing characteristics of which are, that the mouth is retractile and destitute of teeth, and the gills have only one aperture on each side. The genus acipenser is separated by Agassiz from the other cartilaginous fishes. It forms a link between the osseous and cartilaginous fishes, having its gills protected by an operculum, and only a single issue, or gill-opening, on each side of the respiratory currents: but at the same time having no rays to the branchiostegal membrane, and having the whole of its true internal skeleton in a cartilaginous state. By Cuvier, therefore, the genus acipeuser is placed in the cartilaginous division of fishes, but separated from the rays, sharks, and lampreys, which have five or more gill-openings on each side, to form, along with the genera spatularia and chimæra, the order elenthero-branchiata, or those which have the branchiæ free at their outer circumference. In the system of Agassiz the sturgeons are joined with the sauroid fishes, siluri, polypterus, and some other genera, to form the order Ganoides. See STURGEON.
A'cis, *n.* (*Myth.*) A shepherd of Sicily, with whom Galatæa fell in love; upon which his rival, Polyphemus, through jealousy, crushed him to death with the fragment of a rock. The gods changed Acis into a stream, which rises from Mount Ætna, and which is now called Jaci. He was the son of Faunus and the nymph Simæthis. This fable forms the subject of a beautiful modern opera.
Acis, *n.* (*Bot.*) A genus of plants, order *Amaryllidaceæ.*
Aciur'gy, *n.* Operative surgery.
Ac'ken, a town of Lower Saxony, in the duchy of Magdeburg, with a citadel, situate on the Elbe, about 5 miles from Dessau. Pop. 4,100.
Ack'er, *n.* A ripple on the surface of the water.
Acknowl'edge, *v. a.* [Lat. *agnoscere.*] To make matter of public knowledge in relation to one's self, or openly to identify one's self with it. To avow; to admit; to recognize; to own; to accept; to confess; to profess; to indorse.
Acknowl'edger, *n.* One who acknowledges.
Acknowl'edgment, *n.* The act of acknowledging; the act of expressing thankfulness for a favor received.
(*Law.*) A declaration by a grantor, made before a person having authority to take the same, that the instrument is his act and deed. For the requisites of the laws of the different States, see *Dunlap's Forms.*
Acli'des, *n.* (*Antiq.*) A missile weapon, supposed to have been a kind of dart or javelin, made use of by the ancient Romans. According to Scaliger, it was a globular weapon, and poised by a wooden stem.
Acli'nic, *a.* [Gr. *a*, priv., and *clinein*, to incline.] Without inclination;—applied to the magnetic equator, or the line near the earth's equator on which the magnetic needle is exactly horizontal and has no dip.
Ac'me, *n.* [Gr. *akme*, a point.] The top; the highest point.
(*Med.*) The utmost violence or crisis of a disease.
(*Rhet.*) The highest point of pathos to which the mind is conducted by a series of impressions gradually rising in intensity.
Ac'mite, and **Achmite,** *n.* [Gr. *akme*, a point.] (*Min.*) A monoclinic bisilicate crystal, of a dark-brownish color, and a bright and somewhat resinous lustre. *Comp.* Silica, 51.3; sesquioxide of iron, 30.4; protoxide of iron, 5.1; soda, 13.2.
Acmon'ides. *n.* (*Myth.*) One of the Cyclops.
Ac'ne, and **Acna,** *n.* [Gr. *achne*, anything that comes off the surface.] (*Med.*) A small pimple or hard tubercle on the face, which arises usually about the time that the body is in full vigor.
Ac'nestis, *n.* [Gr. *a*, privative, and *knao*, to scratch.] (*Anat.*) That part of the spine of the back which reaches from the metaphrenon, which is the part betwixt the shoulder-blade, to the loins This part seems to have been originally so called in quadrupeds only, because they cannot reach it to scratch.
A cock-bill, *adv.* (*Naut.*) Hanging at the cat-head, ready for letting go, as an anchor.
Acœme'tæ, *n.* [Gr. *akoimetos*, sleepless.] (*Eccl. Hist.*) An order of Greek monks who flourished in the 5th century. Their principal cloister was at Irenarium, near Constantinople. They had to chant the divine service day and night, without ceasing, dividing themselves for this purpose into three bodies, succeeding one another alternately. In the 6th century they were put under the ban of the Church, on account of their leaning toward Nestorianism.
Acol'ogy, or **Akology,** *n.* [Gr. *akos*, a remedy, and *logos*, a discourse.] (*Med.*) The doctrine of remedies, or of the *materia medica.*
Ac'olyte, Acolyth, and **Acolothist,** *n.* [Gr. *akolouthos*, disciple.] (*Eccl. Hist.*) In the Catholic church, one of the inferior orders of the clergy, whose office it is to attend upon the deacons and subdeacons in the ministry of the altar, to light and hold the candles, to bear the incense, to present the priest with wine and water, &c. In the primitive church, the acolytes were in holy orders, and ranked next to the subdeacons; but at the present time, the duties of the acolyte are very often performed by laymen and chorister-boys.
Ac'oma, in *Mississippi*, a small town of Holmes co.
Acoma, in *Minnesota*, a township of McLeod co.
Acoma, or **St. Esteban de Acoma,** *New Mexico*, a town about 60 m. W.S.W. of Albuquerque.
Acon'cagua, a province of the kingdom of Chili, bounded N. and W. by the prov. of Quillota, E. by the Andes, and S. by Santiago. *Area*, 12,000 square miles. *Desc.*, mountainous, and fertile in the valleys. The mountain Aconcagua is the loftiest of the Andes, being 23,910 feet above the level of the sea; lat. 32° 38′ 30″ S., long. 70° 0′ 30″ W. *Prod.*, maize, wheat, beans, pumpkins, melons, and other garden-produce; vineyards and orchards are plentiful, and in summer numerous flocks are pastured on the slopes of the Andes; figs, nectarines, peaches, &c., are sent to Santiago and Valparaiso. Gold is found and copper is worked in mines. *Pop.* 124,828. The chief town is San Felipe.— On the S. side of the mountain Aconcagua rises a river of the same name, which flows S.W. and joins the Pacific 12 miles N. of Valparaiso.
Aconi'tates, *n. pl.* (*Chem.*) The salts formed by the union of the aconitic acid with different bases.
Ac'onite, *n.* (*Bot.*) A plant of the gen. *Aconitum*, the *Aconitum napellus*, familiarly known as the Monk's-hood, or Wolf's-bane. Its active principle, the *aconitine*, is a virulent poison. It is a native of Europe, and is cultivated as a garden-plant for the sake of its handsome purple flowers.
Acon'itic Acid. (*Chem.*) An acid found in the roots and leaves of monk's-hood and other aconites. It is also produced by the metamorphosis of citric acid under the influence of heat. Form. $3HO.C_{12}H_3O_9$.

Fig. 24. — ACONITUM NAPELLUS.

Acon'itine, or **Aconitia,** *n.* (*Chem.*) A powerful vegetable alkaloid, prepared from the root of the *Aconitum napellus*, (aconite.) It is one of the most virulent of poisons, but, at the same time, a very valuable medicine. Externally applied, it produces on the skin a prickling sensation, which is followed by a peculiar numbness. An ointment containing aconitine is often used in cases of neuralgia, acute rheumatism, and diseases of the heart. The homœopathic physicians make a great use of it in fevers. Its narcotic action is so active that a fiftieth of a grain may endanger the life of an adult. The most effectual antidote in case of poisoning is warm water, administered till it produces vomiting, after which stimulant remedies should be applied internally and externally. The alkaloid consists of the elements carbon, hydrogen, nitrogen, and oxygen; its formula being $C_{33}H_{42}N_{12}$.
Acon'itum, *n.* [From *Acone*, a town in Bithynia, famous for its poisonous herbs.] (*Bot.*) A gen. of plants, fam. *Ranunculaceæ.* Nearly all the species are poisonous; but when the extracts prepared from them are used in proper doses, their narcotic and diaphoretic effects prove highly beneficial. The flowers of many species are remarkable for their beauty, and resemble little helmets. The root of the *Aconitum ferox* is the principal source of the celebrated Indian poison, *Bikh*, or Bish. The Monk's-hood, *Aconitum napellus*, is the officinal plant of our pharmacopœia. See ACONITE.
Acontœus. (*Myth.*) A famous hunter, changed by the head of Medusa into a stone at the nuptials of Perseus and Andromeda.
Acon'tia, and **Acontias,** *n.* [Gr. *akon*, a dart.] (*Zoöl.*) A genus of non-venomous ophidian reptiles, allied to the snakes proper (*anguis*), but destitute of the bony rudiments of the scapular and pelvic arches. They are known by the trivial name of *Dart-snakes;* are numerous in species, and distributed over the warmer and more arid parts of the old world. Their food consists of small worms, insects, and larvæ. They were the subject of fabulous accounts by the ancient naturalists and poets, who attributed to them the power of projecting themselves with so much force and velocity as to transfix the object aimed at.
(*Astron.*) A blazing star, shooting like an arrow.
Acon'tius, a youth of the island of Cea, who went to Delos to see the sacred rites which were performed there by a crowd of virgins in the temple of Diana, and fell in

love with Cydippe, a beautiful virgin. Not daring, however, to ask her in marriage, on account of the meanness of his birth, he presented her with an apple, on which were inscribed these words: "I swear by Diana, ACONTIUS shall be my husband." Cydippe read the words, and feeling herself compelled by the oath she had inadvertently taken, married Acontius.

Acoo'no-coono, a town and district of Africa, on the E. bank of the Old Calabar or Cross river; lat. 6° 29′ N., lon. 8° 27′ E. Pop. about 4,000.

Acop'ie, *a.* [Gr. *a*, priv., and *kopos*, labor.] (*Med.*) That which remedies weariness.

A'cor, *a.* [From Lat. *aceo*, to be sour.] (*Med.*) Acidity. It is sometimes used to express that sourness in the stomach contracted by indigestion, and from whence flatulencies and acid belchings arise.

A'corn, *n.* [A. S. *aac*, an oak, and *cern*, grain.] (*Bot.*) The well-known fruit of the oak. In the early ages, acorns constituted a principal part of the food of man. (Ovid. Metamorph. i. 106; Virgil, Georg. i. 8,) &c. At present they are used for the feeding of pigs. See QUERCUS.

A'corn, *v. n.* To pick up and feed on acorns. "The pigs are gone *acorning*."

Acorn-barnacle, *n.* A species of barnacle.

A'corned, *a.* (*Her.*) Having acorns, as an oak-tree with acorns on it.

A'corn-shell. (*Zoöl.*) The popular name for the *Balanus* and other cirripeds, which inhabit a tubular shell whose base is usually formed of calcareous laminæ. Its shell is composed of many pieces, and thus capable of enlargement to the wants of the enclosed animal, which performs its necessary functions by an aperture at the top. The tentacula from this animal being feathered, our credulous ancestors believed that it gave origin to a bird called the barnacle-goose. These curious but common shells are found in all seas. They are affixed to marine bodies, and their peduncle is sometimes found a foot long. Their growth must be exceedingly rapid. A ship going out with a perfectly clean bottom will often return, after a short voyage, covered with them.—"Go at low water to a rock on the beach, choose a few of the oldest and largest limpets, left uncovered by the receding tide, and incrusted with the acorn-shells; throw the limpet-shells into a glass of sea-water, and in a minute or two the acorn-shells upon them will begin to open. Presently a beautiful feathered apparatus will be extended, then withdrawn. It will again be put forth, and again retracted; but with such grace, regularity, and precision, that the eye regards it with ever new delight; and when we consider that it thus ministers, at the same moment, both to respiration and nutrition, a train of ideas is excited, which rises from the humble shell to HIM by whom it has thus wondrously been fashioned."

Fig. 25. — ACORN-SHELL.

Ac'orus, *n.* [Gr. *a*, without, and *kore*, pupil of the eye.] (*Bot.*) A genus of plants, ord. *Orontiaceæ*. The *Acorus calamus*, or sweet flag, a member of this genus, is the only native aromatic plant of northern climates; the root powdered might supply the place of foreign spices. It blossoms during the months of May and June. The thick creeping stem or rhizome, commonly called the root, is the valuable part of the plant; it is somewhat spongy and powerfully aromatic, and has a bitterish taste. It is used by the rectifiers to improve the flavor of gin. Perfumers make use of it in the manufacture of hair-powder, and tanners in the preparation of peculiar sorts of leather. From the fresh rhizome a volatile oil is obtained by distillation, used in making aromatic vinegar and for scenting snuff. In *Med.* the sweet flag is sometimes used as an aromatic stimulant and mild tonic, and many physicians speak highly of its beneficial effects in cases of ague. It grows in the United States, in Europe and Asia. It is supposed to be the *calamus* of the Song of Solomon; hence its botanical name. *Acorus calamus.*

Acos'mia, *n.* [Gr. *a*, priv., and *kosmos*, order.] (*Med.*) Irregularity in the critical days.

Acos'mism, *n.* A denial of the existence of the world.

Acos'mist, *n.* One who denies that the world exists.

Acos'ta, JOSEPH, a Spanish Jesuit, who, from being a missionary in Peru, became provincial of his order. B. at Medina del Campo 1547; d. at Salamanca 1600. His *History of the West Indies*, first printed in Spanish, is universally known and esteemed.

Acotyle'dons, *n. pl.* [Gr. *a*, priv., and *kotyledon*, a hollow.] (*Bot.*) Those plants which are propagated by spores, and not by true seeds. Cotyledons are the rudiments of the first leafy organs which make their appearance in the development of plants springing from seeds properly so called. These rudimentary organs do not exist in spores, which are accordingly said to be acotyledonous. The *cryptogamous* or *flowerless* plants of Linnæus are identical with the acotyledons of later botanists. In the nat. ord. they are divided in two classes: the *Thallogens* and the *Acrogens.*

Fig. 26.

Acotyled'onous, *a.* Having no *cotyledon.*

Acou'chy, *n.* (*Zoöl.*) A small species of *Agouti*, having a tail about two inches long and resembling that of a cat; olive agouti.

Acou'meter, *n.* [Gr. *akovein*, to hear, and *metron*, measure.] An instrument for measuring the degree or extent of hearing.

Acous'tic, and **Acous'tical,** *a.* [Gr. *akoustikos.*] Belonging to the ear or to sound.

Acoustic Duct, in *Anat.*, a term applied to the meatus auditorius externus, or external passage of the ear.

Acous'tics, *n. pl.* That branch of Physics which treats of the laws which regulate the production and propagation of the atmospheric vibrations which are perceived by the organ of hearing. In other words, it is the science of sounds, and that of the vibration of elastic bodies. See SOUND.

Ac'qua, a village of Italy, province of Pisa, 16 miles S. of Leghorn, noted for warm baths.

Acquac'kanonck, in *New Jersey*, a post township of Passaic co., 13 miles S.W. of New York, and about 80 miles N.E. of Trenton.—A village of the same name, is situate on the Passaic river, at the head of sloop navigation.

Acquaint', *v. a.* [O. Fr. *accointer.*] To make familiar with: applied either to persons or things.—To inform, to communicate notice to; followed by *with:*—

"We that *acquaint* ourselves *with* every zone,
And unacquainted still *with* our own soul."—*Sir J. Davies.*

"I will not *acquaint* my father *with* this business."—*Shak.*

Acquaint'ance, *n.* The state of being acquainted with; familiarity, knowledge; it is applied as well to persons as things, followed by *with:*—

"Our admiration of a famous man lessens upon our nearer *acquaintance with* him."

—The person with whom we are acquainted; him of whom we have some knowledge, without the intimacy of friendship. In this sense, the word admits a plural: *acquaintance* and *acquaintances* are both in use.

Acquaint'anceship, and **Acquaintedness,** *n.* A state of being acquainted; acquaintance.

Acquaint'ed, *a.* Familiar; well known.

Acquapenden'te, a town of Italy, seated on a mountain, near the river Paglia, 12 miles N.W. of Orvieto. It takes its name from a waterfall, which rushes from the top of the mountain. Pop. 2,500.—Here Fabricius of Acquapendente, the celebrated anatomist, was born, 1537.

Acquar'ia, a little town of Italy, noted for its medical waters. 12 miles S. of Modena.

Acqua'viva, a town of South Italy, in Terra di Bari, 16 miles from Bari. Pop. nearly 6,000.

—Also, another little town in the same part of Italy, 22 miles N.N.E. of Campobasso.

Acquaviva, ANDREA MATTEO, duke of Atri, and prince of Teramo, in the kingdom of Naples, b. 1456, d. 1528, seems to have been the first who conceived the idea of an Encyclopedia, or Universal Dictionary of Arts and Sciences. He published a work under that title in 2 vols. folio, which, though scanty and defective, was found sufficient to give some hints for conducting a compilation of that kind.

Acquet', or **Acquest,** *n.* [Fr. *acquêt*, from Lat. *acquisitus.*] (*Law.*) Property obtained by purchase or donation.

Ac'qui, a district of N. Italy, prov. Alessandria, on the N. side of the Liguriau Apennines. *Area*, 445 square miles. *Prod.*, corn and fruit. Chestnut-trees furnish the peasantry with an article of common food, and silk-worms are reared as a branch of industry. Pop. 102,000.

Acqui, its capital, is seated on the Bormida, 18 miles S.S.W. of Alessandria. Pop. 8,000. It has commodious sulphur baths. Celebrated for its great antiquity, and for the remains of a Roman aqueduct. Acqui was taken by the Spaniards in 1745; retaken by the Piedmontese; and afterwards dismantled by the French.

Ac'quia, a creek that joins the Potomac, 30 miles below Alexandria, Virginia.

Acquiesce', *v. a.* [Fr. *acquiescer.*] To rest in, to remain satisfied with, without opposition or discontent.

Acquies'cence, Acquies'cency, *n.* A silent appearance of consent, distinguished, on one side, from avowed consent: on the other, from opposition: "Certain indistinct murmurings of *acquiescence.*"

Acquies'cent, *a.* Resting satisfied; submitting.

Acquies'cently, *ad.* In an acquiescent manner.

Acquinton, in *Virginia*, a post-village of King William's county.

Acquirabil'ity, *n.* State or quality of being acquirable.

Acquir'able, *a.* Capable of being acquired.

Acquire', *v. a.* [Fr. *acquérir.*] To gain by one's own labor or power; to obtain what is not received from nature, or transmitted by inheritance.

Acquire'ment, *n.* That which is acquired; gain; attainment;—generally used in opposition to the gifts of nature.

Acquir'er, *n.* One who acquires.

Acquir'ing, *n.* Acquirement.

Acquisi'tion, *n.* The act of acquiring;—the thing acquired; acquirement.

Acquis'itive, *a.* That is acquired.

Acquis'itively, *ad.* By acquisition.

Acquis'itiveness, *n.* (*Phren.*) The love of acquiring property or possession.

Acquis'itor, *n.* One who makes acquisitions.

Acquit', *v. a.* [Fr. *acquitter.*] To set free. To clear from a charge of guilt; to absolve.—To clear from any obligation; and, hence, to bear or conduct one's self.

Acquit'tal, *n.* [Fr. *acquitter*, to free.] (*Law.*) Deliverance from a criminal charge. Thus, one who has been upon his trial for the commission of a crime, and is delivered from the charge by the verdict "Not guilty," of a jury, is said to be acquitted. Should a person be indicted a second time on the same offence, he may always answer the charge by pleading this verdict, termed the plea of "*autrefois acquit*," by which he will be entitled to be set at liberty.

Acquit'tance, *n.* [O. Fr.] (*Law.*) A written discharge for a sum of money that has been paid. An acquittance in full of all demands will discharge all debts, except such as are on specialty; viz. secured by bonds and instruments under seal. These latter can only be discharged by a deed.

A'cra, in *New York* state, a post-village of Greene county, 47 miles S.S.W. of Albany.

Ac'rasy, *n.* [Gr. *a*, priv., and *krasis*, temperament.] (*Med.*) Excess; irregularity; intemperance.

A'cre, *n.* [Gr. *agros*, a field.] A measure of land, the same in England and in the United States. Its dimensions may be readiest ascertained by remembering that a square with its side of 22 yards is the tenth part of an acre. The chain with which land is measured is 22 yards long, and 10 square chains are equal to one acre, or to 4,840 square yards. There are 640 acres in a square mile; thus:—

Acre		Roods		Perches		Sq. yds.
1	=	4	=	160	=	4,840
		1	=	40	=	1,210
				1	=	30¼

Acre, or **St. Jean d'Acre,** a seaport of Syria, formerly called Ptolemais; on a promontory at the foot of Mount Carmel. Lat. 32° 55′ N., long. 35° 5′ E. This town, capital of the pashalic of the same name, is famous for the memorable sieges it has sustained. It was taken by the first crusaders, in 1104, retaken by the Saracens in 1187, recovered by the Christians under Richard Cœur de Lion in 1191, and given to the knights of St John (in French, St. Jean) of Jerusalem, whence it received the name of St. Jean d'Acre. In 1291 it again fell into the hands of the Saracens. Bonaparte attempted to storm this place in 1799, but retreated after a siege of 61 days. It was taken by Ibrahim Pacha in 1832, and again by the combined English and Austrian squadrons in 1840. Since then, Acre has been restored to the Turks. Acre has been celebrated from remote antiquity. Strabo calls it *Ace. Pop.* 5,000.

A'ereage, *n.* The number of acres in a piece of land;—measurement of land by the acre.

Acre'lius, ISRAEL, a Swedish clergyman, b. 1714, in the province of Roslay; d. 1800. He was sent to America, and resided for seven years in Philadelphia, 1749–1756, where he managed the affairs of the Swedish colonists with zeal and prudence. Ill health compelled him to leave America. In 1759 he published in Stockholm a description of the Swedish colonies in America, comprising much important topographical information concerning the region on both sides of the Delaware.

A'eri, a town of South Italy, province of Calabria-Citra, 15 miles N.E. of Cosenza. Pop. 8,000.

Ac'rid, *a.* [Lat. *acris.*] A term employed to express a taste, the characteristic of which is pungency joined with heat;—figuratively, an *acrid* temper.

Acrid'ii, or **Aeryd'ii,** *n. pl.* [Gr. *akris*, a locust.] (*Zoöl.*) The *Migratory Locusts*, a family of orthopterous insects, which have a large head, short and stout antennæ, strong hind-legs, three-jointed tarsi, and no projecting ovipositor. They are closely allied to the LOCUSTARIÆ, *q. v.*

Fig. 27. — MIGRATORY LOCUST.

Acrid'ity, and **Acridness,** *n.* The quality of being acrid; a sharp and biting taste.

Acrido'phagi, *n.* [Gr. *akris*, locust, and *phago*, I eat.] A name given to an ancient Ethiopian tribe, represented as feeding on locusts.

Acrimo'nious, *a.* Abounding with acrimony; corrosive.

Acrimo'niously, *ad.* In an acrimonious manner.

Acrimo'niousness, *n.* Quality of being acrimonious; severity.

Ac'rimony, *n.* [Fr. *acrimonie.*] Sharpness; corrosiveness; hence, sharpness of temper, severity, bitterness of thought or language.

Acris'ia, and **Acrisy,** *n.* [Gr. *a*, priv., and *krisis*, judgment.] (*Med.*) A state of disease of which no decided opinion can be formed.

Ac'rita, Ac'ritans, *n. pl.* [Gr. *akritos*, indiscernible.] (*Zoöl.*) A term proposed by Oven to be applied to the 4th division of the animal kingdom, in which there is no distinct discernible nervous system; and in which the alimentary canal is not contained in a distinct abdominal cavity. It is nearly equivalent to the *Radiata* of Cuvier.

Acrit'ical, *a.* (*Med.*) Having no crisis: uot foretelling a crisis.

Ac'ritude, *n.* [Fr. *acritude.*] An acrid taste.

Acroamat'ic, Acroamatical, *a.* [Gr. *acroamai*, I hear.] Of, or pertaining to, deep oral learniug; the opposite of exoterical.

Acroamatics, and **Acroatics,** *n. pl.* Aristotle's lectures on the principal parts of philosophy, to which none but friends and scholars were admitted by him.

Acroat'ic, *a.* Relating to acroatics; acroamatic.

Ac'robat, *n.* [Gr. *akron*, an extremity, and *baino*, I go.] A name given by the ancients to rope-dancers, vaulters, &c. Acrobats perform both upon the tight and slack rope, or upon ropes placed horizontally, perpendicularly, or obliquely, and the exercise of their craft requires great strength, agility, and fearlessness. Acrobats are frequently mentioned by the writers of ancient Rome and Greece; and many, in the present day, have, by the extraordinary nature of their performances, acquired considerable popularity. For instance, Madame Saqui, Herr Wengler, and Blondin, who crossed the Falls of Niagara, carrying a man upon his back, upon a single rope, stretched and fastened to the opposite shores.

Acrobat'ic, *a.* Belonging to the art of acrobats or rope-dancers.

Acrocar'pi, *n.* (*Bot.*) Mosses having their fructification terminating the axis.

Acroceraun'ium. (*Anc. Geog.*) A promontory of Epirus, with mountains called *Acroceraunia*, which separated the Ionian and Adriatic seas. They were remarkable for attracting storms, and thence dreaded by mariners. Its modern name is Chimara, lat. 40° 25′ N.

Acrochor'don, *n.* [Gr.] (*Med.*) A kind of hard wart. (*Zoöl.*) The wart-snake.

Acrochor'dus, *n.* (*Zoöl.*) A genus of serpents discovered in Java. They are considered noxious, and are distinguished from others by their skin being covered with innumerable small warts or tubercles. The only species accurately known at present is the *Acrochordus Javanicus* of Lacepède. This animal averages from 8 to 10 feet in length, the body growing gradually thicker from the head to the vent, and there suddenly contracting so as to form a very short, slender tail.

Acrocorin'thus, a steep and lofty mountain, shaped as a truncated cone, overhanging the city of Corinth, 1,885 feet in height, on which was built a citadel. It was one of the horns on which Philip was advised to lay hold, in order to secure the Peloponnesus, figured in the heifer. It was also considered as one of the fetters of Greece, of which the others were Demetrias in Thessaly, and Chalcis, in Eubœa. Its position was naturally so strong that in the time of Aratus a force of four hundred men defended it. It affords one of the most magnificent prospects in the world. Its ascent was not permitted to Christians as long as the country was in the possession of the Turks. (See Fig. 684.)

Ac'rodus, *n.* [Gr., extreme tooth.] (*Pal.*) A genus of fossil placoid fishes, having pavement-like teeth, with transverse ridges.

Acrogas'ter, *n.* [Gr.] (*Pal.*) A genus of fossil fishes belonging to the Percoids (*Percidæ*).

Acrog'enous, *a.* (*Bot.*) Increasing in growth from the extremity.

Acrog'raphy, *n.* [Gr. *akros*, extreme, and *grapho*, I write.] The art, invented by M. Schönberg, of producing blocks in relief, for the purpose of printing from, along with types, and thus to supersede wood-engraving.

Acro'lein, *n.* [Gr. *acer*, sour; Lat. *oleum*, oil.] (*Chem.*) This body constitutes the acrid principle produced by the destructive distillation of fatty bodies, resulting in fact from the decomposition of glycerin. It is a colorless, limpid, strongly refracting liquid, lighter than water, and boiling at 52° 4. Vapor-density, 1.897. Its vapor is so intensely irritating, that a few drops diffused through a room are sufficient to render the atmosphere insupportable. It burns readily, with a clear bright flame.

Ac'rogens, *n. pl.* [Gr. *akros*, extreme, and *gennao*, to produce.] (*Bot.*) The second class of the *Flowerless plants*. The organism in this section is already more complicated than in the Thallogens. All the species have stomates or breathing-pores on their surface, and in the great majority there is a distinct stem and leaves. There is, however, no trace of flowers; and sexes are wholly missing; that is to say, nothing can be found which resembles the anthers and pistil of flowering plants. We want satisfactory evidence that any order of *Acrogens* possesses organs which require to be fertilized the one by the other to effect the generating of seeds. Hence those reproductive bodies of *Acrogens* which are analogous to seeds are called *spores*. In general, *Acrogens* are plants of very small stature. But in Ferns they occasionally acquire the size of trees; always, however, growing with a single stem in such cases. If they branch naturally, they do so in a forking manner. Their stem, instead of increasing by the deposition of matter originating in the leaves, appears to be a mere extension of one common vegetating point, which becomes cylindrical and long, when it is capable of being acted upon by the influence of light. The orders of *Acrogens* resolve themselves into the three alliances — *Muscales*, *Lycopodales*, and *Filicales*, q. v.

Fig. 28. — FERN-TREE.

Acrolepis'idæ, *n. pl.* [Gr. *akros*, extreme, and *lepis*, a scale.] (*Pal.*) A family of fossil ganoid fishes, with ridged scales.

Acrol'ithan, *a.* Relating to an acrolith. "An *acrolithan* statue."

Ac'roliths, *n. pl.* [Gr. *akron*, extremity, *lithos*, stone.] In ancient Greek sculpture, signifies those statues the hands, arms, and feet of which were of stone, the trunk of the figure being of wood.

Acro'mial, *a.* Relating to the acromion.

Acro'mion, *n.*; *pl.* **Acro'mia.** [Gr., extreme shoulder.] The upper process of the shoulder-blade, articulating with the collar-bone.

A'cron, a king of the Cæcinenses, who, after the rape of the Sabines, was slain by Romulus, in single combat.

Acron, a territory of Guinea, on the Gold Coast. The Dutch have a fort here called Patience, and under it is the village. Lat. 5° 10′ N., lon. 0° 28′ E.

Acron'ycal, ACRONYCHAL, ACRONICAL, and ACRONIC, *a.* [Gr. *akron*, the highest point, and *nux*, the night.] (*Astron.*) A term applied to a star when it is opposite to the sun, or passes the meridian at midnight. A star is said to be acronycal or to rise acronycally when it rises at sunset, and to set acronycally when it sets at or near sunrise.

Acron'ycally, *ad.* In an acronycal manner.

Acrop'olis, *n.* [Gr. *akros*, extreme, and *polis*, a town.] The upper town or citadel of a Grecian city. It was usually the site of the original settlement, and was chosen by the colonists for its natural strength. The most celebrated was the Acropolis or citadel of Athens, built on a rock, and accessible only on one side. Minerva had a temple at the base.

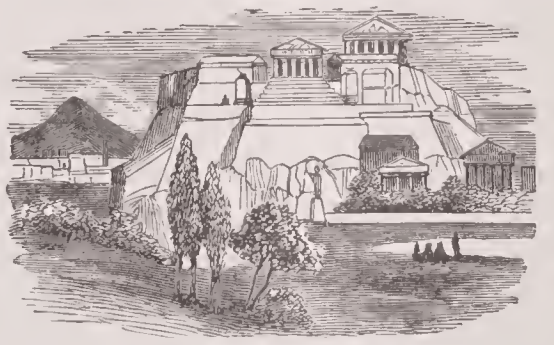


Fig. 29. — ACROPOLIS OF ATHENS.

Acropolita, GEORGE, a Grecian author and statesman, b. 1220 at Constantinople, d. 1282. He has left a continuation of the Greek history, from the taking of Constantinople by the Latins, till its recovery by Michael Palæologus.

Ac'rospire, *n.* [Gr. *akros*, summit, and *speira*, a spiral.] (*Bot.*) The sprout at the end of a seed which has commenced to germinate, — the *plumule* of modern botanists. Maltsters use this term to express the growing of the barley.

Ac'rospired, *p. a.* Having sprouts.

Across', *ad.* and *prep.* [From the French *à*, as used in *à travers*, and cross.] Crosswise; athwart; from side to side. To go *across*, is to go in the direction opposed to the length.

Acros'tic, *n.* [Gr. *akros*, beginning, and *stichos*, a verse.] A poetical composition, disposed in such a manner that the initial letters of each line, taken in order, form a person's name or other complete word or words. This kind of poetical triflings was very popular with the French poets from the time of Francis I. until Louis XIV. Among other English writers, Sir John Davies, who lived in the 16th century, amused himself in this way. He produced 26 pieces, called *Hymns to Astrea*, each of them forming an acrostic upon the words Elisabetha Regina. The following is an example:—

E ternal virgin, goddess true,
L et me presume to sing to you.
I ove, e'en great Jove, hath leisure
S ometimes to hear the vulgar crew,
A nd heed them oft with pleasure.

B lessed Astrea! I in part
E njoy the blessings you impart,
T he peace, the milk and honey,
H umanity, and civil art,
A richer dow'r than money.

R ight glad am I that now I live,
F 'en in these days whereto you give
G reat happiness and glory;
I f after you I should be born,
N o doubt I should my birthday scorn,
A dmiring your sweet story!

In the Old Testament there are twelve Psalms written according to this principle. Of these, the 119th Psalm is the most remarkable: it consists of 22 stanzas, each of which commences with a Hebrew letter, and is called by its name.

Acros'tical, or **Acrostic,** *a.* Relating to or resembling an acrostic.

Acros'tically, *ad.* In the manner of an acrostic.

Acros'tichum, *n.* (*Bot.*) A genus of the ord. *Polypodiaceæ*, or Ferns. The species *Acrostichum polypodioides*, found in W. and S. of the U. S., in the damp forests along rivers, is a parasitic fern 3 to 6 inches high, growing on the inclined moss-clad trunks of living trees.

Acro'tarsium. [Gr.] (*Anat.*) The upper surface of the tarsus.

Acroter, *n.* (*Arch.*) The same as ACROTERIUM.

Ac'rotc'ri, a town in the island of Santorini. Lat. 36° 25′ N., lon. 26° 1′ E.

Acrote'rium, *pl.* **Acroteria,** *n.* [Gr., the extremity of anything.] (*Arch.*) The statue or other ornament on the summit or upper angle, and sometimes also the similar ornaments over the feet or lower angles, of a pediment; in the latter case they are all included under the plural *acroteria*.

(*Anat.*) An extreme part of the body, as the hands, feet, nose, ears, &c.

Acrothym'ion. [Gr. *akros*, extreme, and *thymos*, thyme.] (*Med.*) A sort of wart, hard, rough, with a narrow basis and broad top, which have the color of thyme: it easily splits and bleeds.

Ac'rotic, *a.* [Gr. *akros*, extreme.] (*Med.*) Pertaining to, or affecting, the surface; as, *acrotic* diseases.

Acro'tomous, *a.* (*Min.*) Having a cleavage parallel with the base.

Acs, a Hungarian town, 6 miles S. W. of Komorn, where a great many sheep are reared. *Pop.* about 5,000.

Act, *v. n.* [From Lat. *actus*, p. of *agere*.] To be carrying into effect what we have determined; the contrary of to rest.

"Deliberate with caution, but *act* with decision." — *Colton.*

—To conduct one's self: to behave. — To exert power on one's self; as, the mind *acts* upon the body; or on another, as the magnetist on the magnetizer.

To act up to, to conform to; to fulfil.

Act, *v. a.* To perform a part; to assume an artificial character; as, to *act* the hero; — to put in action; as, "to *act* a part on the stage;" — to counterfeit; to deceive by action; as,

"With *acted* fear the villain thus pursu'd."

Act, *n.* [Fr. *acte*, from Lat. *actus*.] An action: something done; a deed; a step taken; a measure executed; an operation of the mind, as an act of the will; any public act, as an act of Congress, &c.

(*Law.*) An instrument or deed in writing, serving to prove the truth of some bargain or transaction.

(*Dram. Lit.*) The division or part of a play. With the ancient writers, it was held that a play should be divided into five parts or acts, neither more nor less. Following this rule, tragedies, from the Elizabethan period downward, have been divided into five acts. Comedies also were generally divided into five acts; but at the present time this rule is considered, especially in the case of the lighter forms of dramatic literature, purely arbitrary, and some excellent dramas have had no more than three acts. As in the Greek drama the stage was never left empty from the beginning to the end of a performance, there were no acts. The chorus, during the absence of other actors, kept the stage, and continued the drama by their songs, which mostly formed an essential part of it, and carried on the action in the same way as the dialogue did. Among the Romans there was no chorus, and the play was broken into acts, as in our own.

Ac'ta, or **Acte.** (*Anc. Geog.*) A name given to the seacoast about Mount Athos, in which were six cities mentioned by Thucydides. It was likewise the ancient name of Attica, Peloponnesus, Troezene, and Epidaurus.

Acta Diurna. (Lat., daily proceeding.) The title of a kind of public paper which Julius Cæsar ordered to be drawn up and published. It contained a record of the proceedings of the Senate and the people, and therefore formed a species of Roman newspaper. The *Acta* continued to be published until the reign of the emperor Julian.

Acta Sanctorum, or **Martyrum,** (*acts of saints and martyrs.*) The collective title given to several old writings, respecting saints and martyrs in the Greek and Roman Catholic churches, but now applied especially to one extensive collection begun by the Jesuits in the 17th c. This great undertaking has considerable

importance, not only in a religious point of view, but also with regard to history and archæology. Commenced by the Jesuit Rosweyd, continued by J. Bolland, the work was carried on (1661) by a society of learned Jesuits, who were styled *Bollandists*, until 1794, when its further progress was prevented through the invasion of Holland by the French. In recent times, the undertaking has been resumed; and in 1846 the 54th volume was published in Brussels. Three or four additional volumes have appeared since. The lives are arranged in the order of the calendar. The volumes last published are for October.

Actæ'æ,æ, *n. pl.* [Gr. *acte*, the elder.] (*Bot.*) A sub-ord. of plants, ord. *Ranunculaceæ*, distinguished by their colored calyx and succulent fruit. Actæa is the most important genus.

Actæ'a, *n.* (*Bot.*) A gen. of plants, in the sub-ord. *Actæeæ*. The black berries of the baneberry, *Actæa spicata*, are poisonous; the roots anti-spasmodic, expectorant, astringent.

Actæ'a, *n.* (*Myth.*) One of the Nereids.—A surname of Ceres.—A daughter of Danaus.

Actæ'on Islands. A group of three low, wooded islands in the Pacific Ocean, discovered 1837. The central island is in lat. 21° 23′ S.; long. 136° 32′ W.

Actæ'us, a powerful person, who made himself master of a part of Greece, which he called *Attica*. His daughter Agraulos married Cecrops, whom the Athenians called their first king, though *Actæus* reigned before him.—This word has the same signification as Atticus, an inhabitant of Attica.

Ac'tia, the mother of Augustus.

Ac'tian Games. See ACTIUM.

Actin'al, *a.* (*Zoöl.*) Applied to the oral part or pole where the actinostome of the *Radiata* is situated.

Actina'ria, *n.* (*Zoöl.*) An order of polyps. See ACTINIÆ.

Act'ing, *n.* Action.—Performance of a stage-play.

Act'ing, *p. a.* Performing the service, or duty, of some office before or without a regular nomination; as, an *acting* consul.

Actin'iæ, and **Actin'idæ,** *n. pl.* [Gr. *actin*, a ray.] (*Zoöl.*) A family of polypi, commonly known as *sea-anemones, sea-sunflowers*, &c., from their resemblance to flowers. They are found on all rocky coasts, and they form the chief attraction of the marine aquarium. The body is conical or cylindrical, adhering to the rock by a broad disk-like base. The mouth, which is a single opening into the internal cavity serving as a stomach, is surrounded by numerous tentacles, which are often beautifully marked. These organs are retractile, and, when not covered by water, the actinia appears as a smooth hemispherical lump of elastic matter, sometimes of a brilliant color. The reproductive power of these plant-like animals is very great, for when an *actinia* is cut transversely, new tentacles form in a few weeks on the lower half, and each piece becomes a perfect creature. The *A.* are the typical family of the order *Actinaria*.

Fig. 30.—SEA ANEMONES. (ACTINIÆ.)

Actin'ic, *a.* Pertaining to actinism.

Actin'iform, *a.* [Gr. *actis*, a ray, and Lat. *forma*, shape.] (*Zoöl.*) Having a radiated form.

Ac'tinism, *n.* [Gr. *actin*, a ray.] (*Opt.*) The chemical principle of light. Three distinct principles emanate from the sun,—light, heat, and actinism. Numerous examples of the effects of their influence occur daily, which are erroneously attributed to the light which we see. It is actinism which fades colors, bleaches linen, rots fabrics, tans the human skin, puts out the fire, and performs the operations of photography. It acts principally by abstracting oxygen from the bodies which it affects. Fire is extinguished by sunlight, through the diminution of the amount of oxygen necessary for combustion; and photographic operations are mostly effected by the reduction of oxide of silver to the metallic state, by the abstraction of its oxygen. We may have *actinism* without light, or *vice versâ*. Yellow glass transmits the latter, but stops the former. Hence, the photograph works in yellow light. Dark blue glass, which transmits but little light, is quite pervious to *actinism*. Blue objects reflect great quantities of it, while red or yellow ones reflect but little, or none. For this reason, in photographs, red or yellow materials are always too dark, while blue ones are too light. The electric and lime lights give out great quantities of actinism from their blue tinge; and gas and candles but very little, from their yellow color. The amount of *actinism* received from the sun differs considerably, according to the time of year, being at its maximum about the end of March, and gradually diminishing until the end of December, when it arrives at its minimum. *Actinism*, in large quantities, is necessary to the proper condition of the human system. It has been proved that when dark rooms have been colored with yellow paint or paper, the inhabitants of them have been sickly or delicate; as soon, however, as the color was changed to blue, a marked difference in their state of health took place. The germination of seeds is greatly retarded by *actinism*; hence the maltster puts his grain into the dark, to malt, or semi-germinate. For the same reason, seed is buried in the ground. As soon, however, as the young plant makes its appearance, a supply of *actinism* is necessary; and, by a wonderful provision of nature, this influence is at its height when young plants are beginning to show their heads above the earth. White, red, brown, and green sea-plants owe their colors to the different amounts of *actinism* they receive: the green, being near the surface, receives most; while the white, being at great depths, receives nearly none.

Actinoca'max, *n.* [Gr. *actin*, a ray, *camax*, a pale.] (*Pal.*) The fossil shells of an extinct genus of Cephalopodous Molluscs, apparently connecting the Belemnites with the existing *Sepiæ*.

Actinocar'pus, *n.* (*Bot.*) A genus of pretty floating aquatic plants, ord. *Alismaceæ*.

Actinocri'nites, *n. pl.* [Gr. *aktin*, a ray, *crinon*, a lily.] (*Pal.*) The name of a subgenus of extinct Crinoidean radiated animals, or Encrinites, characterized by the numerous rows of angular plates, which, being articulated by their margins, constitute the body. It is found in carboniferous and silurian strata.

Actin'ograph, *n.* [Gr. *actin*, a ray, and *graphein*, to describe.] (*Opt.*) An instrument for measuring and recording the variations in the *actinic* or chemical force of the solar rays.

Actin'oid, *a.* Radiated.

Actinolite, Actinote, *n.* (*Min.*) Names given to the AMPHIBOLE, *q. v.*

Actinolit'ic, *a.* Relating to actinolite.

Actinol'ogy, *n.* [Gr. *actin*, a ray, and *logos*, a discourse.] (*Zoöl.*) The science of radiated animals.

Actino'meris, *n.* [Gr. *actin*, a ray, and *meris*, a part.] (*Bot.*) A genus of plants, ord. *Asteraceæ*.

Actinom'eter, *n.* [Gr. *actin*, a ray, and *metron*, measure.] (*Ast.*) An instrument invented by Sir J. Herschel, to measure the solar rays. It consists of a thermometer with a large bulb filled with a dark blue fluid; this is enclosed in a box, the sides of which are blackened, and the whole covered with a thick plate of glass.

Actinom'etric, *a.* Belonging to the measurement of actinic force or influence.

Actinos'tome, *n.* (*Zoöl.*) A new name given to the mouth of the *Radiata*.

Ac'tinote, *n.* (*Min.*) See AMPHIBOLE.

Ac'tion, *n.* [Fr. *action*, from Lat. *agere*, to act.] The state of acting, opposite to *rest;* an act or thing done; a deed.

(*Paint. and Sculp.*) The state of the subject as imagined in the artist's mind at the moment chosen for representation. It must not be confounded with motion, which relates to the mobility of a single figure.

(*Mil.*) An engagement or battle between opposing forces; hence, *partial* action, *general* action, &c.

(*Rhet.*) The accommodating or suiting of the countenance, voice, and gesture of the speaker to the matter to be spoken or delivered. This *sermo corporis*, as Cicero calls it, has always been regarded as a most important part of oratory. Demosthenes said that the action was the beginning, the middle, and the end of the orator's office; and Cicero admits that "*what* an orator says is not of so much importance as *how* he says it."

(*Lit.*) An event, either real or imaginary, forming the subject of an epic poem or play, &c. Thus the wrath of Achilles forms the action or subject of the Iliad, &c.

(*Mech.*) Action denotes, sometimes the effort which a body or power exerts against another body, sometimes the effect or motion resulting from such effort.

(*Physiol.*) It is applied to the functions of the human body, whether vital, animal, or natural.

(*Com.*) In France, *action* is the name given to a share in the capital stock of a joint-stock company.

(*Law.*) An action at law is a demand, made through the intervention of the law, for that which is legally due; and has been defined to be a lawful demand of one's right. Actions are either criminal or civil. Criminal actions are those which have judgments of death, as for murder; or judgments for damages to the party, fine to the government, imprisonment, &c. Civil actions are divided into real, personal, and mixed. Real actions are so termed because they have reference to real property, or lands. Personal actions are those whereby a party claims for a debt, for personal duty, or damages in lieu thereof; or seeks satisfaction for personal insults or injuries of nearly every description. Mixed actions partake of the nature of both the preceding. Personal actions are divided into actions of contract and actions of tort, and also into local and transitory. In a local action the trial must take place in the county where the cause of the action arose; a transitory action may be brought in any county.—In the state of New York these numerous divisions of civil actions are no more used. The criminal action for the punishment of a public offender pertains to the state, and all actions not criminal are civil.

Ac'tion, and **Reaction.** See MOTION, LAWS OF.

Ac'tions (FOR PIANOS), are the mechanism attached to keys which act on the hammers to make them strike the cords, to prevent their rebound, and bring them without jerking to their place when the keys are released. Actions are now fabricated in the United States as cheap and perfect as in Europe, especially in New York, Philadelphia, Boston, and Baltimore.

Ac'tionable, *a.* That which admits an action in law to be brought against it; as, to call a man a thief is *actionable*.

Ac'tionably, *ad.* In an actionable manner.

Ac'tionary, and **Ac'tionist,** *n.* [Fr. *actionnaire*.] (*Com.*) One who has a share in actions or stocks of a joint-stock company.

Ac'tis. (*Myth.*) A son of Sol, went from Greece into Egypt, where he taught astrology, and founded Heliopolis.

Ac'tium. (*Anc. Geog.*) A town and promontory of Epirus, famous for the naval victory which Augustus obtained over Antony and Cleopatra, the 2d of September, B. C. 31, in honor of which the conqueror built there the town of Nicopolis, and restored the *Actian games* instituted in honor of Apollo.

Ac'tius Navius, an augur, who cut a loadstone in two with a razor, before Tarquin and the Roman people, to convince them of his skill in his art.

Ac'tive, *a.* [Fr. *actif*.] Possessed of, or exhibiting, the power of acting; communicating action to another; the opposite of *passive*.—Busy, engaged in action; opposed to *idle* or *sedentary;*—any state of which the duties are performed only by the mental powers.—Nimble, agile, quick; hence, energetic, diligent, busy.

(*Gram.*) Active or transitive verbs are those denoting an action transmitted from an *actor* or *subject* to a noun or *regimen*.

Active molecules. See MOLECULES.

Ac'tively, *ad.* In an active manner, or signification.

Ac'tiveness, *n.* Quality of being active. (R.)

Activ'ity, *n.* [Fr. *activité*.] The faculty of, and the tendency to, action. When purely physical it is termed agility.

Actæ'on, (*Myth.*) son of Aristeus, was a great lover of hunting. One day, as he was pursuing a hart, he spied *Diana* bathing herself with her nymphs; which so enraged the goddess, that she threw water upon him and changed him into a hart; and afterward he was torn in pieces by his own dogs.

Ac'ton, *n.* [Fr. *haqueton*.] A quilted leather jacket which was often worn under a coat-of-mail.—See HACQUETON.

Acton, eight miles from London, a station on the N. and S.Western railway; a few years since a rural village, now there are numerous villas inhabited by the merchant-princes of the metropolis.—*Acton-Burnell*, a village of England, 8 miles from Shrewsbury, where a parliament was held in the reign of Edward I., when the Lords sat in the castle, and the Commons in the barn, which is still standing.

Acton, a post-village of Halton co., Canada, 40 miles W. by N. of Toronto.

Acton, in *Indiana*, a post-village of Marion co., 12 miles S.E. of Indianapolis.

Acton, in *Maine*, a post-township of York co., on the head waters of the Salmon river, 90 miles S.W. of the city of Augusta.

Acton, in *Massachusetts*, a post-township of Middlesex co., 22 miles N.W. of Boston; situated on the Assabet river.

Acton, in *Minnesota*, a post-village of Meeker co., about 90 miles W. by N. of St. Paul.

Acton Corner, in *Maine*, a post-village of York co., about 90 miles S.W. of Augusta.

Ac'topan, a town of Mexico, 80 miles from Mexico. *Pop.* 3,000.

Act'or, *n.* [Lat. from *agere*, to act.] In general, one who acts or performs; an agent; a doer;—specially, *actor*, fem. *actress*, is one who performs a part or character in a play. Among the ancient Greeks, *actors* were so highly esteemed, as sometimes to be sent on embassies; and authors frequently performed in their own plays; but at Rome, if a person became an actor, he forfeited his right of voting as a Roman citizen. Actresses appear to have been wholly unknown to the ancients, men or eunuchs always performing the female part. Charles II. is said to have first encouraged their public appearance in England. The prejudice against actors, which at one time was strong and prevalent, seems now to be giving way before the advance of that more liberal idea of distinguishing and rewarding personal merit, with little or no regard to the rank or vocation. Among the most eminent actresses of modern times, we may mention Mrs. Siddons, Rachel, and Ristori. Two great authors were also actors; viz., Shakspeare and Molière.

Actor'ides, *n. pl.* (*Myth.*) Two brothers, so much attached to each other, that in driving a chariot, one generally held the reins and the other the whip, whence they are represented with two heads, four feet, and one body. They were conquered by Hercules.

Ac'tress. See ACTOR.

Acts of the Apos'tles. (*Eccl. Hist.*) The fifth in order of the books of the New Testament, and the last of these properly of an historical character. It gives a narrative of events that happened to the early church during the thirty years immediately succeeding the death of Christ. It does not, however, narrate *the acts of the apostles* generally, being almost exclusively confined to those of Peter and Paul. The author of this book was Luke, and its authenticity is undoubted.

Act'ual, *a.* [Fr. *actuel*.] That is brought into form, shape, or reality, as distinguished from being only mentally conceived or falsely imagined; really in act.—Existing at the present time.

—That which comprises action. (O.)

"Besides her walking and other *actual* performances."—*Shak.*

Actual'ity, *n.* [Fr. *actualité*.] The state of being actual;—opposed to potentiality.

Actualiza'tion, *n.* A making actual or really existent; as, "he seeks the idea only in its *actualization*."

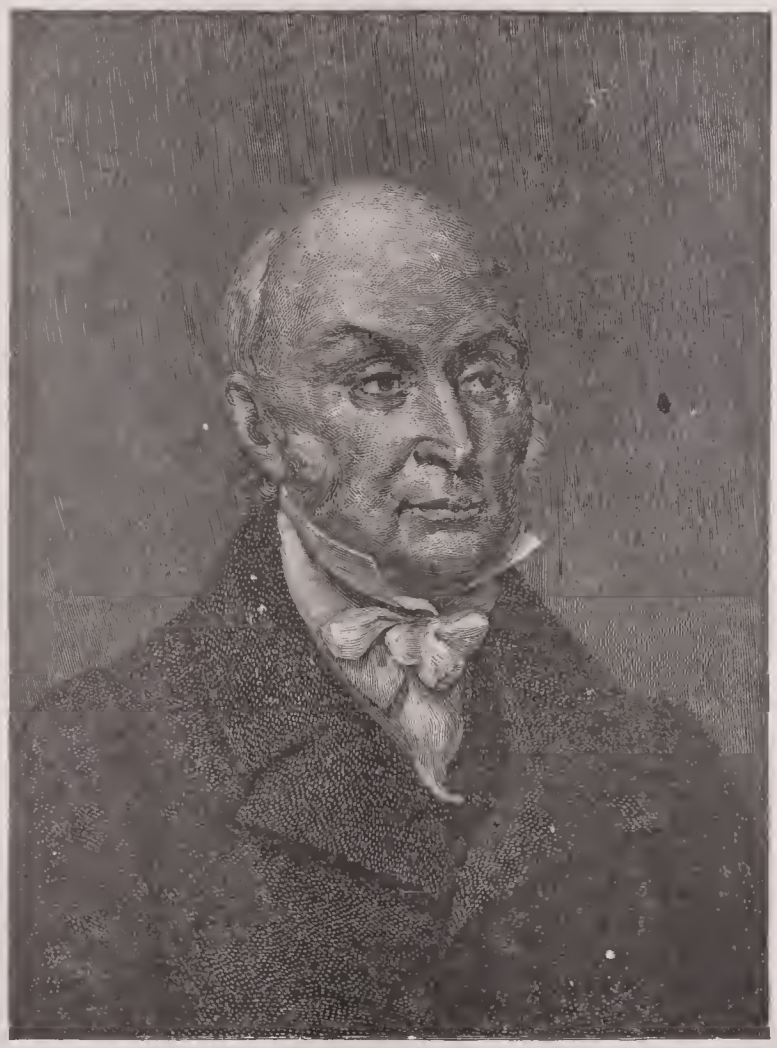
Act'ualize, *v. a.* [Fr. *actualiser*.] To make actual.

Act'ually, *adv.* In act; in effect; really.

Act'ualness, *n.* The quality of being actual.

Act'uary, *n.* [Lat. *actuarius*, a clerk or notary.] (*Com.*) The manager of a joint-stock company under a board of directors, particularly an insurance company; also, in England, a person skilled in the doctrine of life annuities and insurances, and who is in the habit of giving opinions upon cases of annuities, reversions, &c.

Act'uate, *v. a.* [Lat. *actuare*.] To put into action; to incite to action; to induce; to influence; as, "our passions are the springs which *actuate* the powers of our nature."



John Quincy Adams

1767–1848

Actua'tion, *n.* [Lat. *actuatio.*] The state of being actuated; a being put in action: effectual operation. (R.)

Act'uator, *n.* One who actuates or puts in action.

Acty'nolite, or **Actinolite,** *n.* (*Min.*) The Amphibole, *q. v.*

Acui'tion, *n.* [Lat. *acuere*, to sharpen.] (*Med.*) The sharpening of medicines to increase their effect.

Acu'leate, *a.* [Lat. *aculeus*, a prickle.] (*Bot.*) Anything covered with prickles; that is, with sharp prominences which originate not from the root, but only from the bark, as in the rose.

Acu'leate, *v. a.* To form to a point.

Acu'leated, *a.* Having a sharp point; prickly; aculeate.

Acu'leates, *n. pl.* (*Zoöl.*) A tribe of hymenopterous insects, in which the females and neuters are provided with a sting, generally concealed within the last segment of the abdomen, as the bee.

Acu'leous, *a.* (*Bot.*) Having points or prickles; aculeate.

Acu'leus, *n.; pl.* ACULEI. [Lat.] (*Bot. and Zoöl.*) A prickle.

Acu'men, *n.* [Lat., a sharp point.] The faculty of nice discrimination; quickness of perception; acuteness; sharpness of intellect; discernment.

Acu'mina. [Lat. *acumen*, a point.] Omens taken by the ancients from the points of spears or swords.

Acu'minate, *v. n.* To end in a sharp point; as, "this is not *acuminated* as the rest, but seemeth cut off."

Acu'minate, *v. a.* To sharpen.

Acu'minate, *a.* (*Bot.*) A term applied to the apex of a leaf when it is long and tapering. The leaf of the white willow has an acuminate apex.

Acu'minated, *p. a.* Drawn out into a long point.

Acumina'tion, *n.* The act of sharpening; a sharp point.

Acu'minous, Acu'minose, Acu'minosous, *a.* Terminating in a flat, narrow end; sharp-pointed.

Acu'na, CHRISTOPHER, a Spanish Jesuit, many years a missionary in South America, b. at Burgos 1597. He published in 1641 a Description of the Great River of the Amazons, which was afterward translated into French, in 4 vols. 12mo., 1682.

Acupuncture'tion, *n.* See ACUPUNCTURE.

Acupunct'ure, *n.* [Lat *acus*, a needle, and *punctura*, a puncture.] (*Med.*) A surgical operation practised very extensively in Asia. It is performed by puncturing the part affected with a gold or silver needle. It has been practised both in Paris and London with satisfactory results in different kinds of disease, but principally neuralgic pains and chronic rheumatism. In Asia, the needles employed are always made of the purest silver or gold; and in China, the manufacture of these instruments forms a distinct trade, practised only by a few, and those few are licensed by the Emperor.

Ac'ushnet, in *Massachusetts*, a township of Bristol co., incorporated in 1860.

Aeusila'us and **Damagetus,** two brothers, conquerors at the Olympic games. The Greeks covered their father, whose name was Diagoras, with flowers, and proclaimed him happy in having such worthy sons.

Aeutan'gular, *a.* (*Bot.*) Having acute angles.

Aeute', *a.* [Lat. *acutus*, sharp.] Sharp: pointed; — the opposite of *obtuse.*— Having nice discernment: penetrating; sagacious; — the opposite of *dull* or *stupid.*

(*Gram.*) An *acute accent* is that which elevates the voice. [′]

(*Geom.*) An *acute angle* is an angle which is less than a right angle. (Fig. A.) — An *acute-angled triangle* is a triangle of which all the three angles are acute. (Fig. B.)

(*Mus.*) A tone is *acute* when it is sharp or high, with respect to another tone, and as opposed to *grave.*

(*Med.*) An acute disease is that which is attended by violent symptoms; — opposed to *chronic.*

(*Bot.*) Terminating gradually in a sharp point.

Aeute'. *v. a.* To give an acute sound to.

Acute'ly, *ad.* In an acute manner.

Acute'ness, *n.* The quality of being acute; applied to things, and figuratively to the senses or the understanding. See ACUTE.

Aeutifol'iate, *a.* (*Bot.*) Having sharp-pointed leaves.

Acutilob'ate, *a.* (*Bot.*) Having acute lobes.

Ac'worth, in *Georgia*, a twp. and vill. of Cobb co., 12 m. N.W. of Marietta.

Aeworth, in *New Hampshire*, a post-township of Sullivan co., New Hampshire, 46 miles W. of Concord, has manufactures of bobbins, starch, and leather.

Ad-, a prefix of Latin origin, signifying *to.*

A'da, the wife of Aidricus, and sister to queen Artemisia, who adopted Alexander as a son.

A'da, in *Idaho*, a southwestern county, organized in 1864, and including Boisé Valley. It is mountainous, but the soil is fertile in the valleys drained by the Boisé River, and the Lewis or Snake River. Mines of gold. *Cap.*, Boisé City, pop. (1890) 2,311.

A'da, in *Michigan*, a post-village, in a township of same name, Kent county, 10 miles east of Grand Rapids, at the confluence of Thornapple with Grand River.

Ada'baga, a village in Abyssinia, district of Harimát, about 30 miles S. of Adigerat.

Adact'ed, *a.* (*Mil.*) A term signifying the method by which the stakes are driven into the earth by large malls shod with iron, to secure ramparts or pontoons.

Adac'tyle, *a.* [Gr. *a*, priv., and *dactilos*, a digit.] (*Zoöl.*) A locomotive extremity without digits.

Adafoo'dia, a Foolah town in West Africa; *pop.* 24,000; lat. 13° 6′ N., long. 1° 3′ E. The inhabitants are said to be courageous and industrious, and without participation in the slave-trade.

Ad'age, *n.* [Lat. *adagium*, a proverb.] See PROVERB. The proverbs of antiquity are collected by Erasmus in a work entitled *Erasmi adagia.*

Ada'gio. [It., *leisurely.*] (*Mus.*) The slowest of musical time, grave only excepted.

Ad'aies, in *Louisiana*, a post-office of Nachitoches parish.

A'dair, a trader, who published in 1775 a work in which he points out the resemblance between many customs of the Jews and those of the North American Indians, among whom he lived for 40 years.

Adair, JOHN, an American general, b. 1757, d. 1840. He was a representative from Kentucky in the U. S. Congress, and commanded the troops of that state in the battle of New Orleans.

Adair', in *Iowa*, a southwestern county; *area*, 576 sq. m. It is drained by the Middle and Grand rivers, and by the headwaters of the Nodaway river. *Surface*, undulating; *soil*, fertile—a very productive agricultural section. *Products*, corn, wheat, butter, hay, wool, &c. *Cap.* Greenfield. *Pop.* (1895) 15,504.

Adair, in *Kentucky*, a southern county, organized in 1801. *Area*, 450 square miles. *Prod.*, Indian corn, tobacco, grass, and wool. The county possesses abundant water-power, and numerous manufactories. *Cap.* Columbia.

Adair, in *Missouri*, a county in the N.N.E. part of the State, organized in 1840. *Area*, 570 square miles; county-seat, Kirksville. It is drained by Charitou river, and by the north fork of Salt River. *Soil* productive. — A twp. of Camden co.

Adair'sville, in *Georgia*, a twp. and vill. of Barton co., 69 miles N.W. of Atlanta, on the Western and Atlantic railroad.

Adair'sville, in *Ky.*, a twp. and vill. of Logan co., 180 m. S.W. of Frankfort.

A'dal, or ADEL, a country inhabited by the *Affar*, or Arabs Danakil, on the eastern coast of Africa, between 11° 30′ and 15° 40′ N. lat. The length of Adel along the Red Sea is about 300 miles, and its width 40 miles. The country is varied with hill and dale, but, on the whole, barren. It contains plains of salt, which is cut into pieces, the size of a whetstone, and used in Abyssinia as a currency. The tribes by which this region is traversed live a nomadic life, and their only commerce is this of the salt, which they collect on the Bahr Assal, and transport along the caravan-road to Shoa. Annexed to Egypt in 1875, as the province of Harrar. (*q. v.*)

Ad'am, the first man, and progenitor of the human race, whom God formed of the dust of the ground, on the sixth and last day of the creation, as related in the first and second chapters of Genesis. The whole of the authentic history of Adam is contained in the first five chapters of that book. His loss of the state of innocence and felicity which he originally enjoyed, is commonly known by the name of *the Fall.* It was after this event, and his expulsion from the Garden of Eden, or the terrestrial Paradise, that his sons Cain, Abel, and Seth, or Sheth, were born. He is also stated to have had other sons and daughters, whose names are not given. He died at the age of 930, and therefore, according to the commonly received computation, in the year 3074 B. C. The word *Adam* means "to be red," and it is supposed that in allusion to the signification of this Hebrew verb, the earth out of which Adam was made was called *Adamah*; while others think that the name *Adam* contains an allusion to the reddish color of a healthy person. (See the use of the word *adom* in the *Song of Solomon*, v. 10.) According to Ludolf, *Adamah*, in Ethiopic, means "beautiful," denoting man to be the chief work of God. In the New Testament, *the second Adam* signifies our Saviour.

Adam, ADOLPHE CHARLES, a French composer, B. 1803, excelled as a pianist and in operas, of which *Le Postillon de Longjumeau* is best known. D. 1856.

Adam, BILLAUT, a French poet of the 17th cent., originally a joiner, of Nevers, and patronized by Richelieu. His poems are now scarce.

Adam, ROBERT, B. in Edinburgh, 1728, D. 1792; was appointed architect to the king in 1774. The Adelphi and Portland Place in London are specimens of his taste. At his return from a travel in Italy and Dalmatia he published *The Ruins of the Palace of the Emperor Diocletian, at Spalatro in Dalmatia*, illustrated with 71 plates.

Adam of Murimouth, an English historian flourished in the 14th century. His history, printed at Oxford, in 1722, comprehends only a portion of his century.

Adam and Eve, *n.* (*Bot.*) The vulgar name of the *Aplectrum Hyemale*, ord. *Orchidaceæ.* It is a fine plant, found in woods of Canada and Ohio. It gives, in May, brownish-purple, erect flowers, in a terminal raceme.

Ad'amant, *n.* [Lat. *adamas*, insuperable.] A stone, imagined by poets, of impenetrable hardness.

"Satan came tow'ring, armed in *adamant* and gold."— *Milton.*

— The diamond, and also the loadstone. (*Obs.*)

Adamanta'a, (*Myth.*) Jupiter's nurse in Crete. She suspended the infant god to a tree, that he might be found neither on the earth, the sea, nor in heaven. To drown his cries, she had cymbals sounded and drums beaten around the tree.

Adamante'an, *a.* Hard as adamant.

Adaman'tine, *a.* Resembling, or having the qualities of, adamant.

Adamantine spar. See CORUNDUM.

Adam'ic, *a.* Relating to Adam.

Adam'ite, and **Adam'ine,** *n.* (*Min.*) An orthorhombic hydrous arsenate of zinc. *Comp.*, arsenic acid, 40.2; oxide of zinc, 56.7; water, 3.1. Lustre vitreous, strong; color honey-yellow, violet; streak white. Transparent. Found in Chili.

Ad'amites, *n. pl.* (*Eccl. Hist.*) A sect, in the early age of the Christian church, said to have professed an exact imitation of the primitive state of innocence. They reappeared in the 15th century in Bohemia.

Adamit'ic, *a.* Relating to an Adamite.

Ad'ams, CHARLES B., an American naturalist, B. 1814, devoted much of his time to the study of the Molluscs. He published many papers on Conchology. D. 1853.

Ad'ams, CHARLES FRANCIS, an American diplomatist, son of John Quincy Adams, B. in Boston, 1807. He spent the most of his boyhood in Europe with his father, was admitted to the bar in 1828; served 3 years in the lower and 2 in the upper house of the Mass. legislature. President of the Buffalo Convention, in 1848, he was the candidate for vice-president along with Mr. Van Buren. After representing Mass. in the 36th and 37th Congress, he was sent minister to England, 1861, recalled in 1868, and in 1871 was appointed U. S. arbitrator on the "Alabama Claims" in the Convention held at Geneva. He is the author of standard biographies of his grandfather, John Adams, and of his father, J. Q. Adams. D. 1886.

Ad'ams, HANNAH, B. in Massachusetts, D. at Brookline, Dec. 25, 1831, aged seventy-six years. She was a learned woman of great excellence and purity of character. Her principal works, known and appreciated in Europe as well as in America, are, the "View of Religion," "History of the Jews," and a "History of New England."

Ad'ams, JOHN, the second president of the United States, was born at Braintree, near Boston, on the 19th of October, 1735, (O. S.) Before the rupture between Britain and America he practised as a lawyer, and, in 1770, he was one of the *select* men deputed by the several towns of the province, who met in convention at Boston, where the British government had announced their intention of stationing a military force, to make the people submit to the new imposts on tea, glass, paper, &c. In 1773, he became a member of the council of state, and devoted all his energies to promote the cause he had espoused. He advocated and seconded the Declaration of Independence, which was passed on the 4th of July, 1776, and which was drawn up by Mr. Jefferson. In 1780 he represented the United States in Holland, and in 1782 co-operated with Franklin and the other American commissioners in negotiating a treaty of peace with Great Britain. In 1785 he became the first minister residentiary to the Court of St. James, and stayed in England till 1788. In 1789, when Washington was elected president, he was made vice-president, and in 1793 had the same office again conferred upon him. In 1797, on the retirement of Washington, he was chosen President, and at the close of his term of four years, being defeated in the candidateship for re-election by a majority of eight votes, given to his Democratic adversary Jefferson, he retired from public life, and d. at Quincy, 1826. It was on the 50th anniversary of the Declaration of American Independence that Mr. Adams died, and Jefferson, his coadjutor in laying the foundation of the great commonwealth of the New World, expired on the same day. As an author, Mr. Adams is known by a work entitled, "A Defence of the Constitution and Government of the United States," which afterwards reappeared with the title of "History of the Principal Republics of the World." His son, John Quincy Adams, was elected president of the Union in 1825.

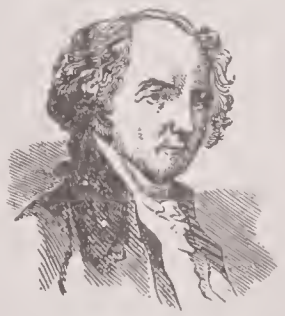


Fig. 31. — JOHN ADAMS.

Ad'ams, JOHN, the patriarch of Pitcairn's Island, and one of the mutineers of the English ship Bounty, 1789. He settled with several others in Pitcairn's Island, and became, from a rough and desperate character, a humane and religious man: he introduced Christianity and the laws of marriage amongst those that were with him on the island, and regulated the community entirely upon Christian principles. D. 1829.

Ad'ams, JOHN QUINCY, 6th Pres. of the U. States, and one of the greatest of American orators, diplomatists, and statesmen, was the eldest son of John Adams (*q.v.*), and B. at Braintree, Mass., July 11, 1767. Taken to Europe by his father, while yet a youth, he pursued his studies at Paris and Leyden, and at the age of 14 was appointed private sec. to Francis Dana, then American Minister at St. Petersburg. He afterwards witnessed the treaty of peace signed at Paris, 1783, and then resided for some time in London. On his return home, he graduated at Harvard in 1788, studied law, and was admitted to the Boston bar in 1791. He soon became known as an able publicist by a series of essays that appeared in the Boston

"Centinel," in which he insisted upon absolute neutrality being observed by the U. S. in the war then raging between France and Gr. Britain. In 1794 he proceeded to Holland as minister; and in 1797 to Berlin, where he negotiated a treaty with the Prussian govt. In 1803 he was elected U. S. senator, and in 1805 appointed professor of rhetoric at Harvard. In 1807, discarding his Federalist ties, he allied himself to the Democratic party, and by so doing forfeited his seat in Congress. In 1809 he was appointed minister to Russia, and in 1813 was named one of the commissioners who negotiated at Ghent a treaty of peace with England. In 1815 he proceeded to London as U. S. minister, where he remained till 1817, when he was appointed sec. of state under Mr. Monroe. In this office he distinguished himself specially by his arrangement of the treaty with Spain, which defined the boundaries of the ceded territories of Florida and Louisiana. In 1825, no one of the candidates to the presidency having received an absolute majority of the electors, the election came into the House, where, owing to the influence of Henry Clay, *A.* was chosen at the first ballot. His administration was marked by the imposition of a high tariff on foreign goods, with the view of promoting internal industry, and by the unsuccessful attempt to purchase Cuba from Spain. *A.* failed to secure his re-election in 1829. Defeated by Jackson, who had 178 votes to his 83, he retired to Quincy, where his father's fortune, increased by his own efforts, afforded him an ample competency. In 1831, he was returned to Congress by the district in which he lived, and which he continued to represent until his death. Having been chosen merely on account of his determined resistance to secret societies, his position was independent of party politics, and correspondingly strong. The scope of this work does not permit us to dwell on the history of his congressional career, which would fill a volume; but we must notice that, in every form which the question took, he was the bold and determined advocate of abolition of slavery, gradually gathering an influential party around him, and so preparing for the triumphs which have been won since his death. His voice was weak, his manner unpleasing, and, though perfectly self-possessed he had most generally the appearance of speaking in a passion or ill humor; but he always commanded the attention of his audience by the originality of his views and the wonderful variety of his illustrations. *A.* was a ready and fertile writer — both in prose and verse. His style is fluent, but has none of the vigor, elegance, wit, and even genius which sparkle in his father's writings. He kept during his whole lifetime a very voluminous journal, which has been partly published. Seized with paralysis while attending the debate of congress, February 21, 1848, he D. two days afterwards. See *Memoirs of J. Q. Adams*, by his son, Charles Francis A. (Phila., 1877.)

Ad'ams, SAMUEL, a member of the American Congress, and one of the strongest advocates of the political separation of this country from Great Britain. B. 1722, D. 1803.

Adams, WILLIAM TAYLOR, a very popular author of juvenile literature, under the pen-name OLIVER OPTIC, was born at Medway, Mass., July 30, 1822. Was teacher in the public schools of Boston for 14 years, member of the Dorchester School Committee, and served one year in the Mass. Legislature. His works embrace about a score of novels for young readers, and over a thousand shorter newspaper stories. Died March 27, 1897.

Adams, in *Illinois*, a western co., bordering on the Mississippi river. *Area*, 830 sq. m. It is drained in the N.W. part by Bear Creek, an affluent of the Mississippi. *Prod.*, corn, wheat, oats. The soil, generally very rich, is mostly cultivated; hogs are raised in large quantities. *Cap.* Quincy. *Pop.* (1890), 61,888.—Also a township of La Salle co.

—In *Indiana*, an eastern co., bordering on Ohio. *Area*, 324 sq. m. Good soil, drained by the Wabash and the St. Mary's rivers, and covered in part by forests of oak, beech, ash, hickory and elm. *Cap.* Decatur. *Pop.* (1890), 20,181.—Also the name of 9 twps. in Allen, Carroll, Cass, Decatur, Hamilton, Madison, Morgan, Parke and Ripley cos.

—In *Iowa*, a S.W. co., drained by the Nodaway river; *area*, 432 sq. m. *Cap.* Corning. *Pop.* (1895) 12,934.—Also 5 townships of that name in Dallas, Delaware, Keokuk, Mahaska, and Wapello cos.

—In *Massachusetts*, a township in Berkshire co., comprising four villages, N. Adams, S. Adams, Maple Grove and Brackinton. *Manuf.* Numerous mills, print-works, &c.

—In *Michigan*, a township of Hillsdale co.

—In *Minnesota*, a township of Mower co.

—In *Mississippi*, a S.W. co., separated from Louisiana by the Mississippi river. *Cap.* Natchez. *Pop.* (1898) 29,460.

—In *Nebraska*, a S. central co. *Surface*, undulating; *soil*, fertile. *Cap.* Hastings. *Pop.* (1898) 30,100.

—In *Ohio*, a co. b. on the Ohio river, which separates it from the State of Kentucky. *Area*, 500 sq. m. *Surface*, hilly and well timbered; *soil*, fertile. *Prod.*, corn, wheat, and oats.—Mines of iron in the S. E. part of the co. It is drained by Brush Creek. *Cap.*, West Union. *Pop.* (1890), 26,648.—Also 10 twps. of that name in Champaign, Clinton, Coshocton, Darke, Defiance, Guernsey, Monroe, Muskingum, Seneca and Washington cos.

—In *New York*, a township and village of Jefferson co., 156 m. W. N. W. of Albany.

—In *Pennsylvania*, a co. bordering S. on Maryland. *Area*, 530 sq. m. *Prod.*, wheat, corn, oats, hay and butter. *Min.*, copper and Potomac marble. *Rivers*, the Conewago creek and its branches. *Cap.*, Gettysburg. *Pop.* (1898) 34,440.—Also a township of Butler co.

—In *Wisconsin*, a S. central co., drained by the Wisconsin river. *Area*, 690 square miles. *Cap.* Friendship. *Pop.* (1890), 6,889.—Also the name of 2 twps. in Adams and Green cos.

Adam's-apple, *n.* (*Anat.*) A prominent part of the throat, being the projection formed by the thyroid cartilage in the neck.

(*Bot.*) The fruit of the plantain-tree, *Musa paradisiaca*; so called by Gerarde and other old authors, from a notion that it was the forbidden fruit of Eden.

Adam's Basin, in *New York* state, a post-village of Monroe co., on the Erie canal, about 230 miles W. by N. of Albany.

Adam's Bridge, a series of sand-banks, which, with two small islands, extend from a point in the southern peninsula of India (140 miles north-east of Cape Comorin) to the opposite island of Ceylon. The width of the channel is about 60 geog. miles, and there are only two navigable passages in it. One, called the Manaar Passage, which separates the small island of Manaar from the adjacent coast of Ceylon, has not more than 4 ft. water at flood-tide. The other, called the Paumbeen, and separating the main land from the island of Ramisseram, is very narrow, and not more than 6 ft. deep at high water. The space between the two nearest points of Manaar and Ramisseram, which is about 30 miles wide, is a bank of sand, only covered at high water. Thus, if a vessel of moderate size has occasion to sail from any one point N. of the Bridge into the Gulf of Manaar, it must make the whole circuit of the island of Ceylon.

Ad'amsburg, in *Missouri*, a post-village of Gasconade co., about 50 miles E. by S. of Jefferson, on the road from St. Louis to Jefferson city.

Adamsburg, in *Pennsylvania*, a post-village of Westmoreland co., 183 miles W. of Harrisburg, on the road from Greensburg to Pittsburg.

Adam's Centre, in *New York* state, a post-village of Jefferson co., 162 miles N.W. of Albany, on the north branch of Sandy Creek.

Adam's Mills, in *Kentucky*, a post-office of Pulaski co.

Adam's Mills, in *Ohio*, a post-village of Muskingum co., 61 miles E. of Columbus, on the Ohio canal.

Adam's Mount, in *New Hampshire*. See MOUNT ADAMS.

Adam's Mount, in *Oregon*, a mountain, 30 miles N. of the Columbia river, and about 25 miles E. of the Cascade mountains ridge.

Adam's Niddle. See YUCCA.

Adam's Peak, a lofty mountain in the centre of the island of Ceylon. Height, 7,420 feet.

Adam's Point or **Cape,** in *Oregon*, on the S. side of the mouth of Columbia river. Lat. 46° 12′ N.; lon. 123° 56′ W.

Adamson, in *Georgia*, a village of Clayton co.; *pop.* 1,235.

Adam's Store, in *Alabama*, a small hamlet of Tallapoosa co.

Adam's Store, in *South Carolina*, a post-office of Mecklenburg co.

Adamstown, in *Maryland*, a post-village of Frederick co.

Adamstown, in *Pennsylvania*, a post-village of Lancaster co., 20 miles N. of Lancaster.

Adamsville, in *Georgia*, a village of Cass co., about 150 miles N.W. of Milledgeville.

Adamsville, in *Massachusetts*, a post-village of Franklin co., 104 miles W. of Boston.

Adamsville, in *S. Carolina*, a township of Marlboro county.

Adamsville, in *Pennsylvania*, a post-village of Crawford co., 250 miles N.W. of Harrisburg.

Adamsville, in *Ohio*, a village of Muskingum county.

Adamsville, in *Wisconsin*, a post-village of Iowa co.

Ad'anson, MICHEL, a French naturalist, who is supposed to have imbibed his love of natural history from his preceptors, the celebrated Reaumur and Bernard de Jussieu. His genius being of that active kind which delights in adventure, in his 21st year he set out for a voyage to Senegal, where he spent five years in making collections illustrative of his favorite pursuits. In 1753 he returned to Paris, greatly reduced in circumstances; and after the French revolution we find him so poor that, on being invited to become a member of the Institute of France, he was compelled to refuse, because he could not make his appearance for the "want of shoes." About the close of his life he enjoyed a small pension from the French government. B. at Aix 1727, d. 1806. — Adanson wrote a work entitled "The Natural History of Senegal," and another under the name of "The Families of Plants," in which he advocated a system of classification different from that of Linnæus. Adanson was a great friend of civil liberty, and an ardent philanthropist, being among the first to advocate slave emancipation.

Adanso'nia, *n.* (*Bot.*) See BAOBAB.

Ad'apis, *n.* (*Pal.*) A name originally applied by Gesner to the Hyrax or coney of Scripture, and adopted by Cuvier to designate another small pachydermatous quadruped, now extinct, but the existence and nature of which that great naturalist detected and deduced from three fragments of the head, which were discovered in that immense depository of fossil bones, the gypsum quarries of Montmartre. Cuvier supposes the animal to have been about the size of a rabbit, and to have closely approximated the Anoplotheria.

Adapt', *v. a.* [Fr. *adapter.*] To fit one thing to another; to suit; to proportion.

Adaptabil'ity, and **Adapt'ableness,** *n.* The quality of being adaptable.

Adapt'able, *a.* Able to be adapted.

Adapta'tion, and **Adap'tion,** *n.* The act of fitting; the fitness of one thing to another.

Adapt'edness, *n.* State of being adapted.

Adapt'er, *n.* One who adapts.

(*Chem.*) A piece of tube of more or less conical form, used to elongate the neck of a retort, and to connect it with a receiver.

Adap'tive, *a.* Tending to adapt.

Adap'tiveness, *n.* Suitableness.

Adapto'rial, *a.* Tending to fit. (R.)

A'dar, [Heb., splendor.] The twelfth month of the ecclesiastical and the sixth of the civil year of the Jews. It comprehends a portion of February and the beginning of March.

Ad arbitrium. [Lat.] At will or discretion.

Adar'io, in *Ohio*, a post-office of Richland co.

Adario, in *Wisconsin*, a village of Waukesha co.

Adar'me, *n.* [Sp.] A small Spanish weight, the sixteenth part of an ounce troy.

Adar'sa, or **Adasa,** (*Anc. Geog.*) a city of Ephraim, not far from Gophna, where Nicanor was defeated by Judas Maccabeus.

Ad'atis, or **Ad'atais,** *n.* A fine cotton cloth of India.

A-days', *ad.* Now only used in the compound *now-a-days*; *i.e.*, at the present time, of late.

Add, *v. a.* [Lat. *addo.*] To join something to that which was said or made before; — to perform the mental operation of adding one number or conception to another.

Add, *v. n.* To increase; to augment; — followed by *to* or *unto*.

"My father made your yoke heavy, and I will *add* to your yoke." — 1 *Kings* xii. 14.

Ad'da, *n.* (*Zoöl.*) The Arabic name for a small species of lizard found in Arabia, Egypt, and Nubia, wherever the smallest degree of moisture exists. It is celebrated by the eastern physicians on account of its pretended efficacy in the cure of elephantiasis, leprosy, and other cutaneous diseases.

Adda, a river in Switzerland, which rises in the Grisons, runs through the Valteline and the Lake of Como, by Lecco, and falls into the Po, near Cremona.

Ad'dable, *a.* See ADDIBLE, which is more proper.

Ad'dax, *n.* [Ar. *addas.*] (*Zoöl.*) A species of antelope, called by the ancients strepsiceros, from the spiral or twisted form of its horns. It is found in the barren sands of Nubia and Kordofan.

Addec'imate, *v. a.* [Lat. *addecimare.*] To take the tenth part of; to decimate.

Adden'dum, *n.*; *pl.* **Addenda.** [Lat.] (*Med.*) Something to be added.

Ad'der, *n.* [A. S. *aetter*, poison.] (*Zoöl.*) 1. A venomous reptile; a viper. (See VIPER.) — This name is used in the Bible, as the representative of four Hebrew names of poisonous serpents. — 2. The fifteen-spined stickleback, a species of marine fish on the English coast, commonly called the *great sea-adder*.

Ad'der-fly, *n.* The dragon-fly.

Ad'der-gem, *n.* A species of charm.

Ad'der's-grass, *n.* A plant about which serpents lurk.

Adder-stone, *n.* A stone or bead used by the Druids as an amulet.

Adder's-tongue, *n.* (*Bot.*) The vulgar name of the ord. *Ophioglossaceæ*, *q. v.*

Ad'der's-wort, *n.* (*Bot.*) The snake-weed, an herb of the sub-gen. *Polygonum bistorta*, ord. *Polygonaceæ*.

Addibil'ity, *n.* The possibility of being added.

Ad'dible, *a.* That which may be added.

Ad'dice, *n.* See ADZE.

Addict', *v. a.* [Lat. *addico.*] To devote; to dedicate. It is commonly taken in a bad sense; as, "He *addicted* himself to vice."

Addict'ed, *p. a.* Accustomed; abandoned, devoted to.

Addict'edness, *n.* The quality or state of being addicted.

Ad'dicti, *n. pl.* [Lat.] A term among the Romans, applied to persons who, being unable to pay their debts, became the slaves of their creditors.

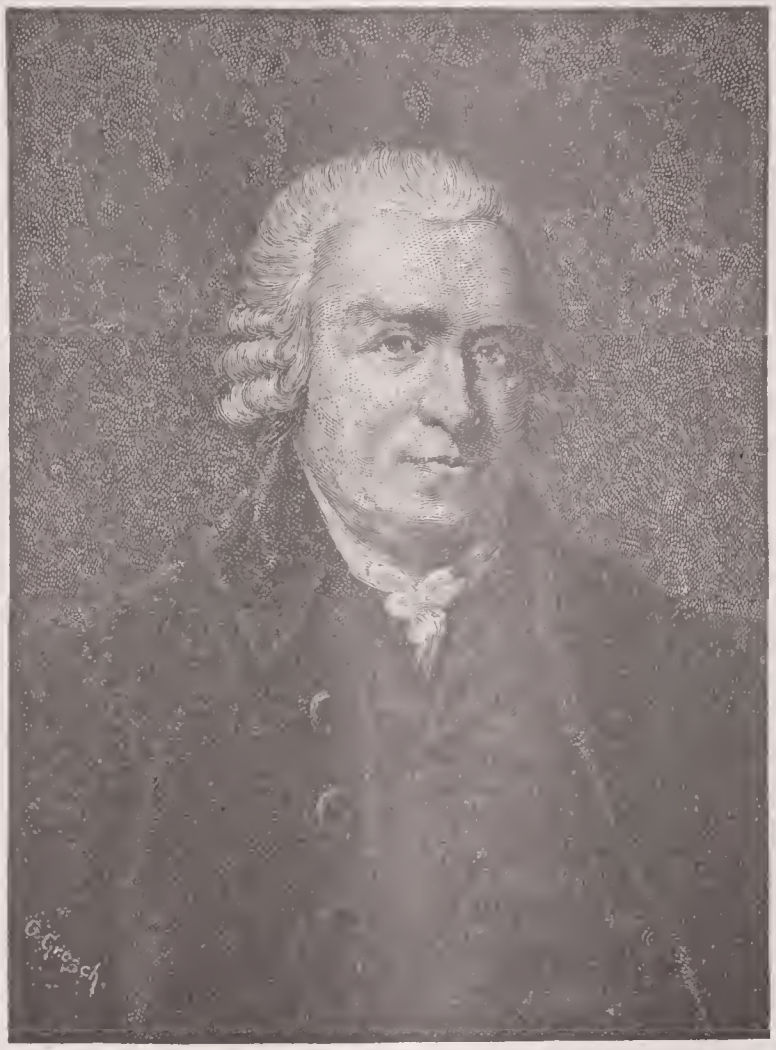
Addic'tion, *n.* The act of devoting, or giving up; the state of being devoted.

"It is a wonder how his grace should g'ean it,
Since his *addiction* was to courses vain." — *Shak.*

Ad'dington, HENRY. See SIDMOUTH, LORD.

Addington, a co. in Ontario, bordering on Lake Ontario, and drained by the Nepanee river. *Trade*, lumber and wool; chief town, Bath. *Pop.* 21,312.

Ad'dison, JOSEPH, an English poet and miscellaneous writer, b. in 1672, at Milston, where his father was rector. At the age of 15, he was entered at Queen's College, Oxford. In 1693, he took his degree of M. A., and became eminent for his Latin poetry. At the age of 22, he addressed some verses to Dryden, in English, and, not long after, published a translation of part of Virgil's fourth Georgic. About this time, he composed the *Essay on the Georgics*. In 1695, he addressed a poem to king William, which recommended him to Lord Somers. In 1699, he obtained a pension of £300 a year, to enable him to travel. He made the tour of France and Italy, improving his mind to the best advantage, as appears from his *Letter to Lord Halifax*, which is considered the most elegant of his poetical works, and his *Travels in Italy*, which he dedicated to Lord Somers. He returned in 1703, and found his old friends out of place. In 1704, he was introduced to Lord Godolphin as a fit person to celebrate the victory of Blenheim, and produced "*The Campaign*," for which he was rewarded with the place of commissioner of appeals. Next year, he went to Hanover with Lord Halifax, and soon after was appointed Under-Secretary of State. When the marquis of Wharton went to Ireland as lord-lieutenant, *A.* accompanied him as secretary, and was made keeper of the records there, with a salary of £300 a



Samuel Adams

1722–1803

Joseph Addison

1672–1719

year. While he was in Ireland, Steele, his friend, commenced the *Tattler*, to which *A.* liberally contributed. This was followed by the *Spectator*, which he also enriched by his contributions, distinguished by one of the letters of the word CLIO. In 1713, his tragedy of *Cato* was brought upon the stage, amidst the plaudits of both Whigs and Tories. In 1716, he married the countess-dowager of Warwick, to whose son he had been tutor; but the marriage did not prove happy. In 1717, he became secretary of state, which office he soon resigned, on a pension of £1,500 a year. In 1719, he engaged in a political dispute with his old friend and coadjuter Steele, whom, in his pamphlet of the *Old Whig*, he contemptuously styled "Little Dicky." D. at Holland House, 1719. It is said that when he found the pressure of death upon him, he sent for Lord Warwick, and, affectionately pressing his hand, whispered, "See in what peace a Christian can die!" He left only a daughter, who died, unmarried, in 1797. The literary greatness of *A.*, in the estimation of his contemporaries, probably stood upon somewhat different grounds from those upon which it is now usually placed. In his own day, he was looked upon as a dramatist and a poet of a very high order; but the taste which then prevailed in poetry was the most artificial which had distinguished any age of English literature. The quality which chiefly drew admiration was a cold and monotonous polish — the warmth of genuine nature was accounted rudeness and barbarism. The return of the public mind to truer principles has been fatal both to the dramatic and to the poetical fame of *A.* His glory is now that of one of our greatest writers in prose. Here, with his delicate sense of propriety, his lively fancy, and, above all, his most origiual and exquisite humor, he was in his proper walk. He is the founder of a new school of popular writing, in which he is still unsurpassed by any who have attempted to imitate him.

Ad'dison, in *Illinois*, a twp. of Du Page co.

Addison, in *Indiana*, a flourishing township of Shelby county.

Addison, in *Maine*, a township of Washington co., 135 m. E. by N. of Augusta.

Addison, in *Michigan*, a post-village of Lenawee co., 20 miles W.N.W. of Adrian.

—*Also*, a township of Oakland co.

Addison, in *Nebraska*, a village of Knox co.

Addison, in *New York*, a village and post-township of Steuben co., on the Canisteo river, 303 miles from New York.

Addison, in *Ohio*, a village of Champaign co., about 25 miles N.N.E. of Dayton.

—*Also*, a post-village and township of Gallia co., near Gallipolis.

Addison, in *Pennsylvania*, a post-township of Somerset co., 153 miles S.W. of Harrisburg.

Addison, in *Vermont*, a county organized in 1787, bordering on Lake Champlain, and drained by the Otter Creek. *Area*, about 750 sq. miles. The E. part of this county is mountainous, but along the lake-shore the surface is level and the soil fertile. Quarries of white and variegated marble. Cap. Middlebury.

—In the above county, a post-township, 43 miles W.S.W. of Montpelier.

Addison, in *Wisconsin*, a post-township of Washington co., 36 miles N.W. of Milwaukee.

Addison Point, in *Maine*, a post-office of Washington co.

Addi'tion, *n.* [Lat. *addo*, I give to.] The act of adding one thing to another; the thing added. — Augmentation.

(*Arith.*) The putting two or more quantities together so as to form one total. It is the first of the four fundamental rules of arithmetic, the operation of which consists in adding together first the units, then the tens, then the hundreds, and so on; thus substituting for the original operation of adding the entire number, several simple and easier operations. When the quantities to be added consist of several denominations which divide themselves into each other, as in the case of hundredweights, pounds, and ounces, or yards, feet, and inches, the smaller denominations are first added together, and should their product equal or exceed the quantity of a superior denomination, it is carried to the next column of figures denoting that superior denomination. In *addition* of fractions, the various fractions must be first reduced to the same denomination, in order that they may represent quantities of equal value; then add together all the numerators of the fractions so reduced, and give to their product the common denominator.

(*Alg.*) In *addition* of algebraical quantities, they should all be written one after another, without changing any of the signs, and the terms which before had no sign, should be connected with the rest by the sign +. Thus $a+b$ and $a-2b$, added, $=a+b+a-2b$; or the sum may be reduced to a simpler form by observing that b subtracted twice and added once is equivalent to b subtracted once, and that a is added to a; the expression then becomes $2a-b$.

(*Music.*) The term applied to a dot placed on the right side of a note, to signify that it is to be sounded half as long again.

(*Law.*) *Additions* are those designations affixed to a person's name by way of title. — *A. of degrees* are the same with titles of honor; *A. of estate*, such as esquire, gentleman, &c.; *A. of mystery or trade*, are, baker, mason, &c.; *A. of place or residence*, are, of Philadelphia, Boston, &c.

Addi'tional, *a.* That is added.

Addi'tionally, *ad.* In addition.

Additi'tious, *a.* Added without good authority.

Ad'ditive, *a.* Something to be added, in contradistinction to subtractive, which denotes something to be taken away. The terms additive and subtractive are sometimes applied to algebraic quantities, to denote those relations to other quantities which are more commonly, though less correctly, expressed by positive and negative.

Ad'dle, *a.* [A. S. *ydel*, idle, barren.] Originally applied to eggs, and signifying such as produce nothing, but grow rotten under the hen; thence transferred to brains that produce nothing.

"Thus far the poet; but his brains grow *addle*:
And all the rest is purely from this noddle." — *Dryden.*

Addle-pated, *a.* Having addled brains.

"Poor slaves in metre, dull and *addle-pated*,
Who rhyme below even David's psalms translated." — *Dryden.*

Addle, *v. a.* To make addle; to corrupt; to make barren: "This is also evidenced in eggs, whereof the sound ones sink, and such as are *addled* swim." — *Brown.*

Add'lings, *n. pl.* Earnings; wages for labor; — a name only used in some parts of England.

Addorsed', *a.* [Lat. *ad*, to, and *dorsum*, the back.] (*Her.*) A term used when any two animals or other things are placed back to back.

Address', *v. a.* [Fr. *adresser*.] To apply to another by words, with various forms of construction: sometimes without a preposition.

"Are not your orders *to address* the Senate?" — *Addison.*

Sometimes with *to*; as, "*Addressing to* Pollio, his great patron, he no longer could restrain the freedom of his spirit." — *Dryden.*

Sometimes with the reciprocal pronoun; as, he *addressed himself* to the general.

Sometimes with the accusative of the matter of the address, which may be the nominative to the passive; as, "The young hero had *addressed* his *prayers* to him for his assistance." — *Dryden.*

—To prepare one's self to enter upon an action; as, he *addressed* himself to the work.

—To court, as a lover.

—To get ready; to put in a state for immediate use.

"To-night in Harfleur we will be your guest,
To-morrow for the march we are *addrest*." — *Shak.*

—To superscribe or direct, as a letter.

Address, *n.* [Fr. *adresse*.] Verbal application to any one, by way of persuasion, petition.

"Venus had heard the Virgin's soft *address*." — *Prior.*

—Courtship:

"But, tell me, whose *address* thou favor'st most;
I long to know, and yet I dread to hear it." — *Addison.*

—Manner of addressing another; as, we say, *a man of happy address, a man of an awkward address.*

—Skill, dexterity; as, "Those events are imputed to his profound skill and *address*."

—Manner of directing a letter.

Address'er, *n.* One who addresses.

Adduce', *v. a.* [Lat. *adducere*.] To bring forward; to present, or offer; to advance; to allege; to cite.

Addu'cent, *a.* [Lat. *adducens*.] (*Anat.*) A word applied to those muscles that bring forward, close, or draw together the parts of the body to which they are annexed. See ADDUCTOR.

Addu'cer, *n.* One who adduces.

Addu'cible, *a.* Capable of being adduced.

Adduc'tion, *n.* [Fr. *adduction*.] The act of adducing or bringing forward.

(*Anat.*) The action of the adducent muscles.

Adduc'tive, *a.* Adducing, or bringing forward.

Adduc'tor, *n.* [Lat. *adduco*, I draw towards.] (*Anat.*) The muscles opposed to the abductors: they draw together, or bring forward, the parts to which they are attached.

A'del, *n.* An Egyptian weight, less than the English pound.

A'del, a country of E. Africa. See ADAL.

A'del, or **Adell,** in *Iowa*, a township of Dallas county. In this township, a post-village of the same name, the cap. of the county, on the Racoon River, about 24 miles W. of Des Moines.

Ad'elaide, marchioness of Salisbury. Edward III., king of England, who was much taken with her charms, picked up, at a ball, one of her garters, which had fallen off in the dance. At seeing the lords and ladies laughing, Edward buckled the garter around his knee, and said, *Honi soit qui mal y pense* (evil be to him who evil thinks). This incident is said to have given rise to the order of the knights of the Garter, 1344, an origin very much questioned by modern writers.

Ad'elaide, AMELIA LOUISA TERESA CAROLINE, wife of William IV., and queen of England. She was sister to the Duke of Saxe-Meiningen, and was married July 11, 1818. She was a lady possessed of many exalted virtues, and was a liberal benefactress of the poor. B. 1792, d. 1849.

Adelaide, EUGÉNIE LOUISE, princess of Orleans, daughter of Louis Philippe Joseph, duke of Orleans, nicknamed Egalité, and sister of Louis Philippe, king of France. B. at Paris 1777, d. in that city Dec. 31, 1847, two months before the dynasty of Orleans fell. Proscribed as an *emigré* in 1792, she spent the greatest part of her exile in a convent, near Freiburg, Switzerland; rejoined her brother in England in 1809, and went with him to Sicily, where she lived until the restoration. After the revolution of July, 1830, she urged her brother to accept the throne. Madame Adelaide, as she was now always called, was a great politician, and had much weight with the late king of the French. The general opinion in France is, that, had she lived two months more, Louis Philippe would not have departed for a new and last exile.

Ad'elaide, the cap. of South Australia and the seat of government, stands on the river Torrens, which divides it into two parts. The University of *A.* is a flourishing institution and well endowed. At a distance of eight miles, and on the shore of the Gulf of St. Vincent, is Port *A.*, where are built wharves, warehouses, and every convenience for merchants and shippers. *A.* was founded in 1836, and in 1845 its port was made free to all nations. *Pop.* (1895) 136,760. Lat. 34° 36′ S., lon. 128° 30′ E.

Adelaide, a river in the N.W. of Australia, falling into Adam bay, and navigable for 50 miles to all vessels drawing 12 feet of water.

Adelanta'do, *n.* [Sp.] A governor of a province in Spain.

Ad'eline, in *Illinois*, a post-village of Ogle co., about 4 miles N. of Dixon.

Ad'eling, *n.* [A. S. *aedel*, illustrious.] A word of honor among the Anglo-Saxons, properly appertaining to the king's children; king Edward the Confessor, being without issue, and intending to make Edgar his heir, called him *Adeling*.

Ad'elites, *n. pl.* A sort of Moorish conjurers, who predicted the fortunes of individuals by the flight and singing of birds, and other accidental circumstances.

Ad'ell, in *Wisconsin*, a post-office of Sheboygan co.

Ad'elnau, a district in the prov. of Posen, Prussia, abounding in game and fish, but scantily supplied with corn and cattle. *Area*, 367 square miles. *Pop.* 52,539.

Adel'opod, *n.* [Gr. *a*, priv., *delos*, manifest, and *pous*, a foot.] (*Zoöl.*) An animal whose feet are not apparent.

Adel'phi, in *Iowa*, a post-village of Polk co., on the Des Moines river.

Adelphi, in *Ohio*, a post-village of Ross co., in Colerain township.

Adel'phia, *n.* [Gr. *adelphos*, a brother.] (Bot.) A collection of stamens into a bundle. Linnæus employed this term for those plants in which the stamens, instead of growing singly, combine into one or more parcels, or brotherhoods; thus, monadelphia signified stamens all connected into one parcel, diadelphia into two parcels, and so on.

Adel'pholite, *n.* (*Min.*) A columbate of iron and manganese, pertaining to the group *Fergusonite*.

Adel'phous, *a.* (*Bot.*) That is collected in bundles.

Adel'phus, a disciple of Plato, and the composer of a singular theory, then quite popular, compounded of the doctrines of Plato, the Gnostics, and others. He was opposed to Plotinus. Flourished in the 3d century.

Ad'elsberg, a small market-town in the duchy of Carniola, Austria, 22 miles from Laybach, celebrated for some remarkable caverns found in its neighborhood.

Ad'elung, JOHANN CHRISTOPH, a universal linguist and grammarian, b. at Spantekon, in Pomerania, 1732; d. at Dresden, 1806. He is best known by his "Grammatical and Critical Dictionary."

Ad'emar, a monk, who wrote chronicles of France, which were published by Labbe. He flourished in the 10th century.

Ademp'tion, *n.* [Lat. *ademptio*.] (*Law.*) The taking away of a donation, legacy, &c.

Aden-, a Greek word signifying gland, used in medical language as prefix to words relating to the study of glands; as, *adenology*, the doctrine of the glands, *adenotomy*, incision of a gland, &c.

A'den, a seaport, the capital of the state of Aden, situate on a rocky peninsula, in the S.W. extremity of Arabia, projecting into the sea. It was formerly strongly fortified, and the most opulent city of Arabia; but had altogether declined when it was, in 1840, taken possession of by the British, who have converted it from ruin and misery into a flourishing place of trade, encompassed by fruitful orchards and blooming gardens. Between the mountain-masses which command their entrance, there is a space of four miles, and vessels may take up any position in a depth of water of from 5 to 10 fathoms. On account of this, Aden has become one of the principal coaling stations of the Anglo-Indian mail-steamers, and every year it is becoming a place of greater importance. *Pop.* 40,000. Lat. 12° 46′ N., lon. 45° 10′ E.

Aden Cape, on the S. coast of Arabia, 1,776 feet in height. This rocky peninsula, on which stands the town of Aden, stretches into the ocean about 5 miles, with an average breadth of 2½ miles, and is connected with the mainland by a sandy isthmus ¾ of a mile broad.

Aden, Gulf of, is the portion of sea lying between the north coast of Adel, terminating E. with Ras Jerdaffon (Cape Gardafui), and the S. coast of Arabia, between Ras Arrah and Ras Agab; the former in lat. 12° 40′ N., lon. 44° E; the latter in lat. 15° 15′ N., lon. 51° 30′ E. Its length from E. to W. is thus about 480 miles; its breadth from N. to S. varying from 160 to 200 miles.

Adenal'gia, *n.* [Gr. *aden*, a gland, and *algos*, pain.] Pain in the glands.

A'denara, or **Adanara,** a Dutch island in the Malay Archipelago, about 35 miles long, and 15 broad. Lat. 8° 17′ S., lon. 123° 14′ E.

A'denburg, a town of Westphalia, in the duchy of Berg, 12 miles from Cologne.

Aden'iform, *a.* Having the appearance of a gland.

Aden' Kalessi, a Turkish fortress on an island in the Danube, where there are bomb-proof casemates for two hundred men.

Adenog'raphy, *n.* [Gr. *aden*, gland, and *graphein*, to write.] (*Anat.*) A treatise or description of the glands.

Ad'enoid, *a.* [Gr. *aden*, gland, and *eidos*, form.] Resembling a gland. This epithet is ordinarily applied to the two *prostatæ*.

Adenolog'ical, *a.* Relating to adenology.

Adenol'ogy, *n.* [Gr. *aden*, gland, and *logos*, discourse.] (*Med.*) The doctrine of the glands.

Ad'enore, a town of Hindostan, in the Carnatic, 5 miles S. of Volconda.

Adenose', and **Ad'enous,** *a.* Resembling a gland.

Adenosty'leæ. [Gr. *aden,* a gland, and *stylos,* a column or style.] (*Bot.*) A subdivision of composite plants, comprehending tussilago, liatris, eupatorium, and some other genera, in which the branches of the style are covered with long glandular hairs.

Adenophyl'lous, *a.* (*Bot.*) Having glands on the margin of the leaves.

Adenot'omy, *n.* (*Anat.*) The art or mode of incising glands.

Ad'enous, and **Adenose,** *a.* [Gr. *aden,* a gland.] Gland-like.

A'deodatus, (God's gift,) a pious and charitable pontiff, who obtained the tiara in 672. B. at Rome; D. 676.

A'deps, *n.* [Lat.] The fat of an animal; lard.

Adept', *n.* [Fr. *adept,* from Lat. *adipiscor,* I obtain.] One completely skilled in all the secrets of his art. This name, since generalized, was originally applied only to alchemists who had penetrated into the mysteries of transmuting metals, or making the *Grand Elixir,* called the *Philosopher's Stone.*

"The preservation of chastity is easy to true *adepts.*"—*Pope.*

Adept', *a.* Skilful; thoroughly versed; as, an *adept* philosopher.

Adep'tist, *n.* An adept. (O.)

Ad'equacy, *n.* [From *adequate.*] The state or quality of being adequate; sufficiency for a particular purpose.

Ad'equate, *a.* [Lat. *adæquatus.*] Equal to; proportionate; correspondent to, so as to bear an exact resemblance or proportion.

"All our single ideas are *adequate;* because, being nothing but the effects of certain powers in things, fitted by God to produce such sensations in us, they cannot but be correspondent and *adequate* to those powers."—*Locke.*

Ad'equately, *ad.* In an adequate manner; —often used with *to.*

Ad'equateness, *n.* [From *adequate.*] The state of being adequate; justness of representation; exactness of proportion.

Ader'no, (anc. *Adranum,*) a town of Sicily, at the S.E. foot of Mount Etna, near the Simeto, 17 miles N.W. of Catania. *Pop.* 12,877.

Ad'ersbach Rocks, a range of mountains in the district of Glatz, valley of the Riesengebirge, Silesia, remarkable as being divided, for several miles, into detached perpendicular columns by fissures from 600 to 1,200 feet in depth. Geologists suppose it to have been of tabular sandstone, of varying degrees of hardness, and that the softer portions, lying in upright seams, were gradually washed away by the action of water.

A'des, or **Hades.** (*Myth.*) The god of Hell among the Greeks, and the same as the Pluto of the Latins. The term is, by the ancients, often used to signify hell itself.

Adessenа'rians, *n. pl.* [Fr. *adessénaires.*] (*Eccl. Hist.*) A sect who held the real presence of Christ's body in the eucharist, but not by transubstantiation; 16th century.

Ad eundem. [Lat.] To the same; *i. e.* to the same degree.

Ad'fected, *a.* [Fr. *affecté.*] Compounded.— *Adfected* or *affected equations.* (*Alg.*) Equations consisting of different powers of the unknown quantity.

Adfil'iated, *a.* Affiliated.

Adfilia'tion, *n.* The same as AFFILIATION.

Ad finem. [Lat.] To, or at, the end.

Ad'fluxion, *n.* [Lat. *ad,* to, and *fluere,* to flow.] A flow, as a sap, from a drawing, not a propelling force.

Ad'hat-Ed'doulat, a Persian emperor who succeeded his uncle, Amad-Eddoulat, and by his conquests greatly enlarged his territories. In 977 he took Bagdad, and increased its beauty by the erection of hospitals, mosques, and other public works. D. 982.—This emperor was a friend of literature, and gave great encouragement to poets and men of learning.

Adhelme, son of Kenred and nephew of Ina, king of the West-Saxons. He was the first bishop of Sherborne, as he was, also, the first Englishman who wrote in Latin, and the first who brought poetry into England. D. 709, and was canonized.

Ad'hemar, WILLIAM, a celebrated French poet of Provence. D. about 1199.

Adhere', *v. n.* [Fr. *adhérer.*] To stick fast; to cleave to; as wax to the finger.

—To be consistent; to hold together.

"Why every thing *adheres* together, that no drachm of a scruple."—*Shak.*

—To be devoted; to hold; to remain firmly fixed to a party, person, or opinion.

"Two men are not living,
To whom be more *adheres.*"—*Shak.*

Adhe'rence, *n.* [Fr. *adhérence.*] Fixedness of mind; attachment; steadiness; fidelity. See ADHESION.

"Their firm *adherence* to their religion is remarkable."—*Addison.*

Adhe'rency, *n.* Steady attachment; adherence.

Adhe'rent, *a.* [Fr. *adhérent.*] Sticking to; adhering;—united with.

(*Bot.*) Growing to; adhering.

Adhe'rent, *n.* The person that adheres; one that supports the cause, or follows the fortune of another; a partisan; a follower; a believer in a particular faith.

Adhe'rently, *ad.* In an adherent manner.

Adher'er, *n.* An adherent.

Adhe'sion, *n.* [Fr. *adhésion.*] (*Phys.*) A term denoting the force with which different bodies remain attached to each other when brought into contact. It must not be confounded with *cohesion,* which is the force that unites the particles of a homogeneous body with each other. Thus, the particles which form a drop of water or quicksilver are united by cohesion; the particles of water which wet the surface of any body are united to it by adhesion. Adhesion may exist between two solid bodies, between a solid and a fluid, or between two fluid bodies. The adhesion of solid bodies is exemplified in the force required to separate two pieces of marble, whose polished surfaces have been brought into contact. The suspension of water above its level in capillary tubes, or between two plates of glass very nearly in contact, shows the adhesion of a fluid to a solid body; and an instance of the adhesion of two liquids is obtained by covering a plate of glass with oil, and bringing it into contact with the surface of water; a very sensible force is required to raise it perpendicularly from the water.

(*Surg.*) The process by which parts, naturally separate, or separated by artificial means, become united. It is caused by the effusion of a lymph, or sticky fluid, produced by inflammation: and hence it is sometimes necessary to produce inflammation, by scraping or paring, in surfaces which it is desirable to unite. This tendency of inflamed surfaces to adhere when in contact is sometimes troublesome, as in inflammations of serous membranes.

(SYN.) Adhesion and adherence cannot be taken, as formerly, the one for the other. *Adherence* is now confined to the metaphorical, and *adhesion* to the natural sense; as, a strict *adherence* to one's duty, and the *adhesion* of iron to the magnet. We say, nevertheless, "to give in one's *adhesion* to a cause or party."

Adhe'sive, *a.* Apt or tending to adhere; sticking; tenacious.

Adhe'sively, *ad.* In an adhesive manner.

Adhe'siveness, *n.* Stickiness; viscosity.

(*Phren.*) A propensity to form attachments, or to live together in society.

Adhib'it, *v. a.* [Lat. *adhibeo.*] To apply; to use.

Adhibi'tion, *n.* Application. (O.)

Ad hominem. [Lat., *to the man.*] (*Logic.*) A phrase applied to an appeal or argument addressed to the principles, interests, or passions of a man.

Adhorta'tion, *n.* [Lat. *adhortatio.*] Exhortation. (R.)

Adhor'tatory, *a.* Containing counsel or warning.

Adian'tum, *n.* [Gr., dry.] (*Bot.*) A gen. of plants, ord. *Filices* (ferns); the prettiest of all ferns, on account of the delicate, slender stalks on which the pinnules are balanced in the air. One species, on this account, is called *Capillus veneris,* and in English *Maiden's hair;* it is often confounded with the *A. pedatum,* which is a native of Canada, and abounds in damp, rocky woods.—In vain you plunge the adiantum in water, says Pliny; it always remains dry.

Syrup of capillaire is properly prepared by adding sugar and orange-flowers to an infusion of maiden's hair.

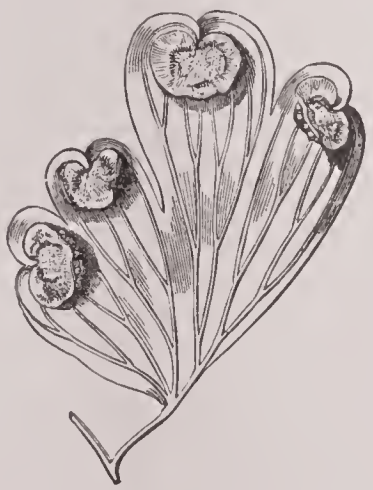


Fig. 32.—ADIANTUM.—5 *diam.*

Pinule with sori covered by indusia.

Adiaph'orites, and **Adiaphoristes,** *n. pl.* [Gr. *adiaphoros,* indifferent.] (*Eccl. Hist.*) A name given to Melancthon, and the party that agreed with him, in submitting, in things indifferent, to an edict of the emperor Charles V., 1548, styled *the Interim,* because it proposed to accommodate for a time the differences of the Catholics and Protestants, relating principally to the doctrine of justification by faith, until the whole matter could be set at rest by the authority of a council.

Adiaph'orous, *a.* (*Med.*) Neutral; incapable of doing either harm or good.

Adiapneu'stia, [Gr.] (*Med.*) A diminution or obstruction of natural perspiration, and that in which the ancients chiefly placed the cause of fevers.

Adiarrhœ'a, *n.* [Gr.] (*Med.*) A suppression of the necessary evacuations from the bowels.

Adiather'mic, *a.* [Gr.] Not pervious to heat.

Adieu', *adv.* [Fr. *adieu,* a word used elliptically for *God be with you.*] Farewell; good-bye; a form of parting originally imparting a commendation to the divine care, but now often used to things inanimate. It is an expression of kind wishes at the parting of friends, or things of which we part with regret; as, "*Adieu,* beloved country!"

Adieu is also frequently employed as a noun:

"While now I take my last *adieu,*
Heave thou no sigh, nor shed a tear."—*Prior.*

Ad'ige, [The *Athesis* of the Romans;—Ger. *Etsch.*] A considerable river of North Italy, which has its source in the Alps of Tyrol above Brixen; it enters Italy by Bolzano and the valley of Trento, flows in a southern direction by Roveredo, parallel to and for the most part about 6 miles from, the lake of Garda, then turning abruptly towards the east, passes through Verona and Legnano; it afterwards enters the great Delta between the Brenta and the Po, and forming several branches, empties its waters into the Adriatic sea. It is a deep and rapid stream, dividing by its course the old Venetian territories from Lombardy proper. The valley of the *A.* has been rendered forever memorable by the wars of Bonaparte.

Ad'igerat, or ATTEGERAT, a village of Abyssinia, 120 m. from the sea-coast.

Adimau'tus, one of the sect of the Manichees, who denied the authority of the Old Testament, in a book which was answered by St. Augustine.—Flourished at the end of the 3d century.

Ad infin'itum. [Lat.] Interminable, without end.

A'dinole, *n.* (*Min.*) The name given by Beudant to a kind of massive *albite* mixed with quartz.

Ad inquiren'dum. [Lat.] (*Law.*) A judicial writ, commanding inquiry to be made.

Ad interim'. [Lat.] Meanwhile; as, to act *ad interim.*

A'dipic Acid. [Lat. *adeps,* fat.] (*Chem.*) An acid produced in crystalline crusts by the action of nitric acid on oleic acid, suet, spermaceti, and other fatty bodies. It dissolves very readily in hot alcohol and ether. *Form* $C_6H_{10}O_4$.

Adipo'cerate, *v. a.* To convert into adipocere.

Adipocera'tion, *n.* (*Chem.*) The act of changing into adipocere.

Ad'ipocere, *n.* [From Lat. *adeps,* fat, and *cera,* wax.] (*Chem.*) A peculiar white substance, produced by the decomposition of animal matter under the influence of moisture, and in situations from which the air is excluded. It consists chiefly of palinitic and other fatty acids, called also "corpse fat."

Adipoc'erous, *a.* Belonging or relating to adipocere.

Adipocire', *n.* See ADIPOCERE.

Adipose', *a.* [Lat. *adeps,* fat.] Unctuous, or containing fat. Adipose membrane is the cellular membrane in which fat is deposited.

Ad'ipous, *a.* Fat; fatty. (R.)

Ad'ipsy, and **Adip'sia,** *n.* [Gr. *a,* priv., and *dipsa,* thirst.] (*Med.*) Absence of thirst; a species of disease.

Adiron'dack, and **Adirondae,** a spur of the Appalachian chain, forming a series of highlands that occupy the N.E. part of the state of New York, at the W. of lake Champlain. The highest summit of the whole system is Mount Marcy, in Essex co., 5,467 feet above the level of the sea. These mountains, formed of granitic rocks, are usually wild, rugged, and rocky. A large part of the surface is entirely unfit for cultivation, but the region is rich in minerals, and specially in an excellent variety of iron ore. This region, with its numerous lakes and extensive natural game preserves, has become a favorite resort for tourists, sportsmen, and "hay-fever" sufferers. In 1892 the greater portion of it was made a State park, for the preservation of the forests at the head-waters of the Hudson. This park now (1897), contains 2,807,760 acres, nearly all woodland.

Adiroudack, in *New York,* a post-village in Newcomb township, on the western border of Essex co., 100 m. W.N.W. of Albany.

Ad'it, *n.* [Lat. *aditus,* entrance.] The approach or entrance to a building. Among the ancients, the *aditus theatri,* or adits of a theatre, were doorways opening on to the *stairs,* by which persons entered the theatre from the outer *portico,* and thence descended into the seats.—We give also the name of adit or drift to the horizontal opening by which a mine is entered, or by which water and ore are carried away.

Adi've, *n.* (*Zoöl.*) A small species of jackal, not larger than a pole-cat, with a long tail, inhabiting in troops the deserts of Tartary.

Adja'cence, and **Adja'cency,** *n.* [Lat. *adjacentia.*] The state of lying close to another thing; that which is adjacent.

Adja'cent, *a.* [Fr. *adjacent.*] Lying close; bordering upon something; as, a field *adjacent* to the highway.

Adjacent angle, (*Geom.*) is an angle immediately contiguous to another, so that one side is common to both angles. This expression is more particularly applied to denote that the two angles have not only one side in common, but likewise that the other two sides form one straight line.

Adja'cent, *n.* That which lies next to another. (R.)

Adja'cently, *adv.* In an adjacent manner.

Adject', *v. a.* [Lat. *adjicio.*] To add to. (R.)

Adjec'tion, *n.* The act of adjecting; "the *adjection* of eternity." (R.)

Adjecti'tious, *a.* Added. (R.)

Ad'jectival, *a.* Belonging to the adjective. (R.)

Ad'jective, *n.* [Lat. *adjectus,* added to.] (*Gram.*) The name of one of the parts of speech or classes into which grammarians have divided words. It is so called because it *adds* to, or qualifies, the meaning of the noun with which it is joined; as, a *good* man, a *large* house, a *white* horse. In English, a noun frequently takes the place of an adjective; as, a *gold* watch, the *paper* duty.

Adjective Colors. Colors which require to be fixed by some base or mordant, in order to be applied as permanent dye-stuffs.

Ad'jective, *v. a.* To change into an adjective.

Ad'jectived, *p. a.* Changed into an adjective.

Ad'jectively, *adv.* (*Gram.*) In the manner of an adjective.

Adjoin', *v. a.* [Fr. *adjoindre,* from Lat. *adjungere.*] To join to; to unite to; to put to.

"Corrections should be as remarks *adjoined,* by way of commentary to a treaty."—*Watts.*

Adjoin', *v. n.* To be contiguous to; to lie next, so as to have nothing between; as, a field *adjoining* to the highway.

Adjoin'ing, *p. a.* Joining to; "the *adjoining* fane."—*Dryden.*

Adjourn', *v. a.* [Fr. *ajourner*, from O. Fr. *adjourner*.] To put off to another day, naming the time, or indefinitely; a term used by public bodies, as Congress, courts of justice, &c., when they lay aside a business, or separate with a view to meet again; — to put off; to defer; to let stay to another time:

"Enjoy the present hour, *adjourn* the future thought."—*Dryden.*

Adjourn'ment, *n.* [Fr. *ajournement*.] The putting to another day, or without day. In parliamentary language, *adjournment* means a postponement of the sittings or proceedings of either house of Congress, from one time to another specified for its reassembling. See PROROGATION.

Adjudge', *v. a.* [Fr. *adjuger*, from Lat. *adjudicare*.] To give the thing controverted, to one of the parties by a judicial sentence.

"The great competitors for Rome,
Cæsar and Pompey, on Pharsalian plains,
Where stern Bellona, with one final stroke,
Adjudg'd the empire of this globe to one."—*Philips.*

—To sentence, or condemn.

"But though thou art *adjudged* to the death,
Yet I will favor thee in what I can."—*Shak.*

—To decree by a judicial sentence; to settle.

"The case was *adjudged* in Hilary term."

Adjudg'ment, *n.* The act of adjudging.

Adju'dicate, *v. a.* [See ADJUDGE.] To adjudge; to give the matter litigated, to one of the litigants, by a sentence or decision.

Adju'dicate, *v. n.* To pass judgment; as, *to adjudicate* upon a cause.

Adjudica'tion, *n.* [Fr., from Lat. *ad*, to, and *judico*, I judge.] The act of granting something to a litigant by a judicial sentence. — In Scottish law, the means by which real property and its accessaries are transferred to a creditor by a debtor, from an heir to a devisee, or from a vendor, who may have failed or refused to convey, to the vendee.

Adju'dicator, *n.* One who adjudicates.

Ad'junct, *n.* [Lat. *ad*, to, and *junctus*, joined.] Something added to another thing, between which there is no natural affinity.

"Learning is but an *adjunct* to ourself."—*Shak.*

—In the Academy of Paris, *adjuncts* were members attached to a particular science.

Ad'junct, *a.* United with; adjoined.

Adjunc'tion, *n.* [Fr. *adjonction*.] The act of adjoining, or coupling together; the thing joined.

Adjunc'tive, *n.* He that joins; that which is joined.

Adjunc'tive, *a.* Joining; having the quality of joining.

Adjunc'tively, *adv.* In an adjunctive manner.

Adjunct'ly, *adv.* In an adjunctive manner; in connection with; consequently.

Ad'junta, an Indian town in Hyderabad, or the territory of the Nizam. In its neighborhood are some remarkable cavern-temples, profusely decorated with Buddhistic paintings or sculptures. Lat. 20° N., lon. 75° 50′ E.

Adjura'tion, *n.* The act of adjuring; an earnest and solemn charging on oath. — The form of oath proposed to another.

"They only made use of prayer and *adjurations* in the name of their Saviour."—*Addison.*

Adjure', *v. a.* [Fr. *adjurer*, from Lat. *adjurare*.] To charge, bind, command earnestly, or in God's name; to put one to his oath, under the penalty of a curse.

"Ye lamps of heaven!
Ye fatal fillets! that once bound this head,
Ye sacred altars! from whose flames I fled,
Be all of you *adjured*."—*Dryden.*

—To command an evil spirit to quit its possession by the force of enchantments.

Adjur'er, *n.* One who adjures.

Adjust', *v. a.* [Lat. *adjustare*.] To regulate; to put in order; to settle in the right form; to make fit or correspondent; as, "To *adjust* the event to the prediction." "To *adjust* a garment to the body. — To settle an account or a difficulty to the satisfaction of all parties. — To put in right order the different parts of a thing; as, to *adjust* a telescope.

Adjust'able, *a.* That may be adjusted.

Adjust'age, *n.* Same as ADJUSTMENT. (R.)

Adjust'er, *n.* One who, or that which, adjusts.

Adjus'tive, *a.* Tending to adjust.

Adjust'ment, *n.* The act of adjusting; — the state of being adjusted.

(*Mar. Ins.*) The settlement of a loss incurred by the insured.

(*Paint.*) The manner in which draperies are disposed.

Ad'jutage, *n.* See AJUTAGE.

Ad'jutancy, *n.* The office of an adjutant; — skilful arrangement.

Ad'jutant, *n.* [Fr. *adjudant*, from Lat. *adjutans*, assistant.] An assistant; an aid.

(*Mil.*) In the United States army, an officer selected by the colonel, whose duties in respect to his regiment are similar to those of an adjutant-general with an army. — *Adjutant-General*, the principal organ of the commander of an army in publishing orders. The same organ of the commander of a corps, or department, is styled *assistant adjutant-general*. The laws provide, however, but for one adjutant-general, with the rank of brigadier-general, one assistant adjutant-general with the rank of lieutenant-colonel; and 12 other assistants with the rank of major or captain.

(*Zoöl.*) The popular name of *Cinconia argala*, a grallatorial bird belonging to the Stork family. Its size is very great, its ordinary height in the erect attitude being 5 feet. The beak is of enormous size and strength: the head is large, and the neck proportionally muscular. The head and neck are nearly bare of skin; and from the under part of the neck there hangs a large pouch of skin, like a dewlap, which is capable of being inflated, and which gives to the bird a very strange appearance. The adjutant is a native of the warmer parts of India; and is very useful in removing noxious animals and carrion, which it devours with great voracity. It swallows snakes, lizards, frogs, &c., and in the craw of one of these birds has been found a land-tortoise 10 inches long, together with the entire body of a large black cat. In its wild state it usually lives in companies, and chiefly frequents the mouths of rivers; it may be readily domesticated, but is very apt to display its voracity by purloining articles of food, and makes no difficulty in swallowing a leg of mutton, a fowl, or a hare at one mouthful. From this bird, and from an allied species in Senegal, the beautiful marabou feathers are obtained.

Fig. 33. — POUCHED ADJUTANT.

Adju'tor, *n.* A helper. (R.)

Ad'juvant, *n.* [Lat. *adjuvare*, to help.] An assistant.

(*Med.*) A substance which assists and promotes the operations of others.

Ad'jygurh, a town and district of British India, in the province of Allahabad. *Area*, 340 sq. m. *Pop.* 40,000 to 50,000. Lat. 24° 52′ N., lon. 80° 20′ E.

Ad'kinsville, a post-office of Wayne co., Virginia.

Ad Latus. [Lat., by the side of.] A General *ad latus* is an officer in Austria, who is given as an aid to commandants of army corps.

Adlega'tion, *n.* [Lat. *adlegatio*.] A right formerly claimed by the states of the German empire of joining their own ministers with those of the emperor in public treaties.

Ad'ler, PHILIP, a German engraver who flourished in the 16th century.

Ad lib'itum. [Lat., at pleasure.] (*Mus.*) A term applied to an accompaniment which is not essential, and may or may not be performed without interfering with the composition. It signifies, also, that the performer may introduce in the composition any additions of his own, according to his fancy.

Ad'location, *n.* See ALLOCUTION.

Ad'mah, one of the five cities of the plain, consumed by fire from heaven, and the site of which was afterwards submerged by the waters of the Dead sea. See SODOM.

Admar'ginate, *v. a.* To write or note in the margin. (R.)

Admeas'ure, *v. a.* [See MEASURE.] To measure; to apportion; to assign to each claimant his right in.

Admeas'urement, *n.* The act or practice of ascertaining the dimensions of anything; measurement; the dimensions ascertained.

(*Law.*) A writ directed to the sheriff for the adjustment of proportion, when a widow holds from the heir, or his guardian, more in the name of her dower than she is entitled to. It is termed *A. of dower*.

Admeas'urer, *n.* One who admeasures.

Admensura'tion, *n.* [Lat. *ad*, to, and *mensura*, a measure.] Mensuration.

Adme'tus. (*Myth.*) The most remarkable of this name was a king of Pheræ, in Thessaly. Apollo, when banished from heaven, is said to have tended his flocks for nine years, and to have obtained from the Parcæ that *A.* should never die, if another person laid down his life for him. This was cheerfully done by his wife, Alceste. — *A.* was one of the Argonauts, and was at the hunt of the Calydonian boar. Peleus promised his daughter in marriage only to him who could bring him a chariot drawn by a lion and a wild boar. *A.* did this by the aid of Apollo, and obtained Alceste in marriage.

Admin'icle, *n.* [Fr. *adminicule*, from Lat. *ad*, and *manus*, hand.] (*Law.*) Imperfect proof. In Scotch law, any writing or deed referred to by a party as evidence.

Adminic'ular, *a.* That which gives help. (o.)

Admin'ister, *v. a.* [Fr. *administrer*, from Lat. *administrare*.] To give; to afford; to supply.

"Let zephyrs bland
Administer their tepid genial airs."—*Philips.*

—To act as the minister or agent in any employment or office; to manage or conduct, as public affairs.

—To afford; to give; to supply; to furnish; to dispense;

"Medicine must be *administered*."—*Shak.*

—To tender, as an oath.

(*Law.*) To settle, as the estate of one who dies without a will, or whose will fails of an executor.

Admin'ister, *v. n.* To contribute; to add something.

"A fountain . . . which . . . *administers* to the pleasure as well as the plenty of the place."—*Spectator.*

(*Law.*) To perform the office of administrator.

Administe'rial, *a.* Pertaining to administration.

Admin'istrable, *a.* That may be administered.

Administra'tion, *n.* [Fr., from Lat. *administratio*.] The action of superior agents in executing laws, or regulations conformable to law. The aim of a system of *A.* is to secure the performance of public duties, either directly, ministerially, or through the intervention of subalterns. It is exercised over individuals or things, in civil matters, in courts of law, or in political bodies. So, in America, the executive power, that is to say, the president and his secretaries, is called *the administration*. — In other countries, the word *administration*, taken in a more general sense, means the conduct or management of any affair.

(*Law.*) The management of the estate of an intestate, or of a testator who has no executor. The term is applied broadly to denote the management of estates of minors, lunatics, &c., in those cases where trustees have been appointed by authority of law to take charge of such estates in place of the legal owners.

Admin'istrative, *a.* Concerning the administration.

Administra'tor, *n.* A member of an administration.

(*Law.*) One appointed to administrate or distribute the goods of a person who dies without having made a will.

Administra'torship, *n.* The office of an administrator.

Administra'trix, *n.* [Lat.] She who administers in consequence of a will.

Admirabil'ity, Ad'mirableness, *n.* The quality or state of being admirable. (R.)

Ad'mirable, *a.* [Fr., from Lat. *admirabilis*.] To be admired; worthy of admiration; having power to excite wonder; — always taken in a good sense, and applied either to persons or things.

Ad'mirable, *n.* A drink made of peaches, plums, sugar, water, and spirit.

Ad'mirably, *adv.* In an admirable manner.

Ad'miral, *n.* [Ar. *emir* or *amir*, lord, chief; Fr. *amiral*; Sp. *admirante* or *almirante*; It. *ammiraglio*.] The title of the highest class of naval officers. There are in the British navy three ranks of admirals (or *flag-officers*), the admiral (or full admiral), vice-admiral, and rear-admiral. Each of these again has three gradations, according to the color of their flag — admirals of the red, of the white, and of the blue. In a fleet disposed in battle-array, the first of these holds the centre, the second the van, and the third the rear. The *A.* carries his flag at the main, the *V. A.* at the fore, and the *R. A.* at the mizzen mast. Admiral of the fleet is simply an honorary distinction, with an increase of pay. — A full admiral has the same power and authority over the marine force of the state that a general has over its land forces; a vice-admiral ranks with a lieutenant-general, and a rear-admiral with a major-general. The *lord high-admiral* is the ninth great officer of state in England. The office has been usually given, at least since the reign of Henry IV., to some of the king's youngest sons, near kinsmen, or of the higher nobility. — By act of the United States Congress, July 25, 1866, the active general officers in the navy have been organized as follows: 1 admiral, with rank of general-in-chief; 1 vice-*A.*, with rank of lieutenant-general; and 10 rear-*A.*, with rank of major-general. When at sea, the pay of the *A.* is, per annum, $13,000; *V. A.*, $9,000; *R. A.*, $6,000, which are proportionally reduced when on leave or waiting orders, to $8,000 and $5,000. After the death of Admiral David G. Farragut, and of David D. Porter, who succeeded him, the titles of Admiral and Vice-Admiral lapsed in the U. S. Navy.

(*Conch.*) A beautiful shell of the gen. *Voluta*, and comprising four species, — the Grand-*A.*, the Vice-*A.*, the Orange-*A.*, and the Extra-*A.* The first is of a fine white enamel, with bands of yellow finely turned about the head. It is principally characterized by a denticulated line along the centre of the large yellow band; this distinguishes it from the Vice-*A.* The Orange-*A.* has more yellow, and the bands of the Extra-*A.* run into each other. — See VOLUTIDÆ.

Ad'miralship, *n.* The office or power of an admiral.

Ad'miralty, *n.* [Fr. *amirauté*.] The power of officers appointed for the administration of naval affairs. — In England, the Admiralty court is usually termed the Instance court, to distinguish it from the Prize court, which is only constituted in time of war. It has cognizance of all civil maritime affairs, which are determined according to the civil law, so far as the same be not inconsistent with the common, statute, or international law. — In America, the *United States District Court* exercises jurisdiction over all maritime contracts, torts, injuries, or offences. In certain cases, causes may be removed from this court to the Circuit, and ultimately to the Supreme court.

Ad'miralty Inlet, a bay on the S. side of Barrow strait, North America. Lat. 73° 49′ N., lon. 83° W.

—*Also*, a deep indentation in the land discovered in the Antarctic seas by Capt. Ross; lat. 64° 15′ S., and long. 50° W.

Ad'miralty Island, on the North American coast, about 80 miles long and 20 wide, belonging formerly to Russia and now to the United States. It is covered with pine forests, and was circumnavigated by Vancouver. Lat. about 58° 24′ N., lon. 135° 30′ W.

Ad'miralty Islands, a group of about 40 islands in the Pacific ocean, to the N.W. of New-Iceland. Lat. between 2° and 3° S., lon. between 146° 18′ and 147° 46′ E.

Admiration, *n.* The act of admiring or wondering; wonder. — See ADMIRE.

Admire', *v. a.* [Fr. *admirer*, from Lat. *ad*, to, and *mirari*, to wonder.] This verb had of old the sense of mere wonder; but is now restricted to that of wonder on account of beauty or excellence. It may be of physical or moral beauty, as of a beautiful person, or noble conduct or character.

Admire, *v. n.* To wonder; — sometimes with *at*.

"He *admir'd at* his own contrivance."—*Ray.*

Admir'er, *n.* One who wonders or regards with admiration; — familiarly, a lover.

Amir'ingly, *adv.* With admiration; in the manner of an admirer.

Admissibil'ity, *n.* [Fr. *admissibilité.*] The quality of being admissible.

Admis'sible, *a.* [Fr., from Lat. *admissibilis.*] That which may be admitted or conceded; as, "this supposition is *admissible.*"

Admis'sibly, *ad.* In an admissible manner.

Admis'sion, *n.* [Fr., from Lat. *admissio.*] The act or practice of admitting; — the state of being admitted; — admittance; the power of entering, or being admitted.

. . . . "We come, by his command,
To crave *admission*, in your happy land."—*Dryden.*

— The allowance of an argument; the grant of a position not fully proved.

Admis'sory, *a.* Granting admission; admitting.

Admit', *v. a.* [Lat. *admittere.*] To suffer to enter; to grant entrance. — To suffer to enter upon an office, in which sense we say, "to *admit* a student into a college." — To allow an argument or position; to receive as true.

"I cannot easily *admit* the inference of your argument."—*Locke.*

—To allow, or grant in general; sometimes with *of:*

"If you once *admit of* a latitude. . . . . "—*Dryden.*

Admit'tance, *n.* The act of admitting; allowance or permission to enter. — The power or right of entering.

'Tis gold which buys *admittance*."—*Shak.*

(*Law.*) The act of giving possession of a copyhold estate.

Admitta'tur, *n.* [Lat., let him be admitted.] A certificate of admission formerly given to students in the American colleges.

Admit'ter, *n.* One who admits.

Admix', *v. a.* [Lat. *admisceo.*] To mingle with something else. (R.)

Admix'tion, *n.* [Lat. *admixtio.*] The mingling of one body with another.

Admixt'ure, *n.* The compound formed by mixing substances together; — also, the act of mingling; mixture.

Admon'ish, *v. a.* [Lat. *admonere.*] To warn of a fault; to reprove gently; to counsel against wrong practices; to put in mind of a fault or a duty; to remind.

Admon'isher, *n.* One who admonishes.

Admon'ishment, *n.* Admonition. (R.)

"Thy grave *admonishments* prevail with me."—*Shak.*

Admoni'tio Fustium. Among the ancient Romans, a military punishment, not dissimilar to the modern whipping, except that it was performed with vine-branches.

Admoni'tion, *n.* [Fr., from Lat. *admonitio.*] Gentle reproof; friendly warning, to the effect of preventing further transgression.

(*Eccl. Hist.*) The warning given to an offender before excommunication, or to a suitor before proceeding against him *in pœnam contumaciæ*, or for default.

Admoni'tioner, *n.* A dispenser of admonitions.

Admon'itive, *a.* Which contains admonition.

Admon'itively, *adv.* In an admonitive manner.

Admon'itor, *n.* An admonisher.

Admon'itory, *a.* That which admonishes; monitory.

Admortiza'tion, *n.* [Lat. *admortizatio.*] In feudal law, the reduction of property of lands or tenements to mortmain.

Admove', *v. a.* [Lat. *admovere.*] To bring one thing to another. (R.)

Adnas'cent, *a.* [Lat. *adnascens.*] Growing to or on another.

Ad'nata tu'nica. [Lat. See ADNATE.] (*Anat.*) A membrane of the eye, mostly confounded with the *conjunctiva*. It is, however, thus formed: Five of the muscles which move the eye take their origin from the bottom of the orbit, and the sixth arises from the edge of it; they are all inserted, by a tendinous expansion, into the anterior part of the *tunica sclerotica*, which expansion forms the *adnata*, and gives the whiteness peculiar to the fore part of the eye.

Ad'nate, *n.* [Lat. *ad*, to, and *natus*, a growing.] (*Bot.*) A term applied to certain portions of a plant when they adhere to other portions; thus, when the stipules are united to the petiole, as in the leaf of the rose, they are called *adnate stipules;* when the anther is closely attached to the filament, as in the flower of the buttercup, it is said to be an *adnate anther*. The term *adherent* has the same signification.

Ad'natus, *a.* [See ADNATE.] (*Anat.*) A term applied to some parts which appear to grow to others; as, *tunica adnata, folium adnatum.*

Adnom'inal, *a.* [Lat. *ad*, to, and *nomen*, noun.] (*Gram.*) Adjectival. (R.)

Ad'noun, *n.* [Lat. *adnomen*, surname.] An adjective. (R.)

Adnu'bilated, *a.* [Lat. *adnubilare*, to obscure.] Clouded. (R.)

Ado', *n.* [From the v. *to do*, with the prefix *a* before it, as the French *affaire*, from *a* and *faire.*] Trouble; difficulty.

"He took Clitophon prisoner, whom, with much *ado*, he keepeth alive."—*Sidney.*

—Bustle; tumult; business; — sometimes with *about.*

"All this *ado about* Adam's fatherhood . . ."—*Locke.*

—This word implies, generally, more tumult and show of business than the affair is worth:

"I made no more *ado*, but took all their seven points in my target, thus."—*Shak.*

Ado'be, *n.* [From Sp. *adobar*, to dress.] A kind of unburnt brick, made from earth of a loamy character, containing about two-thirds fine sand, mixed thoroughly with one-third or less of clayey dust or sand; the loamy substance, under the action of the sun, becoming a hard, compact mass without a crack. It is said that the houses built with these bricks are warmer in winter and cooler in summer than those built with ordinary bricks, and that their duration is extraordinary.

Adoles'cence, Adoles'cency. [Fr. *adolescence*, from Lat. *adolescentia.*] The age succeeding puberty; including that part of life in which the body has not yet reached its full perfection, *i.e.*, the years of 12 or 14 to 21, in man, and of 10 or 12 to 21 in woman. For the two sexes, the period between 18 and 25 is more exactly called *youth.*

Adoles'cent, *a.* [Fr., from Lat. *adolescens.*] Growing; advancing from childhood to manhood; youthful.

Adol'phus, count of Nassau, elected emperor of Germany in 1292. His rapacity and tyrannical conduct caused a confederation to be formed against him, at the head of which was Albert, duke of Austria. He fell in battle, July 2, 1298.

Adol'phus. Count of Cleves, B. 1371. He was almost constantly engaged in wars, chiefly with his brother Gerard, Duke of Mark. D. 1448.

Adolphus, Frederick II., of Holstein Gottorp, king of Sweden, succeeded his father in 1751. He reformed the laws, and encouraged learning and the arts of peace. B. 1710, D. 1771. — This sovereign instituted, at Tornea in Lapland, an academy of inscriptions and belles-lettres.

Adol'phus, JOHN, a distinguished English barrister. B. 1770, D. 1845. — As an author, he is principally known by a *History of England from the Accession of George III.*

Adone'an, *a.* Belonging to Adonis; Adonic.

Ado'ni, a town of India, situate in the Deccan, under the presidency of Madras, in Golconda, on one of the branches of the Tungebadda, 175 miles S.W. of Hyderabad. In 1787 it was reduced to ruins by Tippoo Saib.

Ado'ni-Be'zek, king of Bezek, in Canaan. He was a cruel prince, on account of which his thumbs and great toes were cut off by the tribes of Judah and Simeon, after they had defeated him in a great battle. D. at Jerusalem, B. C. 1443.

Adon'ie, *a.* Relating to Adonis.

(*Pros.*) A verse which consisted of a dactyle and a spondee or trochee; as, *rārā jŭvĕntus.* It was so called from being first used in the elegies on Adonis, the lover of Venus.

Adonic Festivals, certain festivals held yearly by the ancients on the banks of the Adonis, a river of Phœnicia, where Adonus, or Thammuz, as he is termed in the East, was supposed to have received his death-wound. At certain periods of the year this river becomes tinged with a high red color, caused by the washing up of portions of red earth. This discoloration of the waters was ascribed by the ancients to a supposed sympathy possessed by the river for the death of the lover of Venus. Milton, in his "Paradise Lost,' thus beautifully alludes to the fact:—

"Thammuz came next behind,
Whose annual wound in Lebanon allured
The Syrian damsels to lament his fate,
In amʻrous ditties, all a summerʻs day:
While smooth Adonis from his native rock
Ran purple to the sea, supposed with blood
Of Thammuz, yearly wounded."

Adoni'jah, the fourth son of king David, by Haggith. He aimed at his father's crown, but Solomon was proclaimed king of Israel, when Adonijah fled to the tabernacle for protection. After the death of David he was slain by order of Solomon, B. C. 1015.

Ado'nis, (*Myth.*,) son of Myrrha, daughter of Cinyras, king of Cyprus, was born in Arabia, whither his mother had fled in consequence of certain transactions which it is not necessary to relate. Before the birth of her son she was transformed into the tree which produces the fragrant gum called by her name; this, however, did not hinder his being brought into the world in due season: he grew up a model of manly beauty, and was passionately beloved by Aphrodite (Venus), who quitted Olympus to dwell with him. Hunting was his favorite pursuit, until, having gone to the chase against the entreaties of his mistress, he was mortally wounded in the thigh by a wild boar. Venus, coming too late to his rescue, changed his blood into flowers. After death he was said to stand as high in the favor of Persephone (Proserpine), as before in that of Aphrodite; but the latter being inconsolable, her rival generously consented that Adonis should spend half the year with his celestial, half with his infernal mistress. The fable has been variously interpreted. One explanation makes the alternate abode of Adonis above and under the earth, typical of the burial of seed, which in due season rises above ground for the propagation of its species; another, of the annual passage of the sun from the northern to the southern hemisphere.

Ado'nis, *n.* (*Bot.*) The Pheasant's Eye, a gen. of annual and perennial plants, order *Ranunculaceæ*, comprising many species of very great beauty, and so called fancifully from the plant which sprang from the blood of Adonis when wounded by a boar. The *A.* are distinguished from the *Ranunculæ* by the want of a little scale at the base of the petals, and from other genera of the order by the numerous hard, dry, sharp-pointed grains of which its fruit consists. *A. autumnalis*, the common pheasant's-eye of our gardens, a native of Europe, but naturalized in some parts of New York, has deep crimson flowers, and is annual. The *A. vernalis* has yellow flowers, of a brilliancy which is rendered the more dazzling by the deep green tuft of finely divided leaves among which they expand. It is a perennial plant, cultivated in gardens.

Fig. 34. — ADONIS AUTUMNALIS.

Ado'ny, a Hungarian town on the banks of the Danube, 28 m. S. of Pesth. *Pop.* 3,000.

Adoors', *ad.* [Prefix *a*, for *ad*, and *door.*] At or by the doors. (R.)

Adopt', *v. a.* [Fr. *adopter*, from Lat. *adoptare.*] To take to one's self by choice or approval; — applied to persons, principles, or opinions, courses of conduct, and association.

"The solicitations of our natural or *adopted* desires."—*Locke.*

Adopt'ed, *p. a.* Taken as a son by choice. — Selected or assumed as one's own.

Adopt'edly, *ad.* After the manner of something adopted.

Adopt'er, *n.* One who adopts.

(*Chem.*) A vessel, more often written *adapter*, q. v.

Adop'tiani. See ADOPTIONISM.

Adop'tion, *n.* [Fr., from Lat. *adoptio.*] Is the taking of another's child as one's own. By the Roman and Grecian laws, if a person had no children of his own, he might appoint any other person to be his child by adoption, and, from that moment, the child became, to all intents and purposes, a member of the family of his adopter. There was also a custom in ancient Rome of adopting by will. Thus it was that Julius Cæsar adopted his great nephew Octavius, who was thenceforth called Caius Julius Cæsar Octavianus; but is more generally known under the more pompous appellation of Augustus, which he afterwards assumed. The 11th title of the first book of Justinian's *Institutes* is concerning adoption. — The German system of adoption is derived from the Roman law, but modified so as to be more in harmony with the German usages. The age of the adopter ought to be fifty at least. As for the adopted son, the Prussian law merely requires him to be younger than the father; while the Austrian code requires him to be eighteen years younger than the adoptive father. — The French law on adoption is to be found in the 18th title of the first book of the *Code Civil.* *A.* is not recognized in English law. In the United States, *A.* is regulated by statute (under various restrictions) in several of the States, as Massachusetts, Texas, Illinois (1867), and Iowa (1868). In general, *A.* entitles the child to all the rights and privileges of a legal heir, except that it shall not take property limited to the heirs of the body of the new parents, nor coming from their collateral kindred.

Adop'tionism, *n.* The name given to a strife which arose in the Church, in Spain, towards the end of the 9th century. The leaders in this controversy were Felix of Urgellis and Elipandos of Toledo, who held that Christ in his human nature was the son of God only by adoption. The controversy ceased on the death of the two leaders.

Adop'tious, *a.* Adoptive.

Adop'tive, *a.* [Fr. *adoptif*, from Lat. *adoptivus.*] One who is adopted, as, an *adoptive* son; or one who adopts, as, an *adoptive* father.

A'dor, *n.* (*Bot.*) A name for spelt.

Adorabil'ity, *n.* The state or quality of being adorable; adorableness. (R.)

Ador'able, *a.* [Fr., from Lat. *adorabilis.*] That which is worthy of adoration, or of the utmost love or respect.

Ador'ableness, *n.* The quality of being adorable; worthiness of divine honor.

Ador'ably, *ad.* In a manner worthy of adoration.

Adore', *v. a.* [Fr. *adorer*, from Lat. *adorare*, to pray.] To worship with external homage; to pay divine honors.

The mountain nymphs and Themis they *adore*,
And from their oracles relief implore."—*Dryden.*

—To love, to reverence, to honor in the highest degree.

"The people appear *adoring* their prince, and their prince *adoring* God."—*Tatler.*

Adore'a, *n.* A term of various acceptation among the Romans, sometimes signifying grain in general, at others a kind of cake offered in sacrifice; and again it was used to denote the gratuitous distribution of corn; whence it became applied to all forms of reward.

Ador'er, *n.* One who adores; a worshipper; — more usually a lover, an admirer.

"I profess myself her *adorer*, not her friend."—*Shak.*

Adora'tion, *n.* [Fr.] The act of adoring and worshipping God. — Among the Hebrews the act of adoration consisted in falling upon the knee, and then gradually

inclining the body until the body touched the ground; but sometimes they only rose up and suddenly prostrated the body. The same custom prevailed among the first Christians, and is still an essential part of the Mahometan religion. We need not speak of the postures by which every church expresses adoration, thinking that any act actuated by a religious sentiment is worthy of respect, but that the better act of adoration is the internal one, coming from the heart and soul.

Fig. 35.—ADORATION.
(Modern Egypt.)

Ador'ingly, *ad.* With adoration.

Adorn', *v. a.* [Lat. *adornare.*] To dress or deck some one with ornaments.

"He hath clothed me with the garments of salvation, as a bride *adorneth* herself with her jewels."—*Isaiah* lxi. 10.

—To set out any place or thing with decorations; as, a gallery is *adorned* with pictures or statues.—To embellish with oratory or elegance of language.

"Their names some noble poem shall *adorn.*"—*Dryden.*

Ador'ner, *n.* One who adorns.

Adorn'ing, *n.* Ornament.

Adorn'ingly, *ad.* By adorning.

Adorn'ment, *n.* Ornament; embellishment. (o.)

Ador'no. The name of three doges of Genoa: 1. *A.* GABRIELE, 1354; — 2. *A.* ANTONIO, 1384; — 3. *A.* PROSPERO, elected 1461. He drove out the Sforzas and their Milanese troops from Genoa and became the idol of the people, but his popularity was ephemeral, and he died in exile, 1486.

Adoscula'tion, *n.* [Lat. *adosculari*, to kiss.] (*Bot.*) The inserting of one part of a plant into another.

(*Physiol.*) An impregnation by mere external contact, without intermission, as in fishes.

Ad'our, a river of France, which rises 6 miles to the east of Barèges, in the department of the Upper Pyrenees, and running by Tarbes and Dax, falls into the bay of Biscay, 3 miles beyond Bayonne, where it joins the Nive. Its course, through many fertile valleys, is about 180 miles.

Ad'owa, one of the principal towns in the kingdom of Tigré, Abyssinia, with houses built in a conical form, and arranged into streets. It is the great mart between the interior and the coast, and reaps the advantage of a transit trade between the Red Sea-ports and Gondar. *Pop.* 10,000. Lat. 14° 12′ 30″ N., lon. 39° 5′ E.

Adown', *ad.* [From A. S. *dûn*, hill.] Down; on the ground;

"Thrice did she sink *adown* in deadly sound."—*Faerie Queene.*

Adown', *prep.* Down; towards the ground; from a higher situation toward a lower.

"*Adown* her shoulders fell her length of hair."—*Dryden.*

Ad pondus omnium. [Lat., *the weight of the whole.*] (*Med.*) Words inserted in pharmaceutical preparations, or prescriptions, when the last ingredient ought to weigh as much as all the others put together.

Ad quod damnum? [Lat., *to what damage?*] (*Law.*) A writ to inquire whether a grant will be attended with injury to any one.

A'dra, a seaport of Spain, in Grenada, 60 miles S.E. of Grenada. Its lead mines are the chief support of the inhabitants. *Pop.* 7,500.

Ad'ragant, or **Tragacanth.** See GUM.

Adram'patam, an Indian town in the British district of Tanjore, presidency of Madras, 34 miles W. of Point Calimere.

Adramy'ti, a town of Natolia, on the E. coast of a gulf of the same name, 83 miles N. of Smyrna. Gall-nuts, olives, and wool form its principal exports.

Adra'ra, a village of Lombardy, in Italy, celebrated for the wars of the Guelphs and the Ghibellines, 74 miles from Bergamo.

Adras'ta. (*Myth.*) One of the Oceanides, who nursed Jupiter.

Adras'tia. (*Myth.*) A daughter of Jupiter and Necessity. She is called by some Nemesis, and is the avenger of wrong. The Egyptians placed her above the moon, whence she looked down upon the actions of men.

Adras'tus. There are many of this name in ancient history, the most remarkable of whom is the son of Talaus and Lysimache, who was king of Argos. Polynices, being banished from Thebes by his brother Eteocles, fled to Argos, where he married Argia, daughter of *A.* The king assisted his son-in-law, and marched against Thebes with an army led by seven of his most famous generals. All perished in the war except *A.*, who, with a few men who were saved from slaughter, fled to Athens, and implored the aid of Theseus against the Thebans, who opposed the burying of the Argives fallen in battle. Theseus went to his assistance and was victorious.—*A.*, after a long reign, died from grief occasioned by the death of his son Ægialeus. A temple was raised to his memory at Sicyon.

Ad'rets, FRANCIS DE BEAUMONT, BARON DES, a violent French Huguenot, who signalized himself by many daring exploits, as well as cruelties. He subsequently became a Catholic, but died as he had lived, in general detestation. D. 1587. At some places he obliged his prisoners to throw themselves from the battlements upon the pikes of his soldiers. Reproaching one for retreating twice from the fatal leap, "Sir," replied the man, "I defy you, with all your bravery, to take it in three." This keen rejoinder saved his life.

Ad'ria. [Anc. *Hadria, Hatria,* or *Atria.*] A town of N. Italy, province Rovigo. It was formerly of such great importance as to give its name to the Adriatic Sea, but is now only interesting as one of the oldest towns in Europe. It is crossed by the Castagnaro, a branch of the Adige, and stands 30 miles S.S.W. of Venice. It was anciently a seaport in Cisalpine Gaul, but the alluvia of the Po and Adige have caused the sea to recede, until the town is now 14 miles inland. *Pop.* 10,000. Lat. 45° 3′ N., lon. 11° E.

A'drian, or **Hadrian.** PUBLIUS ÆLIUS, a Roman emperor, B. at Rome, 76 A. D. Entering the army quite young, he became tribune of a legion, and married Sabina, the heiress of Trajan, whom he accompanied on his expeditions, and became successively prætor, governor of Pannonia, and consul. On Trajan's death, in 117, he assumed the government, made peace with the Persians, and remitted the debts of the Roman people. No monarch informed himself more by travelling than Adrian. In 120 he visited Gaul, whence he passed over to Britain. He afterwards visited Africa and Asia, and in 125 was initiated into the Eleusinian mysteries at Athens. In his reign the Christians underwent a dreadful persecution. He built a temple to Jupiter, on Mount Calvary, and placed a statue of Adonis in the manger of Bethlehem; he also had images of swine engraved on the gates of Jerusalem, all of which acts indicate a contempt for Christianity. Adrian D. at Baiæ, 139. On his deathbed he composed some Latin verses, addressed to his soul, which betray his uncertainty with regard to a future state. He had great virtues, which were, however, blended with as great vices. He adopted as his son Titus Antonius, on condition that he should adopt Marcus Annius Verus and the son of Lucius Verus.

A'drian I., POPE, born at Rome, succeeded Stephen III. in 772. Like his predecessor, he had to struggle against the power of the Longobards, who had invaded the Exarchate and other provinces bestowed by Pepin, king of the Franks, on the Roman see. Adrian applied to Charlemagne for assistance against Desiderius, king of the Longobards. The king of the Franks crossed the Alps, defeated Desiderius, and overthrew the kingdom of the Longobards in Italy, in 774. Charlemagne then went to Rome, where Adrian acknowledged him as king of Italy, and the latter renewed the grant of the provinces bestowed on the Roman see by Pepin. Charlemagne paid another visit to Adrian at Rome in 787, when his son Pepin was christened by the pope. In 787, the seventh general council of the church was held at Nicæa, in which the worship of images was confirmed, and the iconoclasts were excommunicated. D. after a long pontificate of nearly 24 years, 795. Adrian was a man of talent and dexterity; he succeeded in gaining and preserving the friendship of the greatest sovereign of his time, and under him Rome began to breathe again after the continual alarms caused by the Longobards, the last of the barbarian invaders of the Western Empire.

Adrian II., born at Rome, succeeded Nicholas I. in the papal chair, 867. He had been married, and had a daughter by his wife Stephania, from whom he afterwards separated in order to live in celibacy. During the pontificate of Adrian, Photius, patriarch of Constantinople, withdrew from the Church of Rome, from which time the schism between the Greek and Latin churches dates, which continues to this day. Adrian D. 872, and was succeeded by John VIII.

Adrian III., B. at Rome, succeeded Marinus in 884, and died the following year.

Adrian IV., the only Englishman who was ever raised to the dignity of the papal chair, succeeded Anastasius IV. 1154. His name was Nicholas Breakespere; and for some time he filled a mean situation in the monastery of St. Albans. Being refused the habit in that house, he went to France, and became a clerk in the monastery of St. Rufus, of which he was afterwards chosen abbot. Eugenius III. created him cardinal in 1146, and in 1148 sent him legate to Denmark and Norway, which nations he converted to the Christian faith. When nominated pope, he granted to Henry II. a bull for the conquest of Ireland. In 1155 he excommunicated the king of Sicily; and about the same time, the emperor Frederic, meeting him near Sutinam, held his stirrup while he mounted his horse. *A.* took the emperor with him, and consecrated him king of the Romans in St. Peter's church. The next year the king of Sicily submitted, and was absolved. D., supposed of poison, 1159.—*A.*, by his active conduct, left the papal territory in a better state than he found it. He was succeeded by Alexander III.

Adrian V., a Genoese, succeeded Innocent in 1276, and died five weeks after his election. He was succeeded by John XX.

Adrian VI., B. at Utrecht, of an obscure family, advanced himself by his talents to the post of vice-chancellor of the University of Louvain. Ferdinand of Spain gave him the bishopric of Tortosa. After Ferdinand's death he was co-regent of Spain with Cardinal Ximenes. He was elected pope in 1522, after the death of Leo X., chiefly through the influence of Charles V., whose authority was then spreading over Italy. D. 1525, and was succeeded by Clement VII. Adrian appears to have been an honest, conscientious man, who fell upon evil times, and was unequal to the difficulties which he had to encounter. He was desirous of maintaining peace, and of stopping, if possible, the schism of the Lutherans by reforming the church, but he did not live long enough to effect anything essential.

A'drian, in *Michigan,* a flourishing city, capital of Lenawee co., on a tributary of the Raisin river, 64 miles S. W. of Detroit. *Pop.* (1890) 9,511.

Adrian, in *New York,* a post-village of Steuben co., 32 miles W.N.W. of Corning.

Adrian, in *Ohio,* a post-village of Seneca co., 45 miles S.W. of Sandusky.

Adrian, in *Wisconsin,* a township of Monroe co., 12 miles E. of Sparta.

Adrian'ee, in *New York,* a post-village of Duchess co.

Adria'no, a mountain of Spain, in Biscay, over which is a very difficult road to Alba and Old Castile. It is one of the highest of the Pyrenees, and is only inhabited by a few shepherds.

Adriano'ple, the third city of European Turkey, on the Maritza, 135 miles from Constantinople. It is now about 5 m. in circumference, surrounded by old walls, and defended by a citadel. Its streets are narrow and irregular, but adorned with fountains and mosques, of which there are about 140. *Manuf.*, silk, woolen, and cotton stuffs. Rose-water and other perfumes are made, and there are both dyeing and tanning establishments. *Exp.*, wool, opium, leather, wax, &c. *Pop.* 70,886, of whom 30,000 are Greeks. *Lat.* 41° 44′ N., *lon.* 26° 35′ E. The bazaar and the mosque of Selim are here the objects of great attraction. The former is a brick building of about 300 paces in length, and offers for sale all the rich commodities of the East; the latter is built as a theatre, from the ruins of Famagusta, in Cyprus. Its principal balcony has an ascent of 377 steps.—In the adjacent plain, Constantine the Great defeated Licinius in 323, and in 378 the Goths overpowered Valens.—In 1360 the Sultan Moorad I. took the city from the Greeks, when it became the capital of the empire, and the favorite residence of the sultans till the 18th century.—On the 20th August, 1829, it was taken by the Russian general Diebitsch, which led to the treaty of peace concluded at Adrianople on the following 14th September. The stipulations of this treaty restored to the Porte those parts of Bulgaria and Roumelia which the Russians had conquered, besides Moldavia and Wallachia; it also fixed the Pruth and the right bank of the Danube, from the mouth of the former river, to be the boundary-line between Turkey in Europe and Russia. The limits of the Asiatic territories of the two states were also exactly defined, and the liberty of trading to all parts of Turkish dominions conceded to Russians, besides the trading navigation of the Danube, the Mediterranean, and the Black sea. The free passage of the Dardanelles was likewise guaranteed. After the capture of the Turkish army defending the Shipka Pass, in Jan., 1878, the Russians occupied *A.*, and an armistice was concluded there.

Adriat'ic Sea, or GULF OF VENICE, that portion of the Mediterranean sea which lies between the coasts of Italy, Illyria, and Albania. Its length from Cape Leuca to Trieste is 450 m., and its mean breadth is 90 m. The Po and the Adige are the only rivers of importance it receives, and its greatest depth is not more than 22 fathoms, whilst a great part of it is not 12 fathoms. Its navigation is generally safe in summer, but in winter the violence of the winds from the south-east causes much destruction to shipping. On the Venetian side the shores are low, but on the Dalmatian the waves, in stormy weather, lash the rocks which girdle the coast to a great height. It runs from the south-east, at lat. 40° 8′, to north-west, at lat. 45° 45′.—The *A.* takes its name from the city of Adria; its waters are more salt than those of the ocean.

Adrift', *adv.* [A. S. *adrifan*, to drive away.] Floating at random.

"With all his verdure spoil'd, and trees *adrift*
Down the great river to the opening gulf,
And there take root."—*Milton.*

(*Mar.*) A term signifying that a vessel has broken loose from her moorings, and is driven to and fro by the winds and waves.

Adroga'tion, *n.* [Lat. *adrogatio*, from *rogare*, to ask.] The name given in ancient Rome to the adoption (see this word) of a person who was his own master. The mode of proceeding was by a bill proposed to the people in the *Comitia curiata*, whence the name *adrogation.*

Adroit', *a.* [Fr.] Dexterous, skilful, ingenious; ready in invention or execution.

Adroit'ly, *adv.* [Fr. *adroitement.*] In an adroit manner

Adroit'ness, *n.* Dexterity; skilfulness; readiness in the use of limbs or mental faculties.

Adry', *a.* [From *a* and *dry.*] Thirsty; in want of drink:—it follows ever the noun; as, "I cannot drink when I am not *adry.*"

Adsciti'tious, *a.* [Lat. *adscititius.*] That which is taken in to complete something else; supplemental; additional. Adventitious; superfluous; redundant.

Adsciti'tiously, *adv.* In an adscititious manner.

Ad'script, *n.* [Lat. *adscribere*, to ascribe.] One who is held to service, as attached to some object or place.

Adscrip'tus Glebæ. [Lat.] Attached to the soil; a serf.

Ad'sidella, *n.* Among the Romans, the table at which the flamens sat during the sacrifices.

Adsignifica'tion, *n.* A modification of meaning in a word by adjunction of a prefix or affix.

Adsig'nify, *v. a.* [From *ad*, and *signify.*] To modify the meaning of a word by adjunction of a prefix or affix.

Adstric'tion, *n.* [Lat. *adstrictio*, from *adstringere*, to draw close.] The act of binding fast or together for causing contraction —(*Med.*) Constipation.
Adstric'tory, *a.* See ASTRICTORY.
Adstrin'gent, *a.* See ASTRINGENT.
A due. [It.] (*Music.*) For two voices or instruments.
Ad'ularia, *n.* (*Min.*) A transparent or transluecent variety of felspar found in granitic rocks.
Ad'ulate, *v. a.* To flatter in exeess. (R.)
Adula'tion, *n.* [Fr., from Lat. *adulare*, to flatter.] Praise, excessive in quantity, aud interested in expression.
Ad'ulator, *n.* [Fr. *adulateur.*] One who flatters in excess, or servilely.
Ad'ulatory, *a.* [O. Fr. *adulatoire.*] Containing flatteries or praises beyond what is merited.
Ad'ulatress, *n.* [Fr. *adulatrice.*] A woman who flatters in exeess, or servilely. (R.)
Ad'ule. (*Anc. Geog.*) The modern Zulla, situate in Annesley bay, on the west coast of the Red Sea. Lat. 15° 40′ N.
Adul'lam. (*Anc. Geog.*) One of the eities of the plain, in the tribe of Judah, fortified by king Rehoboam. The "Cave of Adullam," where David hid when pursued by the Philistines, was probably near the Dead Sea.
Adult', *a.* [Fr. *adulte*, from Lat. *adultus*, grown up.] In a general sense, a term signifying anything grown up to, or arrived at maturity. It is also applied to that period of human life which extends from manhood to old age.
Adult', *n.* A person grown up to manhood.
(*Law.*) A man of 14 and a woman of 12 years aud upwards.
Adult'ed, *p. a.* Completely grown.
Adul'terant, *n.* The person or thing that adulterates.
Adul'terate, *v. a.* [Lat. *adulterare*, to commit adultery.] To contaminate, corrupt, make impure, by mixing with inferior substances; as, to *adulterate* drugs, liquors, articles of food, the coin of a country, &c.
Adul'terate, *a.* Tainted with adultery.—Corrupted with some inferior mixture.
Adul'terately, *adv.* In an adulterate manner.
Adul'terateness, *n.* The quality or state of being adulterated, or counterfeit.
Adultera'tion, *n.* [Fr.] The aet of adulterating or corrupting by foreign mixture the articles of food, drugs, and produets of the arts and manufaetures;—the state of being adulterated.—There are enactments against *A.* in most of the European eountries, and also from long in Pennsylvauia and some other States, but it is only of late that this criminal fraud, from which most cases of poisoning originate, has seriously attracted the public attention. Various aets have been passed in relation to the articles which were most seriously adulterated, such as milk, butter, &e., their infraction being punishable by confiseation and fine, while earnest efforts have been made to trace the various injurious substances used in food adulteration.
Adul'terer, *n.* The man guilty of adultery.
(*Script.*) A man who violates his religious covenant.
Adul'teress, *n.* [Lat. *adulteratrix.*] A woman guilty of adultery.
(*Script.*) A woman who violates her religious covenant.
Adul'terine, *n.* [Lat. *adulterinus.*] (*Law.*) A child born of an adulterous intercourse.
Adul'terine, *a* Spurious; adulterous.
Adul'terous, *a.* Guilty of adultery; relating to adultery.
Adul'terously, *ad.* In an adulterous manner.
Adul'tery, *n.* [Fr. *adultère*, from Lat. *adulterium.*] (*Law.*) The offenee of incontinence between two married persons, or between two persons, one of whom is married. In the latter case it is called single, in the former, double adultery.—This crime was punished by the Jewish law with death; but it must be remembered that the kind of *A.* which by the Mosaic law eonstituted a capital crime, was only the sexual conneetion of a wife with any other man than her husband. This distinction was analogous to the whole system of the Jewish marriage-law; by which the husband and wife had not an equal right to restrain each other from infidelity; for the former might marry another wife, or take coneubines to his bed, without giving his first wife a legal right to complain of any infringement of her matrimonial rights. The first Roman laws were very severe for this crime, but the *Julian lex* revised (B. C. 17) the old legislation on the subject, and made *A.* in the wife only punishable by her banishment and partial forfeiture of her dowry, her paramour losing also the half part of his goods.—Double and siugle adultery are punishable by various degrees of severity in most of the countries of modern Europe. By the French Code Civil the *A.* of the wife in all eases, and the *A.* of the husband when committed in his abode, is a ground of *séparation de corps;* the husband may also have his wife and her paramour punished by 2 years' imprisonment. In America and England *A.*, considered as a civil injury, forms the ground of an aetion of damages against the paramour, and also of absolute divorce. In England it is not punishable at common law. In Ameriea it is made criminal by special statutes in many of the States, but in as many more it is not criminal, unless it be open and notorious.
Adult'ness, *n.* The state of being adult. (R.)
Adum'brant, *a.* [See ADUMBRATE.] That which gives a faint shadow or slight resemblance.
Adum'brate, *v. a.* [Lat. *adumbrare*, from *ad*, and *umbrare*, to shade.] To shadow out: to give slight likeness; to exhibit a faint resemblance like that which shadows afford to the bodies which they represent
Adumbra'tion, *n.* The act of adumbrating, or giving a slight and imperfeet representation.—The slight and imperfeet representation of a thing; a faint sketch.
(*Her.*) The shadow of a figure painted of a color darker than the field.
Ad'unpoor, an Indian town in the British district of Azimgurh. *Lat.* 16° N., *lon.* 80° 20′ E.
Adun'city, *n.* [Lat. *aduncitas.*] Crookedness; flexure inwards; hookedness.
Adun'cous, *a.* [Lat. *aduncus*, from *ad*, and *uncus*, hooked.] Crooked; having the form of a hook.
Adust', *a.* [Lat. *adustus.*] Burut up; seorehed; hot and fiery.

"The same *adust* complexion has impell'd
Charles to the couvent, Philip to the field." — *Pope.*

Adust'ed, *a.* Burnt; seorched; dried with fire; looking as if scorehed.
Adust'ible, *a.* That whieh may be adusted or burnt up. (R.)
Adus'tion, *n.* The act of burning up, or dryiug; the state of being burned up or dried as by fire.
(*Surg.*) The application, rarely used by modern surgeons, of any substanee to the animal body, which acts like fire. Cauterization.
Ad valo'rem. [Lat., according to the value.] (*Com.*) A term used for those duties or customs which are paid according to the value of the goods, and at a certain rate per eent.
Advance', *v. a.* [Fr. *avancer.*] To bring forward; to move onward.

"Now morn, her rosy steps in the eastern clime
Advancing, sow'd the earth with orient pearl." — *Milton.*

—To raise in diguity or office; to aggrandize.

"The declaration of the greatness of Mordecai, whereunto the kiug *advanced* him." — *Esther* x. 2.

—To improve; as,

"To *advance* the nature of man to its highest perfection."—*Tillotson.*

—To heighten; to grace; to give lustre to.

"As the calling dignifies the man, so the man much more *advances* his calling." — *South*

—To forward: to aeeelerate the growth or progress of; as,

"This culture did rather retard than *advance*." — *Bacon.*

—To propose; to make known; to bring to view; as,

"I dare not *advance* my opinion." — *Dryden.*

—To pay iu part, or wholly, before the delivery of goods purehased, the exeention of work or the performanee of any business; to supply or pay for others, in expeetation of reimbursement.
—To increase; as, "to *advance* the priee of goods." (O.)
Advance', *v. n.* To come forward.

"At this the youth, whose vent'rous soul
No fears or magic art control,
Advanced in open sight." — *Parnell.*

—To make improvement iu knowledge, or in dignity, office, &c.

"They who would *advance* in knowledge, should not take words for real entities in nature." — *Locke.*

Advance', *n.* The aet of coming forward; progress approach;—an act of invitation.

"Not all the *advances*, all the smiles,
Can move one unrelenting heart."— *Walsh.*

—Improvement, moral or physical; progression.
(*Com.*) Mouey paid in part, or wholly, before it is due, or the delivery of goods purehased, the execution of work, or the performance of any business.—The money or goods furnished; as, "The banker will not make *advances*." — *In advance*, a person is said to be in advance to another when he has given more money or goods than it was agreed. — *To go in advance*, to go before.
(*Mech.*) *Annular advance.* See ANNULAR.
Linear advance. See LINEAR.
Advance', *a.* Sometimes used for advanced; as, an *advance*-payment, an *advance*-guard, &c.
Advanced', *p. a.* Which is in front or has made progress; eome forward; promoted.
(*Mil.*) Any portion of an army whieh is in front of the rest; and figuratively, the promotion of officers and soldiers.
Advanced Way. (*Fort.*) A *terre plein* on the exterior of the advanced ditch, similar to the first covered way.
Advanced Ditch, or Moat. (*Fort.*) The treneh surrounding the glaeis or esplanade of a place.
Advanced Guard, or *Vanguard.* (*Mil.*) The first line or division of an army, placed in order of battle. It also denotes a party of cavalry stationed before the main guard.
Advanced Lunettes. (*Fort.*) Works resembling bastions or ravelines, having faces and flanks. They are formed upon or beyond the glacis.
Advanced Works. (*Fort.*) Works constructed beyond the covered way and glaeis, but within the range of the musketry of the main works.
Advanee'ment, *n.* [Fr. *avancement.*] The aet of advaneing; the state of being advanced; improvement; progression; promotion.—Money paid in advance.
(*Law.*) A gift by anticipation from a parent to a child, of the whole, or a part, of what it is supposed sueh child would inherit on the death of the parent. The effect of au *A.* is to dednet from the distributive share of the child the amount so reeeived, estimating its value at the time of receipt.

Advau'cer, *n.* He who advances anything; a promoter.
Advau'cing, *p. a.* Going forward; as, "the *advancing* armies."
Advau'cive, *a.* Tending to advance. (R.)
Advau'tage, *n.* [Fr. *avantage.*] Superiority;—with *of* or *over*;

"His practical prudence gives him an *advantage over* you."—*Sprat.*

—Opportunity; convenienee; gain; profit.—Any eircumstance, means, or state, favorable to success.

"What *advantage* will it be unto thee, if I be cleansed from my sin?" — *Job* xxxv. 3.

Advan'tage, *v. a.* To benefit; to profit. (O.)
Advan'taged, *a.* Possessed of advantages.

"In the most *advantaged* tempers, this disposition is but comparative." — *Glanv.*

Advan'tage-ground, *n.* Ground that gives superiority and opportunities of annoyanee or resistance.
Advanta'geous, *a.* [Fr. *avantageux.*] Producing advantage; profitable; useful; convenient.
Advanta'geously, *adv.* Couveniently; opportunely; profitably.
Advanta'geousness, *n.* Quality of being advantageous; profitableness.
Advene', *v. n.* [Lat. *advenio*, to come.] To accede; to become part of something else without being essential; to be superadded.
Ad'vent, *n.* [Lat. *adventus*, coming.] (*Eccl. Hist.*) A term applied by the Christian Church to certain weeks before Christmas. Aneiently the season of Advent consisted of six weeks, and this is still the duration of it in the Greek Church. In the Catholic Chureh, however, aud in the Protestant churehes that observe Advent, it only lasts four weeks, eommencing with the Sunday nearest St. Andrew's day (Nov. 30), either before or after. It is appointed to be observed as a season of devotion, being intended to eommemorate the coming of Christ in the flesh, and to direet the thoughts to his second coming. This season was observed with great austerity by the primitive Christians.
Adventi'tious, *a.* [Lat. *adventitius.*] Any thing that accidentally, and not in the common eourse of natural causes, happens to make a part of another. Something accruing or befalling a person or thing from without.
(*Med.*) Aequired,—opposed to hereditary; so, gout and scrofula are sometimes hereditary, and very often *adventitious.*
Adven'titious Roots. (*Bot.*) Roots whieh are not produced by the direct elongation of the radicle of the embryo. They generally spring from the true roots, from suekers, runners, bulbs, or other subterranean modifications of the stem. Adventitious roots are sometimes given off by the stems and branches, and are then termed aërial roots.
Adventi'tiously, *adv.* In an adventitious manner; accidentally.
Adventi'tiousness, *n.* The state of being adventitious.
Advent'ual, *a.* Relating to the season of advent.
Advent'ure, *n.* [Fr. *aventure.*] An accident; the occurrence of an incident of an unusually stirring character. The *adventure* is sometimes unforeseen, sometimes sought purposely.—Incident; crisis; casualty; experiment; romance.
Advent'ure, *v. n.* To try the chance; to dare; to venture.

"She would not *adventure* to set the sole of her foot upon the ground." — *Deut.* xxviii. 26.

Advent'ure, *v. a.* To put at risk, or into the power of chanee.

"My father *adventured* his life for you." — *Judges* ix. 17.

Adventure, in *Michigan*, a village of Ontouagon co.
Advent'ure Bay, situated on the S.E. coast of New Holland, lat. 43° 21′ S., lon. 147° 29′ E. This bay was first discovered by Capt. Furneaux, in 1773, and was named by him after the ship which he eommanded, and which formed part of the expedition under the orders of Capt. Cook. The anchoring ground is good and well sheltered, and the neighboring shore furnishes abundance of wood and water. Capt. Cook found the aborigines to be mild and cheerful, but totally devoid of activity and genius, and nearly on a level with the wretched natives of *Terra del Fuego.*
Adven'ture, BILL OF. [Fr. *aventure*, hazard.] (*Com.*) A writing which is signed by a merchant, and which states that the goods on board a vessel are the property of another, who is to run all risk, the merchant only binding himself to account for the produce.
Advent'ureful, *a.* Adventurous.
Advent'urer, *n.* [Fr. *aventurier.*] One who adventures; one who engages in hazardous enterprises; one who seeks occasion for adventures, or is fond of taking risks.
Advent'uresome, *a.* Venturesome. (R.)
Advent'urous, *a.* One inclined to adventures or enterprises; bold, daring, courageous; venturesome.

"At land and sea, in many a doubtful fight,
Was never known a more *advent'rous* knight." —*Dryden.*

—That whieh is full of hazard; dangerous.

"But I've already troubled you too long,
Nor dare attempt a more *advent'rous* song."—*Addison.*

Advent'urously, *adv.* In an adventurous manner boldly; daringly.
Advent'urousness, *n.* The quality of being adventurous; bolduess.
Ad'verb, *n.* [Fr. *adverbe*, from Lat. *adverbium.*] (*Gram.*) The name given to a class of words employed with verbs, adjectives, &c., for the purpose of qualifying their meaning, just as the adjeetive itself is attached to substantives. In the English language a very large majority of adverbs are distinguished by the termination *ly*, whieh in the Anglo-Saxon has the fuller form *lice*, and in German *lich.* Our own language possesses the same suffix in the form *like*, as *godlike, gentlemanlike.* These, however, and many other words in *ly*, are adjectives, as *manly, ugly;* and it is difficult to draw the line between these two classes. many words, especially in the oldest writers, being used indifferently for both

Adver'bial, *a.* Having the quality or structure of an adverb.
Adver'bially, *ad.* In the manner of an adverb.
Adver'sa. [Lat. *ad*, to, and *versus*, turned towards.] (*Numis.*) A term applied to those coins wherein the heads are seen facing each other.
Adversa'ria, *n. pl.* [Lat., from *adversarius*, turned towards.] A term employed by the ancients to denote a kind of commonplace book, or journal, in which were inserted remarkable occurrences At the present day the term is sometimes used among men of letters, to designate a kind of commonplace book, wherein is entered whatever may occur worthy of notice, whether in reading or conversation.
Adversa'rious, *a.* Adverse. (R.)
Ad'versary, *n.* [Fr. *adversaire*, from Lat. *ad*, to or against, and *versus*, turned.] An opponent; antagonist; enemy; foe. — It sometimes implies an open profession of enmity, but is more generally applied to those that have verbal or judicial quarrels, as controvertists or litigants.
Ad'versary, *a.* Opposite to; adverse; hostile.
Adversa'tion, *n.* [Lat. *adversatio.*] Opposition. (R.)
Adver'sative, *a.* [Lat. *adversativus.*] (*Gram.*) A term applied to a word, as *but*, *however*, *yet*, denoting a difference between what precedes and that which follows, as in this sentence: "This diamond is orient, *but* it is rough."— *But* is here an *adversative* conjunction.
Adver'sative, *n.* An adversative word.
Ad'verse, *a.* [Lat. *advertere*, to turn against.] Acting with contrary direction; contrary.

"And twice, by *adverse* winds, from England's bank
Drove back again unto my native clime."—*Shak.*

— Contrary to the wish or desire; calamitous, afflictive; pernicious; — opposed to *prosperous;* as, an *adverse* fate. — Personally opponent; hostile; inimical; as, an *adverse* party.
(*Bot.*) Applied to parts which stand opposite to each other.
Ad'versely, *ad.* In an adverse manner; unfortunately.
Ad'verseness, *n.* Opposition. (R.)
Adversifo'liate, and **Adversifo'lious,** *a.* [Lat. *adversus*, opposite, and *folium*, a leaf.] (*Bot.*) Having leaves opposite each other.
Adver'sity, *n.* [Fr. *adversité*, from Lat. *adversitas.*] The state of unhappiness; misery; calamity; opposed to *prosperity.*

"Sweet are the uses of *adversity*,
Which like the toad, ugly and venomous,
Wears yet a precious jewel in his head."—*Shak.*

—The cause of our sorrow; affliction; misfortune. — In this sense it may have a plural.

"Let me embrace these sour *adversities*,
For wise men say, it is the wiser course."—*Shak.*

Advert', *v. n.* [Lat. *adverto*, to turn to.] To attend to; to regard; to observe; — used with *to* before the object of regard.

"The mind of man being not capable at once to *advert to* more than one thing. . . ."—*Ray.*

Adver'tence, and **Adver'tency,** *n.* [From *advert.*] Attention to; regard to; consideration; heedfulness.
Adver'tent, *a.* Attentive; heedful.
Advertise', *v. a.* [Fr. *avertir*, from Lat. *adverto*, to turn up.] To give notice; to give public information; to announce; to proclaim; to publish in newspapers or otherwise; as, to *advertise* the loss of a pocket-book, a house to rent, a pomade to sell, &c.
Adver'tisement, *n.* Information communicated to individuals or the public in a manner designed to attract general attention; a notice published either in handbills or in a newspaper.
Advertis'er, *n.* One who advertises.
Advertis'ing, *p. a.* Giving intelligence.
Advice', *n.* [Fr. *avis.*] Counsel; instruction; except that instruction implies superiority, and *advice* may be given by equals or inferiors. — Information as to the state of affairs; notice; intelligence (then commonly in the plural); as, "We have late advices from France."
(*Com.*) An information respecting trade communicated by letter; thus, an *advice* is generally sent by one banker or merchant to another, to inform him of the drafts or bills drawn on him, with full particulars of their sum, date, to whom made payable, &c. This document, termed a "letter of advice," prevents mistakes, and at times detects forgeries; for when bills are presented for payment or acceptance, they can be refused to be honored for want of advice.
Advice'-boat, *n.* A vessel employed to carry despatches.
Advisabil'ity, *n.* Quality of being advisable.
Advis'able, *n.* Prudent; expedient; fit to be advised.
Advis'ableness, *n.* The quality of being advisable or fit; fitness.
Advis'ably, *ad.* With advice.
Advise', *v. a.* [Fr. *aviser.*] To counsel: to give an advice; — with *to* before the thing advised.

"If you stir abroad, go arm'd. — Arm'd, brother! — Brother, I *advise* you to the best."—*Shak.*

— To give information; to inform; to make acquainted with anything; — followed by *of* before the thing told.

"As may *advise* him *of* his happy state."—*Milton.*

Advise', *v. n.* To consider; to deliberate: to weigh.

"*Advise* if this be worth attempting."—*Milton.*

Advised', *p. a.* Acting with deliberation, as after taking advice; prudent; cautious. — Performed with deliberation; well-considered; done with design.— *Worcester.*
Advis'edly, *ad.* Deliberately; purposely; by design; prudently.
Advis'edness, *n* Deliberation; prudent procedure.
Advise'ment, *n.* [Lat. *advisamentum.*] Counsel; information; — consultation; deliberation.
Advis'er, *n.* One who advises or gives counsel; a counsellor.
Advis'ing, *n.* Counsel, advice. (O.)
Advi'sory, *a.* Able to give advice; which gives advice.
Ad'vocacy, *a.* [Lat. *advocatia.*] The act of pleading; vindication; defence; apology.
Ad'vocate, *v. a.* [Lat. *advocare*, to call in aid.] To plead in favor of; to support; to vindicate; to defend.
Ad'vocate, *n.* Among the ancient Romans, an *advocate* was a person skilled in the laws. The origin of advocates in Rome was derived from an early institution, by which every head of a patrician house had a number of dependants, who looked up to him as a protector, and in return owed him certain obligations. This law established the relation of *advocate*, or patron, and client. As it was one of the principal and most ordinary duties of the patron to explain the law to his client, and to assist him in his lawsuits, the relation was gradually contracted to this extent. — In early periods of the Roman republic, the profession of an advocate was held in high estimation. It was then the practice of advocates to plead gratuitously; those who aspired to honors and offices in the state taking this course to render themselves distinguished among the people. As the simplicity of ancient manners gradually disappeared, the services of Roman advocates became venal. At first it appears that presents of various kinds were given, as voluntary acknowledgments of the gratitude of clients for services rendered. These payments, however, gradually assumed the character of debts; and at length became a kind of stipend periodically payable by clients to those of the patrician order who devoted themselves to pleading. In this form, it became a heavy oppression, and was always considered to be an abuse, successively prohibited by several laws, which were ever eluded. In later periods, as the Roman law diffused itself over a great part of Europe, the restrictions upon the pecuniary remuneration of advocates entirely disappeared in practice; and the payment of pleaders for conducting causes in courts of justice resembled in substance the payment of any other services by those who derived benefit from them. — In countries where the Roman law prevails, especially in France, (see BARREAU,) the pleaders in courts of justice are still called advocates: their character, duties, and liabilities being extremely various under different governments. In Scotland, the *faculty of advocates* consists of pleaders or counsels, admitted, upon an examination, to practise before the courts of session, justiciary, and exchequer; they are also entitled to speak in the House of Lords in England upon appeals from the Scotch courts.— The *Lord Advocate*, or *King's Advocate*, is the principal crown lawyer in Scotland. Previously to the union, he was one of the great state officers, and sat in parliament by virtue of his office, without election. His duty is to act as a public prosecutor, and to conduct all causes in which the crown is interested, and particularly in criminal cases. — In the United States and in England an *advocate* is usually termed a *counsel*, *counsellor*, or *attorney-at-law.*—A *judge advocate* is a lawyer or officer who manages a prosecution in a court-martial.
Ad'vocateship, *n.* The office of an advocate.
Ad'vocatess, *n.* A female advocate. (*Obs.*)
Advoca'tion, *n.* [Lat. *advocatio.*] The act of pleading; plea; apology.
Bill of advocation. (*Scotch Law.*) A written application to a superior court to call an action before them from an inferior court.
Advocatus diaboli. [Lat.] The speaker or writer who, in the Catholic church, shows cause against the canonization of a person proposed for sainthood. The advocate who defends the proposed saint is called *advocatus dei.* As the office of the *A. diaboli* is to insist upon the weak points of the life of the proposed saint, this name is sometimes popularly applied to those who delight in detracting from the characters of good men. — *Amer. Ency.*
Advowee', *n.* [Fr. *avoué*, from Lat. *advocatus.*] He that has the right of advowson.
Advow'son, *n.* [Lat. *advocatio*, a summoning.] (*Eng. Law.*) The right of presenting a fit person to the bishop, to be by him instituted to a certain benefice within the dioceso which has become vacant. The person enjoying this right is called the *patron* of the church, and the right is termed an *advowson*, because he is bound to advocate or protect the rights of the church, and of the incumbent whom he has presented. An *A. of a religious house* is that which is vested in the person who founded it.
A'dy, *n.* The Malabar foot, equal to 10½ inches.
Adyna'mia, *n.* [Gr. *a*, privative, and *dynamis*, power.] (*Med.*) A defect of vital power; debility.
Adynam'ic, Adynam'ical, *a.* (*Med.*) Relating to adynamia.
Ad'ytum, *n.* [Gr., a recess.] (*Arch.*) The secret dark chamber in a temple, to which none but the priests had access. It was from this part that the oracles were delivered. The only well-preserved *A.* of the ancients is in the little temple at Pompeii. It is raised some steps above the level of the temple, and is without light.
Adze, or ADDICE, *n.* [A. S. *adese.*] An edged carpenter's tool, used to chip surfaces in a horizontal direction, the axe being employed to chop materials in a vertical position. The *A.* is chiefly employed for taking off thin chips from timber or boards, and for paring away irregularities at which the axe cannot come.
Æ, a diphthong of very frequent use in the Latin language, which seems not properly to have any place in the English, its sound being no other than that of the simple E. It has been, nevertheless, retained in some words of Latin formation.—[The inquirer will search under the letter E for all words not found with the initial diphthong Æ.]
Æa. (*Myth.*) A huntress, changed by the gods into an island of the same name, to rescue her from the pursuit of her lover, the river Phasis. On the island was a town called *Æa*, which was the capital of Colchis.
Æ'acus. (*Myth.*) Son of Jupiter, by Ægina, and king of the island of Œnopa. A pestilence having destroyed all his subjects, he entreated Jupiter to repeople his kingdom; and, according to his desire, all the ants which were in an old oak were changed into men, and called by *Æ. myrmidons*, from *murmex*, an ant. *Æ.* married Endeis, by whom he had Telemon and Peleus. He was a man of such integrity that the ancients have made him one of the judges of hell, with Minos and Rhadamanthus.
Æcid'ium, *n.*; (*Bot.*) A numerous genus of minute parasitic plants belonging to the ord. *Fungi*, found in great abundance in northern countries. The species are universally parasitic upon the leaves, or flowers, or bark of living plants, where they are generated beneath the cuticle. Their structure is of the most simple kind; consisting of nothing more than a little mass of excessively minute sporules, or reproductive particles, much smaller than the finest sand, inclosed in a thin bag, of either a fibrous or reticulated structure, which in time pierces the cuticle under which it lies, gradually assumes a tubular appearance, and finally bursts at the apex for the purpose of enabling the sporules to escape. A great many species are found upon the weeds and trees of Europe and America. Among the most common is *Æ. cancellatum*, the Pear Æcidium, to be found on the back of the leaves of the cultivated pear-tree, to which it gives a singular warted aspect. It makes its appearance crowded in little patches of a pale brown color, which, when examined with a microscope, are seen to consist of numerous oval bodies, about a line long. It probably does not produce any injurious effect upon the plants it attacks, for it generally makes its appearance late in the season, when the leaves have nearly completed their office for the year.

Fig. 36. — ÆCIDIUM CANCELLATUM.

Ædes'sa, or EDESSA. (*Anc. Geog.*) A town of Macedonia, near Pella. Caranus, king of Macedonia, took it by following goats that sought shelter from the rain, and called it from that circumstance (*aigras*, capras) Ægeas. It was the burial-place of the Macedonian kings; and an oracle had said, that as long as the kings were buried there, so long would that kingdom exist. Alexander was buried in a different place; and on that account some authors have said that the kingdom became extinct.
Æ'dile, [*Lat.*] A sanctuary or temple, a dwelling.— The title of certain Roman magistrates, so called from their care of buildings (Ædes). They were divided into two classes, plebeian and curule. The two plebeian ædiles were elected from the commonalty (plebs), and were subordinate to the tribunes of the *Plebes*, having jurisdiction over lesser causes, submitted to them by those magistrates. The two curule ædiles, so called from their privilege of giving judgment on ivory seats (*sellæ curules*), were originally elected from the patricians, but afterwards from both plebeians and patricians promiscuously. The magistracy was one of the most dignified in the state, and was allowed the use of the robe of honor (toga prætexta), and a certain precedence in the senate. The peculiar office of the ædiles was the superintendence of public works, markets, &c., in the city. They had also, particularly the curule ædiles, to exhibit public games, which they often did at a vast expense, in order to court popularity. Julius Cæsar added two other plebeian ædiles, called *cereales*, to inspect the public stores of provisions.
Æ'eta, or Æ'ETES, (*Myth.*,) king of Colchis, son of Sol and Perseis, daughter of Oceanus, was father of Medea, Absystus, and Chalciope, by Idea, one of the Oceanides. He killed Phryxus, son of Athamas, who had fled to his court on a golden ram. The Argonauts went against Colchis, and recovered the Golden Fleece by means of Medea, though it was guarded by bulls that breathed fire, and by a venomous dragon. This expedition has been celebrated by all the ancient poets.
Æg'ades, a group of islands off the W. coast of Sicily, from 15 to 35 miles W. of Trapani. The most important are Favignana, Levanso, and Maritimo.
Æg'æ. (*Anc. Geog.*) A town near Eubœa, from which the Ægean sea is said to take its name.
Æg'æon. (*Myth.*) The son of Cœlus or of Pontus and Terra, the same as Briareus. It is supposed that he was a notorious pirate, chiefly residing at Ægæ, whence his name; and that the fable about his hundred hands arises from his having one hundred men to manage his oars in his piratical excursions.
Æga'gre, *n.* (*Zoöl.*) The *Capra ægagra*, a wild species of goat, called *Paseng* by the Persians, and believed

with great probability, to be the original source of at least one variety of the domestic goat. In the stomach and intestines of this animal are found those peculiar concretions or calculi called Bezoar stones, to which European physicians of the middle ages, the disciples of the Arabic school of medicine, imputed such wonderful properties; and which still enjoy a high reputation throughout the east, on account of their supposed medicinal virtues. — See GOAT.

Ægal'eos, or ÆGALEUM. (*Anc. Geog.*) A mountain of Attica, from which Xerxes beheld the battle of Salamis. It was situated to the left of the road from Athens to Eleusis. Its present name is Saramango.

Ægean Sea. (*Anc. Geog.*) That part of the Mediterranean now called the GRECIAN ARCHIPELAGO. The Ægean Sea was bounded on the north by Macedonia and Thrace, on the west by Greece, on the east by Asia Minor, and situate between the 41st and 36th degrees of latitude. The true origin of the name is unknown, and we should rather refer it to old king Ægeus, father of Theseus, than to any one else. It contains numerous islands, many of which are undoubtedly of volcanic origin. Of these the more southern are divided into two groups; one called the Sporades, or scattered islands, lying along the coast of Caria and Ionia; the other called the Cyclades, or circling islands, lying off the coasts of Attica and Peloponnesus, from which they were separated by the Myrtoan Sea, and occupying a large part of the southern Ægean. Another portion of the Ægean, lying about Icaria, one of the Sporades, was also called the Icarian Sea. The northern part of the Ægean contains fewer, but larger islands; the principal were called Chios, Lesbos, Lemnos, Thasos, and Eubœa. At the N.E. corner it communicates with the Propontis (Sea of Marmora) by the narrow strait called the Hellespont, now the Dardanelles; the Turks called it the White Sea, to distinguish it from the Black Sea; it must not, however, be confounded with the White Sea in the north of Russia. See ARCHIPELAGO.

Ægean, *a.* Belonging, or relating, to the Ægean sea.

Æg'æns. (*Myth.*) A surname of Neptune, from *Ægæ*, in Eubœa. — A river of Corcyra. — A plain in Phocis.

Æge'ns, king of Athens, son of Pandion, being desirous of having children, went to consult the oracle, and on his return stopped at the court of Pittheus, king of Trœzene, who gave him his daughter Æthra in marriage. He left her pregnant, and told her if she had a child to send him to Athens, as soon as he could lift a stone under which he had concealed his sword. By this sword he was to be known to Ægeus, who did not wish to make any public discovery of a son, for fear of his nephews, the Pallantides, who expected his crown. Æthra became mother of Theseus, whom she accordingly sent to Athens with his father's sword. At that time Ægeus lived with Medea, the divorced wife of Jason. When Theseus came to Athens, Medea attempted to poison him; but he escaped, and upon showing Ægeus the sword he wore, discovered himself to be his son. — Theseus had agreed with Ægeus, when he should return from Crete, that he should hoist white sails, as a signal of his having subdued the Minotaur; forgetting to do so, his disconsolate father, at the sight of the black sails, threw himself into the sea. Ægeus reigned forty-eight years, and died B. C. 1235.

Æg'iale. (*Myth.*) One of Phæton's sisters, who were themselves changed into poplars, and their tears into amber. They were called Heliades.

Ægi'dius de Columna, a general of the Augustines, who taught divinity at Paris with great reputation, but whose works have long since sunk into oblivion. One of his books, however, as an early specimen of typography, is still sought for. D. 1316.

Ægi'lia. (*Anc. Geog.*) A small island in Eubœa, where the Persian fleet, under Datis and Artaphernes, was moored before the battle of Marathon. It is now called Stouri. — Another in the channel which separates Cythera from Crete.

Æg'ilops, or ÆGYLOPS, *n.* [Gr., from *aigos*, a goat, and *ops*, the eye.] (*Med.*) A disease so named from the supposition that goats were subject to it. It is a stage of the *fistula lachrymatis*. When the skin covering the lachrymal sac has been for some time inflamed, it most commonly happens that the puncta lachrymalia are affected by it; and the fluid, not having an opportunity of passing off by them, distends the inflamed skin, so that at last it becomes sloughy, and bursts externally. This is that state of the disease which is called perfect ægilops.

(*Bot.*) A genus of the ord. *Graminaceæ*. The species *Ægilops ovata* was formerly supposed to be the origin of all the varieties of cultivated wheat; and it is undoubtedly true that a kind of wheat may be produced by the union of this plant with a species of *Triticum*. The hybrid, after about twelve years' cultivation, becomes a wheat-bearing grass.

Ægi'na, (*Myth.*) a daughter of Asopus, had Æacus by Jupiter changed into a flame of fire. She afterwards married Actor, son of Myrmidon, by whom she had some children, who conspired against their father. Some say that she was changed by Jupiter into the island which bears her name.

Ægi'na, an island in that part of the Ægean Sea which formed the Saronic gulf. It was also called Œnone, Œnopia, and Myrmidonia. This island furnished 18 ships to the battle of Artemisium, 30 to that of Salamis, and 500 men to the battle of Platæa. The modern name of the island is Egina. On the conical hill called mount Oras are still to be seen some remains of the temple of Jupiter Panhellenius, a fine specimen of the Greek Doric order. The island has about 40 square miles area, and 7,000 inhabitants. It is mountainous, and the coast affords only one haven on the N.W. The soil produces the best almonds in Greece, with wine, oil, corn, and various fruits. — The modern town of Egina stands on the site of the ancient town; *pop.* about 4,000.

Fig. 37. — RUINS OF THE TEMPLE OF ÆGINA.

Ægina, GULF OF, the ancient *Saronicus Sinus*, containing the islands of Ægina, Salamis, and several islets. It is about 50 miles in length and 30 in breadth, on the E. side of Greece, between Attica and the Peloponnesus.

Ægine'ta, PAULUS, a native of the island Ægina, who first noticed the cathartic quality of rhubarb. Lived in the 7th century. His works were published at Paris in 1532, folio.

Æginetan Style of Art. Several ancient writers, particularly Pliny and Pausanias, make frequent mention of Æginetan works of art; and in such a manner, as to show that the productions of the school of Ægina were highly esteemed. Many names of Æginetan sculptors had thus come down to us as almost synonymous with excellence in their art, but the works of none of these could be recognized among those which had escaped the ravages of time, when the discovery of the sculptures which adorned the tympana of the Panhellenium (see ÆGINA) furnished us with undoubted specimens of Æginetan art. The sculptures of the Panhellenium are of great beauty and merit, and are, for many reasons, highly interesting; but they are probably not of the class and date from which the school of Ægina derived its celebrity. The energy of action, the grace of attitude, and the truth of proportion displayed in these works are admirable. Nevertheless, there is a degree of dryness and rigidity observable in the bodies and limbs, which give the works an archaic character, whilst the countenances, the hair, and the draperies, clearly betoken their near approach to the archaic period. The sculptures are exhibited in the museum of Munich.

Æg'inhard, a German, educated by Charlemagne, of whom he became the faithful secretary. He retired from the active scenes of life after the loss of Imma, his beloved wife, whom some have falsely called daughter of the emperor, asserting that she conveyed her husband on her shoulders from her house, through the snow, that his escape might not be traced by the jealousy of her father. Æginhard is the author of a valuable life of Charlemagne, besides annals from 741 to 837, and letters. D. 840. His works were first printed at Paris, 2 v. fol., 1576.

Æg'iochus. (*Myth.*) A surname of Jupiter, from his using the skin of the goat Amalthæa instead of a shield, in the war of the Titans.

Æ'gis, *n.* [Gr. *aigis*, a goat-skin coat.] The shield of Jupiter, who is called by Homer the Ægis-bearer. According to the Greek poet, the shield was covered with the skin of the goat Amalthæa. Minerva afterwards fixed upon it the Gorgon's head, and thus endowed it with the power of turning into stone all those who looked at it. The term was also employed to denote the breastplate of a god, and finally it came to be applied to the cuirass of distinguished persons. — In a figurative sense, *ægis* [Fr. *égide*] denotes protection.

Fig. 38.
MINERVA, WITH ÆGIS.

Æg'isthus, king of Argos, was son of Thyestes, by his daughter Polopea. Being left guardian of Agamemnon's kingdoms and of his wife Clytemnestra, he fell in love and lived with her. They were both put to death afterwards, by Orestes, after a reign of seven years from the murder of his father, Agamemnon.

Æg'ipan. (*Myth.*) A name of Pan, because he had the feet of a goat.

Æg'irin, or ÆGYRIN. (*Min.*) A mineral of the augite family, occurring at Brevig, in Norway, sometimes in very large crystals belonging to the monoclinic system. Color greenish-black; lustre vitreous.

Æ'gle. (*Myth.*) A nymph, daughter of Sol and Neæra. — One of the Hesperides. — One of the Graces.

Æ'gles, a Samian wrestler, born dumb. Seeing some unfair measure practised in a contest, he broke the string which held his tongue, through the desire of speaking, and always afterwards spoke with ease.

Æg'letes. (*Myth.*) A surname of Apollo.

Ægo'ceros, or CAPRICORNUS. (*Myth.*) An animal into which Pan transformed himself when flying before Typhon, in the war with the giants. Jupiter made him a constellation.

Ægoph'ony, *n.* [Gr. *aigos*, a goat, and *phone*, sound.] (*Med.*) A peculiar sound observed in using the stethoscope, resembling the sound made by a goat.

Ægospot'amos. [Gr., *goat's river.*] (*Anc. Geog.*) A town, in the Thracian Chersonesus, on a river of the same name, where the Athenian fleet, consisting of 180 ships, was defeated by Lysander, on the 13th December, B. C. 405, in the last year of the Peloponnesian war.

Ægyptiacum, *n.* (*Med.*) A name formerly given to different unguents of the detergent or corrosive kind. The simple *Æ.* is a composition of verdigris, vinegar, and honey, boiled to a consistence.

Ægyp'tus, son of Belus, and brother to Danaus, gave his fifty sons in marriage to the fifty daughters of his brother. Danaus, who had established himself at Argos, and was jealous of his brother, obliged all his daughters to murder their husbands the first night of their nuptials. This was executed, with the exception that Hypermnestra alone spared her husband, Lynceus. Even Ægyptus was killed by his niece Polyxena. Ægyptus was king, after his father, of a part of Africa, which from him has been called Ægyptus.

Æl, Ael, or AL. [A. S.] A prefix syllable, signifying *all*, or *altogether*. Thus, *Ælvin* signifies a complete conqueror.

Ælf. [A. S.] A prefix implying help, aid, assistance. Thus, *Ælfwold* signifies an *auxiliary governor*.

Æl'fric, or ALFRIC, a Saxon Benedictine monk, was made archbishop of Canterbury in 994; D. 1005. He displayed a commendable zeal for the spread of learning. Among the works ascribed to his pen is a Saxon grammar in Latin.

Ælia Capitolina. (*Anc. Geog.*) A name given to Jerusalem in the time of the emperor Adrian, from Ælius, one of the names of the emperor.

Ælia'nus, CLAUDIUS, a Roman, who lived about the middle of the third century of the Christian æra. Besides others, we have of him a work, in 14 books, entitled, *Various or Miscellaneous History*, which may be considered as one of the earliest collections of ANA. The value of it does not consist in that the compiler has written, but in the passages of lost writers that he has been the means of preserving. Printed in Paris, 1805.

Æ'lius. There were several Romans of this name, the most remarkable of whom is Q. Æl. Pætus, son of Sextus, or Publius. As he sat in the senate-house, a woodpecker perched on his head: upon which a soothsayer exclaimed, that if he preserved the bird, his house would flourish and Rome decay; and if he killed it, the contrary must happen. Hearing this, Ælius, in the presence of the senate, bit off the head of the bird. All the youths of his family were killed at Cannæ, and the Roman arms were soon attended with success.

Æ'lius, SEXTUS CATUS, censor with M. Cethegus. He separated the senators from the people in the public spectacles. During his consulship, the ambassadors of the Ætolians found him feasting off earthen dishes, and offered him silver vessels, which he refused, satisfied with the others, which for his virtues he had received from his father-in-law, L. Paulus, after the conquest of Macedonia.

Æ'llo. (*Myth.*) One of the Harpies.

Æ'lst, EVERHARD VAN, a Dutch painter, famous for his dead-game and fruit-pieces. B. at Delft, 1602; D. 1658. — He had a nephew, William, also distinguished as an artist. D. 1679.

Æ'lterre, a town in Belgium, 12 miles from Ghent. *Pop.* 6,000.

Æmi'lia, a division of N. Italy, bounded on the N. by the river Po, formed in 1859, and including the nine provinces of Bologna, Ferrara, Forli, Massa, and Carrara, Modena, Parma, Piacenza, Ravenna, and Reggio, which are described in their several places.

Æmi'lianus, C. JULIUS, a Moor, who, from the lowest stations, rose to be emperor of Rome. He reigned only four months, when he was killed, in his 46th year, by his own soldiers, who then offered the crown to Valerian.

Æmi'lius, PAULUS, a Roman general, who was of noble family, and passed through several civil offices with reputation, until he obtained a military command, in which he acquired great glory. At the age of 46 he held the office of consul; and at 60 accepted the command of the armies against Perseus, king of Macedon, whom he made prisoner, leading him and the king of Illyria, his ally, in triumph through Italy. On his arrival at Rome, he obtained a magnificent triumph, in which Perseus and his family, as captives, led the procession. He afterwards served the office of censor. B. 228, B. C.; D., universally regretted, B. C. 160.

Æne'as, a Trojan prince, son of Anchises and the goddess Venus. The care of his infancy was intrusted to a nymph: but at the age of five he was recalled to Troy, and placed under the inspection of Alcathous, the friend and companion of his father. He afterwards improved

himself in Thessaly, under Chiron, whose house was frequented by all the young princes and heroes of the age. Soon after his return home, he married Creusa, Priam's daughter, by whom he had a son, called Ascanius. During the Trojan war he behaved with great valor in defence of his country, and encountered Diomedes and Achilles. Yet he is accused, with Antenor, of betraying his country to the Greeks, and of preserving his life and fortune by this treacherous measure. He lived at variance with Priam, on account of not receiving sufficient marks of distinction from the king and his family, a circumstance which might have provoked him to seek revenge by perfidy. When Troy was in flames, he carried away upon his shoulders his father Anchises and the statues of his household gods, leading in his hand his son Ascanius, and leaving his wife to follow behind. Some say that he retired to Mount Ida, where he built a fleet of twenty ships, and set sail in quest of a settlement. Strabo, on the contrary, says that Æneas never left his country, but rebuilt Troy, where he reigned, and his posterity after him. Even Homer, who lived four hundred years after the Trojan war, says that the gods destined Æneas and his posterity to reign over the Trojans. According to Virgil and other Latin authors, he was sailing from Sicily to Italy, when he landed in Epirus, and was driven on the coasts of Africa, and received by Dido, queen of Carthage, to whom, on his first interview, he gave one of the garments of the beautiful Helen. Dido being enamoured of him, wished to marry him; but he left Carthage by order of the gods. In his voyage he passed to Cumæ, where the Sibyl conducted him to hell, that he might hear from his father the fate which awaited him and all his posterity. After a voyage of seven years, and the loss of thirteen ships, he arrived in the Tiber. Latinus, the king of the country, received him with hospitality, and promised him his daughter Lavinia, who had been before betrothed to king Turnus by her mother Amata. To prevent this marriage, Turnus made war against Æneas; and after many battles, the contest was terminated by a combat between the two rivals, in which Turnus was killed. Æneas married Lavinia, in whose honor he built the town of Lavinium, and succeeded his father-in-law. His reign was but of short duration, various accounts being given of the cause of his death. — Æneas has been praised for his piety and submission to the will of the gods. The story of the loves of Dido and Æneas is allowed to be a mere poetical ornament, introduced by a violent anachronism.

Æ'neid, *n.* [Lat. *æneis.*] The celebrated poem written by Virgil in the time of Augustus Cæsar, which relates the wanderings of Æneas after the capture of Troy, his arrival in Italy, and his adventures previous to his marriage with Lavinia and settlement in Latium. The poem consists of twelve books. The first six contain a description of the wanderings of the hero; the others, of his arrival in Italy, and the war between the Trojans and the natives. It was commenced about B. C. 30, the author continuing to labor on it till his death, B. C. 20. It called forth the enthusiastic admiration of his contemporaries. Propertius wrote:

> "Yield, Roman poets; lords of Greece, give way;
> The Iliad soon shall own a greater lay;"

and some writers, even in modern times, have expressed the same opinion. It is nevertheless generally admitted that, compared with the Iliad, the Æneid is wanting in originality and power: it is evidently the labored performance of a learned man, possessed of an elegant mind, who has availed himself freely of the labors of those who have preceded him. The strength of Virgil lay in the pathetic rather than in the sublime; and many passages of the Æneid, which admitted of the former quality, are exquisitely beautiful. The *Æ.* has been frequently translated in English, but the energetic version of Dryden has nearly superseded all others.

A'eng, a village of British India, province of Bengal. Near it is the best pass into the Burmese dominions. *Pop.* 800. Lat. 19° 50′ N., lon. 94° 9′ E.

Æo'lian, *a.* [Lat. *æolus*, god of the wind.] Belonging to Æolus; acted upon by the wind.

Æolian attachment. See ATTACHMENT.

Æo'lian harp, or ÆOLUS' HARP. A well-known instrument, which produces a pleasant combination of sounds, by the action of the wind. Its construction is very simple, consisting of merely a number of catgut or wire strings, stretched in parallel lines over a box of thin deal, with sounding-holes cut in the top. The strings being tuned in unison, the effect is produced by placing the instrument in a current of air. The invention of the Æolian harp is generally given to Kircher, by whom it was first described.

Æo'lians, the name of one of those various peoples, whom we are accustomed to class under the general appellation of Greeks. We trace the name of Æolians to Thessaly, their primitive abode, as far as we know, where they appear to have been closely related to the Phthiotic Achæans of the same country. The Achæi of the Peloponnesus were kinsmen, and, in fact, part of the Æolians; and the great emigration, commonly called the Æolian, was an emigration of Achæan people. It seems probable that the emigration from the Peloponnesus commenced before the Dorian invasion, or return of the Heraclidæ, as it is often called, which caused so great a revolution in the Peninsula. Strabo says that the Æolian settlements in Asia were four generations prior to those called the Ionian. The Æolian colonies on the Asiatic main land were widely spread, extending at least from Cyzicus along the shores of the Hellespont and the Ægean to the river Caicus, and even the Hermus. Many positions in the interior were also occupied by them, as well as the fine island of Lesbos, with Teuedos, and others of smaller importance. Homer mentions all these parts as possessed by a different people; which would be a proof, if any were wanting, that the race of new settlers came after his time. There were twelve cities or states included in the older settlements in that tract of Asia Minor on the Ægean, which was known in Greek geography by the name of Æolis, and formed a part of the subsequent larger division of Mysia. Smyrna, one of them, which early fell into the hands of the Ionians, the neighbors of the Æolians, still exists nearly on the old spot, with exactly the same name, thus adding one to the many instances of the durable impression made by Greek colonists wherever they settled.

But besides these twelve states, to which we have alluded, (most of which were near the coast,) there were many Æolian towns founded by the new-comers along the Hellespont, the range of the Ida mountains, and on the coast of Thrace.

Æol'ic, *a.* Belonging to the Æolians.

ÆOLIC DIALECT. (*Ling.*) One of the five dialects of the Greek language, agreeing in most things with the Doric dialect.

ÆOLIC VERSE. (*Pros.*) A kind of verse, consisting of an iambus or spondee, then of two anapests, separated by a long syllable, and lastly of one long or short syllable.

Æol'ipile, *n.* [Lat. *Æolus*, the god of the wind, and *pila*, a ball.] An hydraulic instrument, contrived for the purpose of exhibiting the convertibility of water into steam. It consists of a hollow ball of metal, having a slender neck or pipe, with a very small orifice inserted into it. The ball, having been filled with water, is placed over the fire; and the heat gradually converts the water into vapor, which rushes out of the pipe with great violence till the whole is discharged. The experiment is not unattended by danger; for should the small orifice by any accident be stopped, the steam would burst the ball. The *Æ.* was known to the ancients, being mentioned by Vitruvius. Descartes and others have used it to account for the natural cause and production of the wind. It is sometimes filled with alcohol, and the jet of its vapor being inflamed, it serves the purpose of a blowpipe.

Æo'lus. (*Myth.*) The god of the winds, who was fabled by the early poets to have his seat in the floating island of Æolia; but the Latin and later Greek poets placed him in the Lipari isles. Here the winds were pent up in vast caves, it being the duty of Æolus to let them loose, and to restrain their violence at the pleasure of Jupiter.

Æ'on. See EON, and GNOSTICS.

Æota'na, *n.* [Gr. *ær*, air, and *teino*, to stretch.] (*Mus.*) A very small musical instrument, consisting of several short, elastic, metallic springs, fixed in a frame and acted on by the breath of the performer.

Æ'pinus, FRANCIS MARIA ULRIC THEODORE, a distinguished electrician, who was the first to see the affinity between magnetism and electricity in its full extent, and to perceive how these may illustrate each other. He is also the inventor of the condenser of electricity and of the electropus. He published several memoirs relating to philosophical subjects, and seems to have devoted a considerable portion of his time to mechanical pursuits. B. at Rostock, Germany, 1724; D. at Dorpat, in Livonia, 1802.

A'er, *n.* [Gr. *air.*] *Aer* is used as a prefix in various compounds relating to the air.

Æra, or ERA, [a word of doubtful derivation.] In Chronology, it is the period that has elapsed from some fixed point of time, or epoch, called the commencement of the æra; and the period of the occurrence of any event is ascertained by reckoning from one or other of those epochs. The period of time selected for an æra, or point whence to begin the computations of time, is necessarily arbitrary; and different nations have adopted different periods coincident with some important event in their civil or religious history. Some, as the Jews, have adopted the year of the creation of the world. The Greeks used to reckon by the æra of the Olympiad, (see this word,) which began at the summer solstice, 776 B. C. The Romans reckoned from the building of the city, generally held to be the 24th of April, B. C. 753. The Julian æra dates from the reformation of the calendar by Julius Cæsar, B. C. 45. All Christian nations now adopt for their æra the birth of Christ, which took place on the 1st of January, in the middle of the 4th year of the 194th Olympiad, and the 753d of the building of Rome. The æra of most Mohammedan nations is that of the Hegira, or flight of Mohammed to Medina, corresponding with the 16th of July, A. D. 622. The æra of Sulwanah, in common use in a great part of India, corresponds to A. D. 78. The æra of Yesdegird, used in Persia, began 16th June, A. D. 632.

A'erate, *v. a.* To supply or fill with air. — To renovate by exposure to the air.

A'erated, *a.* Changed by the agency of air; arterialized.

Aerated bread. — See BREAD.

Aera'tion, *n.* The act of aerating.

AERATION OF BLOOD. (*Physio.*) The renovation of the blood by its exposure to the air in respiration. It is requisite that the blood should be continually exposed to the influence of the air, by which it may get rid of the carbonic acid with which it has become charged during its circulation in the system, and may take in a fresh supply of oxygen, which has been withdrawn from it at the same time. In order to effect this exposure, the blood is conveyed to a particular organ, in which it is made to pass through a set of capillary vessels, and is then brought into almost immediate contact with air. See ARTERIALIZATION, CIRCULATION, RESPIRATION.

AERATION OF SOILS, (*Agr.*) is the impregnating them with air, by ploughing, harrowing, &c., so that the air may enter the pores of the earth.

Æra'rian. The term applied to a Roman citizen who had been degraded to the lowest rank compatible with personal freedom. He, however, still paid taxes, but enjoyed no privileges, and could not serve in the army, or, consequently, participate in the distribution of land granted to such classes as did.

Æra'rium. The public treasury of the Roman people, the care of which was vested in the quæstors. After the fall of the republic, the *ærarium* was kept distinct from the treasury of the emperor, which was called fiscus. The *ærarium sanctus*, or more sacred treasury, was appointed to provide for cases of extreme emergency, and might not be opened on other occasions.

Ae'rial, *a.* [Lat. *aërius.*] Belonging to, produced by, placed in, or inhabiting the air; — high, elevated in situation, and therefore in the air.

> "*Aerial* spires, and citadels, the seat
> Of kings and heroes resolute in war."—*Philips.*

AERIAL BULBS. (*Bot.*) Small conical or rounded bodies of the nature of bulbs, which grow on the axils of the leaves of certain plants. They may be seen in the bulbiferous lily and the pilewort.

AERIAL IMAGES. — See MIRAGE, and FATA MORGANA.

AERIAL LEAVES. (*Bot.*) Leaves which grow in the air, as distinguished from submerged leaves, or those which flourish under water.

AERIAL PERSPECTIVE. (*Paint.*) A term used to signify the receding of objects into distance, as seen through the medium of air. In its general application, however, it is to be understood in a more enlarged sense. Linear perspective may be considered the material guide of the artist, originating in and governed by mathematical science; but aërial perspective is, in whatever relates to *effect*, amenable to no positive law or established rule, and depends for its application on the perceptions and capacity of the artist. Although entering into every variety of subject, in graphic representation, it is in open scenery that aërial perspective is exhibited in its proper sphere. To feel this, it will only be necessary to recollect in how different an aspect the same scenery may present itself under different modifications of the atmosphere. A prospect, which at noonday, or in a clear and bleak morning, appears tame and uninteresting, shall assume an ideal character, and start into combinations of beauty, if seen at sunrise or at sunset, or under any temperature of the sky favorable to the development of picturesque effect. It is, of course, in those schools of painting, wherein the study of external nature, especially of landscape, has been most cultivated, that we are to look for the finest examples of aërial perspective. The Roman and Florentine masters, whose object, almost exclusively, was human form and character, seem to have felt or understood but little of it. The Dutch and Flemish painters exhibit high excellence in this particular, as is shown in the works of Rubens, Rembrandt, Teniers, Ostade, Cuyp, Ruysdael, Wouvermans, Vandervelde, &c. France, however, has the glory of having produced the artist Claude Lorraine, who, in this great quality of art, has borne off the palm from all competitors. He rarely painted any other effects than those of the rising or the setting sun, well knowing their picturesque superiority; but whatever be his subject, an ancient port, or ruins, or temples, the great and presiding charm of Claude is his consummate skill in aërial perspective.

AERIAL ROOTS. (*Bot.*) Those adventitious roots, which arise from the stem and branches of plants, and which, during the whole or part of their growth, are suspended in the air. The little threads which spring from the stem of the ivy, the roots of the screw pine, the descending columns of the banyan-tree, and the green fibres thrown out by the curious air-plants, are examples.

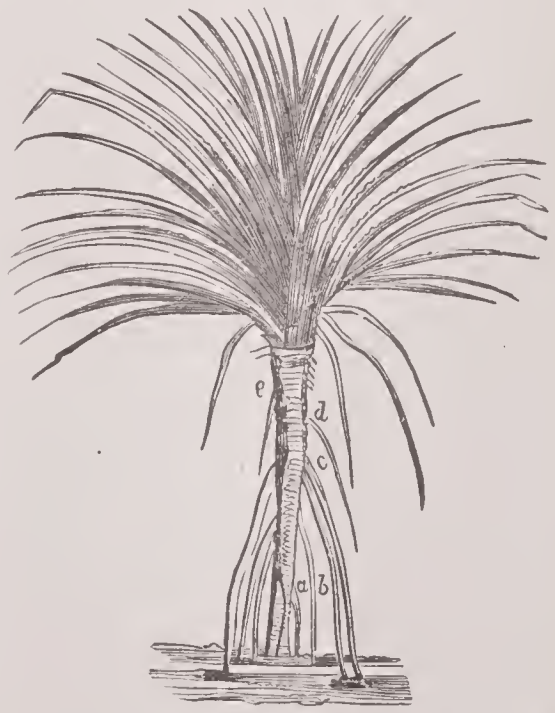


Fig. 39. — PANDANUS, OR SCREW PINE.
It emits aërial roots at *a*, *b*, *c*, *d*, and *e*, which ultimately reach the ground, and give increased stability to the stem.

A'erians, *n. pl.* See AE'RIUS.

Ae'rides, *n. pl.* (*Bot.*) See AIR-PLANTS.

Ae'rie, *n.* [Fr. *aire.*] The nest of the eagle and other birds of prey; a brood of such birds.

Aerif'erous, *a.* [Lat. *aer*, air, and *ferre*, to carry.] Conveying or containing air.

Aerifica'tion, *n.* [Fr.] The conversion of a substance into an aëriform state; the state of being aëriform. The act of uniting air with some thing; the process of being filled with air.

A'eriform, *a.* [Fr.] Having the form or nature of air; gaseous.

A'erify, *v. a.* [Lat. *aer*, air, and *facere*, to make.] To infuse into air; to fill or combine with air.

Ae'rius, an Asiatic presbyter, who from being a follower of Arius (the founder of Arianism), advocated the notion that there was no distinction between bishops and presbyters, and procured many followers, who were named Aërians. Flourished in Sebastia, Poutus, in the 4th century.

Aero'bia, *n. pl.* (*Biol.*) Bacteria whose existence requires the presence of free oxygen.

Aerodynam'ics, *n. pl.* [Gr. *aer*, air, and *dynamis*, power.] The science which treats of properties of aëriform fluids in a state of motion. — The causes which disturb the quiescence of the air are very numerous. Currents are created in innumerable ways; among others, by the local change of temperature induced by the presence or absence of the sun; by the permanent difference of temperature between the polar and equatorial regions; and by the rotation of the earth on its axis. It is also effected by the evaporation of the sea and rivers. Aqueous vapor being much lighter than the air, causes motion in its passage to the cloud-region. — The science of aëro-dynamics is most important in the way of affecting the wellbeing of mankind. It is now proved that it is quite possible to predict the blowing of wind from any particular quarter; and by aëro-dynamic calculations, we are able to forward telegrams to different parts of the coast, warning sailors of coming storms. — The laws which govern projectiles are an important part of this science. We will try to give of them a clear idea. — Conceive a body to be moved forward in a straight line, displacing successively the particles of air opposed to it; the effect which it produces is proportional to the number of particles against which it strikes, and to the quantity of motion communicated to each. Suppose now the velocity of the body to be doubled, the motion communicated to each particle of air displaced will be twice as great as before, and twice as many particles will receive the impulsion in the same time. Hence we infer that the effect will be four times as great, or that the effect is proportional to the square of the velocity. This result of theory agrees tolerably well with experiments made to determine the resistance of the air when the velocity is not very great, or not exceeding eight or nine hundred feet in a second. When the velocity is much greater than this, the effect is modified by circumstances which require further explanation. — When a body is moved out of its position, the space which it occupied is not filled with air instantaneously, but only after a sensible, though very short time. Theory, confirmed to a certain degree by experience, shows that air, under the ordinary atmospheric pressure, rushes into a vacuum with a velocity of 1300 and 1400 feet in a second of time. But this velocity is speedily checked; for the instant that any portion of air is admitted, or the vacuum ceases to be perfect, that portion resists the entrance of more with a force proportional to its density. Suppose, for example, the air in a receiver to be reduced to one-fourth of its natural density; it is clear that the velocity of the air to enter the receiver, which is proportional to the square root of the effort or the resistance, will be reduced in the proportion of about 100 to 87. In this manner, as the air continues to enter, the velocity will rapidly diminish. — Now, conceive a body, for example a cannon-ball, to be moving rapidly through the air, but with a less velocity than 1300 feet per second. The air in front of the ball will remain in its natural state, because the condensation produced every instant by the contact of the ball is propagated more quickly than the ball moves, the velocity of the propagator being equal to that with which air enters a vacuum. But there is a certain space behind the ball in which the air has not entirely recovered its equilibrium, but remains more or less rarefied, the ball having passed through it in less time than is required for the surrounding air entirely to fill it. In addition, therefore, to the resistance which arises from the communication of motion to the particles of the air, there is a pressure on the front part of the ball not counterbalanced from behind: in consequence of which, we may infer that the resistance will increase in a quicker ratio than the square of the velocity. This deduction is also confirmed by experience; for it is found that the resistance continues to increase with the square of the velocity only while the velocity is less than 900 or 1000 feet per second. Above this velocity the ratio begins to fail; and when the velocity exceeds that with which air enters a vacuum, the ratio is entirely altered. At a velocity of 1600 feet per second, the resistance is found to be more than twice that given by theory. The reason is obvious: the density of the air before the body is increased by the rapid motion, and, consequently, presses more on the fore part of the body than air in its natural state. — See ACOUSTICS, ANEMOMETER, GUNNERY, PROJECTILES, RIFLE, WIND.

Ae'roe, or AERROE, an island belonging to Denmark, in the Baltic, about 14 miles long and 5 broad. It lies 10 miles S. of Fünen. The cap., Aeroeskjobing, has considerable shipping. *Pop.* in 1897, about 12,000.

Aerog'raphy, *n.* [Greek *aer*, air, and *grapho*, I write.] The description of the nature, properties, and phenomena of the atmosphere.

A'erolite, and **A'erolith,** *n.* [Gr. *aer*, air, and *lithos*, a stone.] A meteoric stone, or mineral mass, falling from the atmosphere. The origin of this remarkable class of natural phenomena is involved in great obscurity, and many different theories have been proposed to account for them, but the opinion the more consistent with all known facts and laws of nature, is, that the meteors are bodies moving in space, either accumulations of matter as originally created, or fragments separated from a larger mass of a similar nature. The earth in describing its orbit may meet with such masses directly, or pass so near to them as to carry them along with it by virtue of its attraction. On plunging into the atmosphere with the velocity due to the height from which they have fallen, which is that of their distance from the earth, when they begin to obey its attractive force, an enormous heat is evolved by the rapid and powerful condensation of the air; the matter becomes inflamed, and the aërolite is the product of the combustion. In the same manner, shooting stars, and other igneous meteors of frequent occurrence, are explained. The chaotic matter may be entirely consumed long before it reaches the earth, in which case the appearance of the bolide will not be accompanied with the fall of an aërolite. — When taken up soon after their fall, they are extremely hot. They are generally angular, of prismatic and pyramidal forms, the angles being rounded. There is a considerable degree of similarity in the compositions of aërolites, though there are marked diversities between stones of different falls. Iron, which occurs in the metallic state, and is the most abundant constituent, is occasionally lacking. In addition to iron, magnesium, silicon, oxygen, nickel, and other substances occur, 24 terrestrial elements in all having been found. No element has been found which does not exist on the earth. In a few instances crystallized carbon has been discovered in aërolites, the diamonds being microscopic in size. Various gases occur, hydrogen being sometimes present in large volumn and necessarily in a state of unusual density. The external surface of aërolites is black, as if they had been exposed to great heat; internally the color is a grayish white. Their specific gravity does not greatly vary, it ranging between 3·352 and 4·281. Whatever their origin, their composition indicates that it must be sought for elsewhere than in the earth, and there is reason to believe that the *A.* are closely related to comets. Iron is scarcely ever found in the metallic state in terrestrial substances; volcanic matter contains it only in the state of an oxide. Nickel is also very rare, and never found on the surface of the earth; and chrome is still more rare. — Some philosophers supposed that aërolites were bodies thrown out by the volcanoes which are known to exist in the moon; and Laplace, the illustrious author of the *Mécanique Céleste*, calculated that a body projected from the moon, with a velocity of 7,771 feet in the first second, would reach our earth in about two days and a half; but Olbers and other astronomers have proved that the velocity of the meteors, which has been estimated in some cases to be at first equal to some miles in a second, is too great to admit of the possibility of their having come from the moon. They are occasionally of great size, some having been found weighing many hundreds of pounds. See METEORS.

Aerolit'hology, *n.* [Gr. *aer*, air, *lithos*, stone, and *logos*, discourse.] The science of aërolites.

Aerolit'ic, *a.* Relating to aërolites.

Aerolog'ic, and **Aerolog'ical,** *a.* Pertaining to aërology.

Aerol'ogist, *n.* One who is versed in aërology.

Aerol'ogy, *n.* [Gr. *aer*, air, and *logos*, a discourse.] The doctrine of air; — generally applied to medical discussions respecting its salubrity.

A'eromancy, *n.* [Gr. *aer*, air, and *manteia*, prophecy.] A term applied to a mode practised by the ancients of predicting future events from certain appearances in the air.

Aerom'eter, *n.* [Gr. *aer*, air, and *metron*, a measure.] An instrument for making the necessary corrections in pneumatic experiments, to ascertain the mean bulk of gases.

Aerometric, *a.* Belonging or relating to aërometry.

Aerom'etry, *n.* [Gr. *aer*, air, and *metreo*, I measure.] The art of measuring the air, so as to obtain knowledge of its bulk, density, &c.

A'eronaut, *n.* [Fr. *aéronaute*, from Gr. *aer*, air, and *nautes*, sailor.] One who sails in a balloon.

Aeronaut'ic, and **Aeronaut'ical,** *a.* Belonging or relating to aëronautics.

Aeronaut'ics, *n. pl.* [Gr. *aer*, air, and *nautikos*, of or belonging to ships.] The art of sailing in and navigating the air. From the earliest ages men have been actuated by a wish to be able to participate in the advantages conferred on the lower animals, and having succeeded in navigating the sea, to be able also to mount, like the eagle, into the air. The story of Dædalus, and the fate of Icarus, are known to every classical reader. During the middle ages, when the nature of the atmosphere and the sound principles of mechanical philosophy were alike unknown, many rude and necessarily unsuccessful attempts were made to realize this difficult problem. But it was not till the composition of the atmosphere had begun to be ascertained, and that means had been devised of filling vessels with heated air, or other air lighter than atmospheric air, and consequently capable of floating on it, that there came to be a rational prospect of succeeding in the "audacious attempt" of riding in the air. At length, in 1782, the brothers Montgolfier succeeded in constructing a balloon; and on the 21st of October, 1783, Pilatre de Rozier, a young naturalist, and the Marquis d'Arlandes, ascended from Paris to an elevation of more than 3,000 feet, and alighted safely from their "aërial tour," after describing a circuit of about 6 miles. The ascents performed at the beginning of this century by Gay-Lussac, who attained an elevation of 4½ miles, are memorable for being the first ever undertaken solely for objects of science. Since that time numerous ascents have been performed, generally by adventurers guided by no philosophical views, and leading to no valuable results.

(*Continued in Section II.*)

Aeronaut'ism, *n.* The practice of ascending and floating in the atmosphere in balloons.

Aerophobia, *n.* [Gr. *aer*, air, and *phobos*, fear.] (*Med.*) A fear of fresh air or wind.

A'erophyte, *n.* [Gr. *aer*, air, and *phyton*, a plant.] (*Bot.*) A plant having only aërial roots. — See AIR-PLANTS.

Aeros'copy, and **Aeros'cepsy,** *n.* [Gr. *aer*, air, and *skopeo*, or *skeptomai*, to examine.] The study of the variations of the atmosphere. (R.)

Æ'rosite, *n.* (*Min.*) A name of the Pyrargyrite: *q. v.*

A'erostat, *n.* [Fr., from Greek *aer*, air, and *statos*, standing.] An air-balloon. — See AERONAUTICS.

Aerostat'ic, and **Aerostat'ical,** *a.* Belonging or relating to aërostatics.

Aerostat'ics, *n. pl.* [Gr. *aer*, air, and *statice*, statics.] The science of weighing elastic fluids, as air, either by themselves or with other bodies sustained in them.

Aerosta'tion, *n.* [Fr.] The same as AEROSTATICS, q. v. This word is sometimes employed, though incorrectly, as a synonym of AERONAUTICS, q. v.

Aers'chot, Duke of, a noble of the Netherlands, celebrated in the struggle of the Dutch republic against Philip of Spain. He was governor of Antwerp, and subsequently of Flanders; but the treachery of his disposition made him no favorite with the people, who took him prisoner and confined him at Ghent for a long period. Lived in the middle of the 16th century.

Aers'chot, a town of Belgium, 23 miles from Brussels. *Pop.* 4,000.

Aer'sens, PETER, a Dutch painter, surnamed Longo. B. at Amsterdam, 1519; D. 1573.

Aert'ryke, a village and commune of West Flanders, 8 miles from Bruges. *Pop.* 3,000.

Aern'ginous, and **Aerugin'eous,** *a.* [From Lat. *ærugo*, verdigris.] Resembling or partaking of the nature of the rust of copper.

Æru'go, *n.* [Lat.] The ancient name for a bright green rust or verdigris, produced by the action of the air upon copper, brass, and bronze. The Romans considered that the *ærugo* added to the beauty of their statues.

Æru'lus, *n.* A cat worshipped by the Egyptians, and after death embalmed, and buried in the city of Bubastis.

Aernscat'ores, a name given by the ancients to those strolling beggars who obtained money by fortune-telling. The term was also applied to the priests of Cybele and the collectors of taxes.

A'erzeele, a village and commune in West Flanders, 15 miles from Courtrai. *Pop.* 3,300.

Æs'chynite, *n.* (*Min.*) An orthorhombic mineral, of the *Tantalite* group. Crystals long, prismatic and striated. Color nearly black. *Comp.* Titanic acid and perhaps zirconia.

Æ'schines, a disciple of Socrates and the son of a sausage-maker. He went to the court of Dionysius, the tyrant of Sicily, and afterwards maintained himself by keeping a school at Athens. His dialogues so closely resemble those of Socrates, that Menedemus charges him with having stolen them from that philosopher. Flourished B. C. 350. Only three of his dialogues are extant, of which Le Clerc published a Latin translation, with notes, in 1711.

Æ'schines, usually distinguished as "*the Orator*," was the contemporary and rival of Demosthenes. He was first a schoolmaster, then a clerk, then an actor, and finally a political orator. There are only three of his orations extant, which are exquisitely beautiful. B. at Athens, B. C. 393; D. at Samos, 318. — He was considered the founder of the Rhodian school of eloquence, and his style, though wanting in the close sententious severity of the Athenian school, is marked by great correctness and clearness of language.

Æ'schrion, a poet of Mytilene, intimate with Aristotle. He accompanied Alexander in his Asiatic expedition.

— *Also*, an iambic poet of Samos.

Æ'schylus, the father of the Athenian drama. He was in the sea-fight at Salamis, and received a wound in the battle of Marathon. His most solid fame, however, rests on his power as a tragic poet. Of ninety tragedies produced by him, forty were rewarded with the public prize, but only seven have come down to us. He was the first to introduce two actors on the stage, and to clothe them with dresses suitable to their character. He likewise removed murder from the sight of the audience. He decorated the theatre with the best paintings of his time, and the ancient, like the modern stage, exhibited temples, sepulchres, armies, fleets, flying cars, and apparitions. He mounted the actors on stilts, and gave them masks to augment the natural sounds of their voices. The priests accused him before the Areopagus of bringing upon the stage the mysteries of religion; but the wounds he had received at Marathon pleaded his cause and obtained his acquittal. B. at Athens, 456 B. C.: D. in Sicily, in his 69th year. — It is fabled that an eagle, mistaking

his bald head for a stone, as he slept in a field, dropped upon it a tortoise, which instantly killed him. His imagination was strong but wild, vast in its conception, but greatly dealing in improbabilities. The obscurity of his style is admitted, and an excellent modern critic has pronounced him the most difficult of all the Greek classics.

Æscula'pius. (*Myth.*) The god of medicine, supposed son of Apollo and of the nymph Coronis. Apollo brought his son to Chiron, who instructed him in medicine and hunting. In the former he acquired a high degree of skill, so as to surpass even the fame of his teacher. He not only prevented the death of the living, but even recalled the dead to life. Jupiter, however, induced by the complaints of his brother Pluto, slew Æsculapius with a thunderbolt. After his death, he received divine honors. Æsculapius had two sons, Machaon and Podalirius, who were called *Asclepiades*, and during the Trojan war made themselves famous as heroes and physicians. His daughters were Hygeia, Iaso, Panacea, and Ægle, the first of whom was worshipped as the goddess of health. Æsculapius is represented with a large beard, holding a knotty staff, round which was entwined a serpent, the symbol of convalescence. Near him stands the cock, the symbol of watchfulness. He is sometimes crowned with the laurel of Apollo. Sometimes his little son Telesphorus is represented beside him, with a cap upon his head, wrapped up in a cloak. Sometimes also Æsculapius is represented under the image of a serpent only.

Æs'culin, or ESCULIN, *n.* [From *æsculus.*] (*Chem.*) A crystalline fluorescent substance obtained from the bark of the horse-chestnut and other trees of the genera *æsculus* and *Pavia*. It forms colorless, needle-shaped crystals. It is inodorous, has a bitter taste, is soluble in water and alcohol at the boiling heat and nearly insoluble in ether. *Form.* $C_{21}H_{24}O_{13}$.

Æs'culus, *n.* (*Bot.*) [From Lat. *esca*, food.] The Horse-chestnut, a genus of plants, ord. *Sapindaceæ*. It consists of trees found in the temperate parts of America and Asia, remarkable for the beauty of their flowers and leaves. It must not be confounded with the Æsculus of the Romans, which was a kind of oak. The popular name of horse-chestnut, which appertains to the Æ. Hippocastanum, (a native of Asia, but now known throughout Europe and in this country,) has arisen from the custom among the Turks of grinding the nuts and mixing them with the provender given to horses that are broken-winded. In France, large quantities of starch are obtained from the seeds, but not favorably received in the trade. A peculiar oil, which is said to be a wonderful remedy for rheumatism, is also obtained from these seeds. It is of rapid growth, and attains the height of 40 to 50 feet. In June it puts forth numerous pyramidal racemes or thyrses of flowers of pink and white, finely contrasting with the dark-green of its massy foliage. The leaves are digitate, with 7 obovate, acute, serrate leaflets. The fruit is large, mahogany-colored, and eaten only by deer.—Another species, the *Æ. glabra*, or *Ohio buckeye*, a small, ill-scented tree, producing small bunches of yellowish-white flowers, is found wild on the banks of Ohio river, between Pittsburg and Marietta. Its roots and leaves are said to be poisonous.

Fig. 40.—HORSE-CHESTNUT.

Æ'sop, the fable-writer, is usually held as the inventor of those short pieces of moral wisdom with which the readers of all ages, since his time, have been delighted. He is said to have been first bought as a slave by an Athenian, from whom he learned the Greek language, and then passed successively into the service of Zanthus and Idmon, both of Samos. The latter gave him his freedom, on which he was retained by Crœsus. The places and times of his birth and death are both uncertain. He was contemporary, however, with Solon and Pisistratus; therefore flourished in the 6th century B. C. His fables were first published at Milan, in 1476, folio, which edition now bears an exorbitant price. But the first Greek edition is reckoned that of 1480, 4to. They have been translated into all modern languages. Those of Croxall and Dodsley are deemed the best English versions.

Æ'sopus, CLODIUS, a famous actor, who had the honor of instructing Cicero in oratory. He was a great epicure, and at an entertainment is said to have had a dish of singing-birds which cost over $20,000. D., worth $4,000,000, sixty years B. C.—His son was also noted for his luxuriousness; and Horace says that he swallowed a pearl of great value dissolved in vinegar.

Æsthet'ic, Æsthet'ical, *a.* Of, or relating to æsthetics.

Æsthet'ically, *ad.* In an æsthetical manner.

Æsthet'ics, *n. pl.* [Gr. *æsthetikos*, perceptible to the senses.] The science of the Beautiful in Art. The word was first employed about the middle of the 18th century by Alexander Baumgarten, professor of philosophy in the University of Frankfort-on-the-Oder; and having been found both comprehensive and definite, it was generally adopted by the French and English writers. According to the theories of the soundest psychologists, human nature may be divided into the capacities of knowing, acting, and feeling; in other words, into intellect, will, and sensibility. To these capacities correspond respectively the ideas of the True, the Good, and the Beautiful. That which logic is to intellect, ethics to will, is æsthetics to sensibility. The laws of thinking are determined by logic, the laws of acting by ethics, and the laws of feeling by æsthetics. As the ultimate aim of thought is truth, as the ultimate aim of action is good, so is beauty the ultimate aim of sensibility. Philosophers, from the time of Aristotle and Plato downward, have endeavored to place the laws of taste upon a definite basis, like those of ethics and logic. To fully explain and discuss the respective system of æsthetics would require a volume; it will be sufficient here to indicate the two principal modes of treating æsthetics as a science. Those philosophers who have employed the *à priori* method have thought to analyze the æsthetic notions proper to the mind, and to erect upon their basis an abstract system, to which the artist, whether he be painter, architect, musician, sculptor, or poet, shall conform his creations. According to the second, or *à posteriori* method, all the great acknowledged works of art are selected to exhibit whatever in them constitutes a pleasant effect, from which are to be deduced practical rules. Pythagoras, Plato, Baumgarten, Kant, Schelling, Schiller, and Hegel, have been the great speculators in the *à priori* method; and in the *à posteriori*, Aristotle, Heinso, Lessing, Winckelmann, Bayle, Rousseau; and the greater portion of the French, English, and Italian writers upon the laws of taste.—*Ref.* Jouffroy's *Cours d'Esthétique;* Cousin's *Le Vrai, le Beau, et le Bon;* Schiller's *Treatise on Æsthetics;* Alison's *Essays on the Nature and Principle of Taste.*

Æst'ival, and ESTIVAL, *a.* [From Lat. *æstas*, summer.] Belonging to the summer.

Æstiva'tion, *n.* [From Lat. *æstivus*, belonging to the summer.] (*Bot.*) The general arrangement of the different parts of the flower. When these parts are placed in a circle, and in nearly the same plane, the *Æ.* is said to be *circular*, and when they are placed at slightly different levels, so as to overlap each other, it is said to be *spiral*. The term præfloration is used by some botanists instead of æstivation.

Æst'uary, and ESTUARY, *n.* [Lat. *æstuarium.*] (*Geog.*) Was anciently understood to be any creek, frith, or arm of the sea, in which the tide ebbs and flows; but is now applied to designate those parts of the channels of certain rivers contiguous to the sea in which the water is either salt or brackish, and in which the ebb and flow of the sea is distinctly perceptible, and there is little or no current.

Fig. 41.—AN ÆSTUARY.

Æthog'amous, *a.* [Gr. *aethes*, unusual, and *gamos*, marriage.] (*Bot.*) Propagated in an unusual way; as the cryptogamic plants.

Æ'ther. See ETHER.

Æ'thiops, *n.* (*Med.*) An old pharmaceutical term applied to various mineral preparations of blackish color.

Æth'ogen, *n.* [Gr. *aithon*, and *ginomai.*] (*Chem.*) A compound of boron and nitrogen, which yields a brilliant phosphorescent light when heated before the blowpipe.

Æthok'irrin, *n.* (*Chem.*) The yellow coloring matter of the flowers of antirrhinum Linaria.

Æ'thrioscope, *n.* [Gr. *aithrios*, clear, and *scopein*, to observe.] An instrument used for measuring the relative degrees of cold produced by pulsation from a clear sky. It resembles the differential thermometer. Invented by Sir John Leslie.

Æthu'sa, *n.* (*Bot.*) See FOOL'S-PARSLEY.

Ætiol'ogy, and **Etiol'ogy.** [Gr. *aitia*, a cause, and *logos*, discourse.] (*Rhet.*) A figure of speech, by which the causes of an event are developed in the narrative.

Ætion, a Greek painter, whose picture of the nuptials of Alexander and Roxana, shown at the Olympic games, obtained for him, although he was quite unknown, the daughter of the president in marriage.

Aeti'tes, *n.* [Gr. *aetos*, an eagle.] (*Min.*) See EAGLE-STONE.

Ae'tius, a famous general in the reign of Valentinian III., emperor of the West. He was brought up in the emperor's guards, and after the battle of Pollentia, in 403, was delivered as a hostage to Alaric, and next to the Huns. On the death of Honorius, he took the side of the usurper John, for whose service he engaged an army of Huns. He was afterward taken into favor by Valentinian. Being jealous of the power of Boniface, governor of Africa, he secretly advised his recall, and at the same time counselled the governor not to obey the mandate. This produced a revolt, which caused an irruption of the Vandals into that province. The treachery of Aëtius being discovered, a war ensued between him and Boniface, in which the latter was slain. Aëtius now appealed to the Huns, of whom he raised a large army, and returning, so greatly alarmed Placidia, the mother of Valentinian, that she put herself into his power. He defended the declining empire with great bravery, and compelled Attila to retire beyond the Rhine. Stabbed, 454, by Valentinian, who had become jealous of his fame and influence.

Æt'na, in *Illinois*, a twp. of Logan co. See also ETNA.

Æ'tobates, *n.* (*Pal.*) A genus of fossil fishes, allied to the Rays, the species of which are found at Sheppey, in the London clay.

Æto'lia, a province of Greece, bounded on the west by Acarnania, on the north by Thessaly, on the east by the country of the Locri and Ozolæ, and on the south by the Corinthian gulf. It received its name from Ætolus. The inhabitants were covetous and illiberal, and were little known in Greece till after the ruin of Athens and Sparta, when they assumed a consequence in the country, and afterward made themselves formidable as the allies of Rome, and then as its enemies, till they were conquered by Fulvius. It is very mountainous; but rye, barley, and olives are cultivated along the side of the Corinthian gulf. With Acarnania, it now forms a nomarchy in the kingdom of Greece. Its principal river is the Phidaris. In this province is also mount Oxea, which reaches an elevation of 4,636 feet in its highest point. Missolonghi is its capital. Lat. between 38° 7′ and 38° 50′ N.; lon. between 21° 10′ and 22° 5′ E.

Afar', *adv.* At a great distance; abroad; away; aloof;—hence, foreign, strange.

Afeard', *a.* [A. S. *afered.*] Frighted; afraid.—It is the reg. participle of the old word to *affear*, as *afraid* is of to *affray*. (o.)

A'fer, *n.* [Lat.] The southwest wind.

"Notes and *afer* black with thunderous clouds."—*Milton.*

Affa, *n.* A weight in common use on the Gold Coast of Guinea, the half of which is called eggeba. They equal the English ounce and half-ounce. The negroes of the Gold Coast invariably give these names to these weights.

Affabil'ity, *n.* [Fr. *affabilité*, from Lat. *affabilitas.*] A quality which renders a person easy to be spoken to; including modesty, good-nature, and condescension; courtesy; condescension.

Af'fable, *a.* [Fr., from Lat. *affabilis.*] Easy to be spoken to, on account of complaisance, good-nature, and condescension; courteous, condescending, accessible; easy; approachable.

Af'fableness, *n.* Courteousness; civil and complaisant behavior.—See AFFABILITY.

Af'fably, *adv.* In an affable manner; courteously; civilly.

Af'fabrous, *a.* [Lat. *affaber*, skilful.] Skilfully made.

Affair', *n.* [Fr. *affaire*, from Lat. *facere*, to do.] A thing taken with its surroundings, and viewed, as it were, in the gross; something to be managed or transacted; matter; business; concern:—used for both private and public matters; as, "a difficult *affair* to manage;" "the state *affairs;*" "a love *affair;*" "a trivial *affair.*"

(*Mil.*) Any action or engagement not of sufficient magnitude to be termed a battle.

Affam'ishment, *n.* Starving. (o.)

Affect', *v. a.* [Fr. *affecter*, from Lat. *afficio*, to act upon.] To make or produce an effect upon.

"As far as these qualities relate to, or *affect* the actions of men."—*South.*

—To excite, stir up, or work upon the passions.

"A thinking man cannot but be very much *affected* with the idea of his appearing in the presence of that Being . . ."—*Addison.*

—To exhibit a tendency toward an object; hence, to seek naturally or desire; to be pleased with; to be fond of; to long for. The impulse may be physical or moral; as, water is *affected* by cold; fluids *affect* a round figure; I do not *affect* that man.—To assume a character not real or natural, and to support it in an awkward manner; to make show of.

"The conscious husband
Affecting fury, acts a madman's part."—*Granville.*

—To dispose or incline; as, "a man *affected* to his religion."

Affecta'tion, *n.* [Fr., from Lat. *affectatio.*] An artful or hypocritical assuming of a character, or appearance, which is not our own, and to which we have not claim. Pretence; assumption; mannerism; airs:—opposed to genuineness; naturalness; simplicity; artlessness.

Affect'ed, *p. a.* Full of affectation; not natural.—Having the feelings or passions excited.

Affected, or *Adfected Equations.* (*Alg.*) Those in which the unknown quantity is found in two or more different powers; for example, $a^3 - px^2 + qxa + r^2b$; in which are three different powers of x.

Affect'edly, *adv.* In a manner which has more appearance than reality.

Affect'edness, *n.* The quality of assuming an unnatural or false appearance. Distinguished from hypocrisy by its object; that being religion, and this politeness, grandeur, &c.

Affect'er, *n.* One who affects or assumes.

Affectibil'ity, *n.* The state or quality of being affectible.

Affect'ible, *a.* That may be affected.

Affect'ing, *p. a.* Having power or tending to move the passions or affections; pathetic; exciting; as, an *affecting* drama. — Assuming; feigning. (*Obs.*)

Affect'ingly, *adv.* In an affecting manner.

Affec'tion, *n.* [Fr., from Lat. *affectio.*] A sentiment of fondness, regard, good-will, or love, without desire; followed by *to* or *toward*, but more generally by *for.* — Passions, in a general sense, as implying a state of the mind. — A moral impulse toward some definite object, differing from *disposition*, which is natural.

(*Logic.*) An attribute, quality, or property peculiar to some object, moral or physical, arising from its very idea or essence, and inseparable from it; as joy, anger, fear, figure, weight, &c.

(*Med.*) A morbid or preternatural state of the body, or some of its parts; as, a cutaneous *affection.*

Affec'tional, *a.* Belonging or relating to the affections.

Affec'tionate, *a.* [Fr. *affectionné.*] Full of affection; strongly inclined or disposed to; warm; fond; zealous.

"In their love of God, men can never be too *affectionate.*"—*Sprat.*

—Fond, tender, benevolent.

"The *affectionate* care of Providence for our happiness."—*Rogers.*

Affec'tionately, *adv.* In an affectionate manner; fondly; tenderly; benevolently.

Affec'tionateness, *n.* The quality or state of being affectionate; fondness; tenderness; good-will.

Affec'tioned, *a.* Inclined; mentally disposed.

"Be kindly *affectioned* to one another."—*Rom.* xii. 10.

Affec'tive, *a.* [Lat. *affectivus.*] That acts upon, or excites a disagreeable or painful sensation.

Affec'tively, *adv.* In an impressive manner; impressively.

Affect'or, *n.* See AFFECTER.

Affectuos'ity, *n.* Passionateness. (o.)

Affect'uous, *a.* Earnest. "Made such *affectuous* labor."— *Fabian.*

Affeer', *v. a.* [O. Fr. *affeurer*, to tax.] (*Eng. Law.*) To assess or reduce. — See AFFEERERS.

Affeer'ers, or AFFEERORS, *n.* Persons who, in the English court-leets and court-barons, settle and moderate the fines imposed on those who have committed offences arbitrarily punishable, or that have no express penalty appointed by statute.

Affeer'ment, *n.* The act of affeering.

Afferent, *a.* [Lat. *afferens.*] (*Anat.*) Applied to the vessels conveying the lymph to the lymphatic vessels.

Affettuo'so. [It.] (*Mus.*) A direction noting something to be sung or played in a smooth and tender manner.

Affi'ance, *n.* [O. Fr.] A marriage-contract; betrothing. Figuratively, a firm trust, an unshaken reliance.

"Ah! what's more dangerous than this fond *affiance?*"—*Shak.*

Affi'ance, *v. a.* To betroth; to bind one's self to marry.

"To me, sad maid, or rather widow sad,
He was *affianced* long time before."—*Faërie Queene.*

—To give confidence to.

"Stranger! whoe'er thou art, securely rest,
Affianc'd in my faith, a friendly guest."—*Pope.*

Affi'ancer, *n.* He that affiances.

Affi'che. The French name of a printed paper or bill affixed to a wall, or posted up.

Affida'vit, *n.* [From Lat. *affido.*] (*Law.*) A statement of facts, on oath. Affidavits are necessary in a variety of cases, in order to bring facts under the cognizance of courts of justice: all evidence of facts must be given on oath, either by oral testimony or by affidavit. Where evidence is to be acted upon by juries, it is given as oral testimony; where it is to inform a court or judge, it is usually reduced into the form of an affidavit. — In point of form, an affidavit is usually made as follows: if made in a cause, the name of the court in which the cause is pending, and the names of the plaintiff and defendant, are written at the head of the paper. The name, description, and residence of the deponent, or person making the affidavit, are written at length, and the individual making the affidavit signs his name at the foot of it. The paper is then shown to him, and he is requested to swear to his name and handwriting, and that the contents of the paper are true. And, lastly, the *jurat* (see this word) expressing the officer before whom, and where and when, the affidavit is made, is signed by such officer. If the affidavit be sworn in open court, that circumstance is mentioned in the *jurat*, and no officer is named.

Affidavit to hold to bail. In many cases a person cannot be arrested without an affidavit containing a clear statement of the fact, and showing a distinct cause of action. It may be done by the plaintiff, or by some one acquainted with the fact.

Affil'iate, *v. a.* [Lat. *affiliare.*] To adopt as a son. Also, to connect, as with a parent stock or society. — To establish the paternity of.

Affiliated societies. Local societies connected with a central society, and with one another.

Affilia'tion, *n.* [Fr. *affiliation.*] The adoption of the child of another; the act of connection with a society.

(*Law.*) An order of affiliation is that which a magistrate issues on the oath of a woman, to compel the father of an illegitimate child to provide for his maintenance. If the mother be of sufficient ability to maintain the bastard while it is dependent upon her, and neglect that duty, so that it becomes chargeable to a parish, she is liable to be punished under the provisions of the vagrant act. If she be not of sufficient ability, the law will compel the father to supply a fund for its maintenance. Any single woman with child, or delivered of a bastard child, may, either before the birth, or at any time within the 12 months from the birth, make application to a magistrate, charging a person by name as the father of her child; and when the alleged father has within twelve months paid money for its maintenance, such application may be made at any subsequent period. The magistrate, on the evidence of the mother, corroborated in some material particular by other testimony to his satisfaction, may make an order on the putative father for payment of a weekly sum for the maintenance of the child. The order will remain in force until the child attain the age of thirteen, or die, or the mother be married. If the mother allow the payments to remain in arrear for more than 13 weeks, she cannot recover them for a longer period. In default of payment of the money provided for by the order, the putative father may have his goods distrained upon; or, if he have none, be committed to prison, and so from time to time. — See BASTARD.

Af'finage, *n.* [Fr.] The act of refining metals by the cupel.

Affinita'tively, *adv.* With affinity.

Affin'ity, *n.* [Fr. *affinité*, from Lat. *af* for *ad*, to, and *finis*, a limit.] It means literally contiguity, closeness of location; hence, closeness of social location, that is, relationship between persons not of the same blood; so differing from consanguinity. Hence, again, analogy of nature or character, as in color, sound, sentiment, or mental character; hence, again, likeness in anything which should form ground of classification, as groups of language or natural history, or physical community, as chemical affinities. — Relationship; similarity; harmony; correlativeness; sympathy.

(*Law.*) Relationship, in consequence of marriage, between the husband and the blood relations of the wife, and between the wife and the blood relations of the husband. This is a relationship in law, and no real kindred. A relation by affinity does not give right to legal succession. By the English law, persons related by affinity are forbidden to marry within the same degrees as persons related by blood. — See MARRIAGE. — So a man is not permitted, after his wife's death, to marry her sister, aunt, or niece. This rule is founded upon the Levitical law; but very learned writers think that its introduction into the municipal laws of modern countries is unnecessary and useless. The affinity does not extend to the nearest relations of husband and wife. The connection which has neither consanguinity nor affinity, as, the connection between a husband's brother and his wife's sister, is termed in Eng. law *affinitas affinitatis.*

(*Chem.*) *Affinity*, or *chemical attraction*, is the force which causes the particles of dissimilar kinds of matter to combine together, so as to form new matter. This definition indicates the differences between *affinity* and *cohesion*, which is another modification of molecular attraction. Cohesion merely binds similar particles into a mass; affinity brings about the combination of heterogeneous particles, and causes them to lose their individual properties. The change of characters which follows the action of affinity is very wonderful; — for example, the inflammable metal sodium unites with the suffocating gas *chlorine*, and the compound thus produced is *chloride of sodium*, or common salt, a substance which does not bear the slightest resemblance to its components. Chemical combinations do not take place indifferently, but in accordance with certain strict rules or laws. One substance will unite with another in preference to a third, or in some cases to any other. This preference is denoted by the term *elective affinity.* By means of this discriminating action of affinity, some combinations may be decomposed. If, for instance, there be a substance, *x*, composed of two elementary bodies, *a* and *b*, which have a slighter affinity for each other than one of them, *a*, has for a third element, *c*; then, if we bring this third body into connection with them under the requisite condition, the one, *a*, which has the greatest affinity for it will leave the other, *b*, and unite with it to form another combination, *y*. The decomposition of water by red-hot iron illustrates such a case; for if water, which is composed of the elements oxygen and hydrogen, be passed through a tube containing iron filings heated to redness, its oxygen will unite with the iron to form a kind of rust, and its hydrogen will be set free. In every case where one constituent is expelled by a new body, and thus liberated, the decomposition is said to be the result of *single* elective affinity; but when two substances, each consisting of two constituents, act reciprocally upon each other, so as to produce two new compounds, the decomposition is referred to *double* elective affinity. This double reaction takes place when a chloride of phosphorus is thrown into water; the chlorine leaves the phosphorus, and unites with the hydrogen of the water to form hydrochloric acid, while the remaining elements, phosphorus and oxygen, enter into combination and produce phosphoric acid. The attraction of one body for another is greatly modified by the circumstances under which the two bodies are brought together. Alteration of temperature is one of the causes which influence the force of chemical attraction. When metallic mercury is heated nearly to its boiling-point, and exposed in this condition to the air for a lengthened period, it absorbs oxygen, and becomes converted into a dark red crystalline powder. But this same oxide of mercury, when raised to a still higher temperature, parts with its oxygen, which leaves the mercury in its original metallic state. Insolubility and the power of evaporization are potent disturbing influences; they interfere in almost every reaction, and frequently turn the scale when the opposing affinities are nicely balanced. Thus, when a solution of lime in hydrochloric acid is mixed with a solution of carbonate of ammonia, a double reaction ensues; carbonate of lime and chloride of ammonium being generated. This result is brought about mainly by the insolubility of the carbonate of lime. What is called the *nascent state* is one very favorable to chemical combination. Thus, carbon and nitrogen refuse to combine with hydrogen under ordinary circumstances; but when these gases are nascent or newly evolved, as when they are simultaneously liberated from some previous combination, they unite readily. Some remarkable decompositions are referred to a peculiar modification of chemical force, to which the term *disposing affinity* has been applied. The preparation of hydrogen from zinc affords a familiar example of such decompositions. A piece of polished zinc put into pure water remains perfectly bright for any length of time, and manifests no power of decomposing the liquid. On the addition, however, of a little sulphuric acid, the metal becomes oxydized, and hydrogen is freely disengaged. The acid dissolves the oxide as fast as it is produced, and thus keeps the surface of the metal exposed to the action of the water. This function of the acid is perfectly intelligible; but its disposing influence, under which the oxide is first formed, is not well understood. Affinity is generally much stronger between bodies which are very unlike each other, than between bodies which are closely allied. Thus, potassium and sodium tend strongly to unite with chlorine and iodine, but the bodies of each pair do not attract one another with sufficient force to enter into combination. The discoveries of Faraday and others have established the fact that whenever two substances unite to form a compound, they are in opposite electrical conditions; one being electro-negative, and the other electro-positive. This and other facts go to prove that chemical affinity is a particular modification of electrical attraction. — See ELECTROLYSIS. The word *affinity* appears to have been employed for the first time by Barkhausen, a German chemist, in his *Elements of Chemistry*, published at Leyden in 1703.

Affirm', *v. a.* [Fr. *affirmer*, from Lat. *affirmare.*] To state in a firm manner or in firm grounds; to declare; to say positively; to assert confidently.

"Yet their own authors *affirm*
That the land Salike lies in Germany."—*Shak.*

—To ratify or confirm; — as a former law or judgment.

Affirm', *v. n.* To declare or assert positively.

(*Law.*) To promise solemnly and under the penalties of perjury to tell the truth. — See AFFIRMATION.

Affirm'able, *a.* That which may be affirmed.

"Those attributes that were applicable and *affirmable of* him when present, are now *affirmable* and applicable *to* him though past."—*Hale.*

Affirm'ably, *adv.* In a way capable of affirmation. (R.)

Affirm'ance, *n.* Confirmation; declaration; — opposed to *repeal.*

(*Law.*) The confirmation by the party acting of a voidable act.

Affirm'ant, *n.* One who affirms.

(*Law.*) A person who makes affirmation under the penalties of perjury. — See AFFIRMATION.

Affirma'tion, *n.* [Fr., from Lat. *affirmatio.*] The act of affirming; the thing affirmed; — confirmation; opposed to *repeal.*

(*Law.*) The solemn asseveration made by persons belonging to the religious sect of Friends or Quakers, in cases where an oath is required from others. This indulgence was first introduced by the statute 7 and 8 Will. III., chap. 34, explained and confirmed by 8 Geo. I., chap. 6, and 22 Geo. II., chap. 46, sec. 38. The absurd exceptions contained in these statutes, and restraining Quakers from giving evidence on their *affirmation* in criminal cases, was entirely removed by statute 9 Geo. IV., chap. 32. — In America, all persons, under the penalties of perjury, are usually permitted to affirm, upon expressing their preference for this substitute of oath.

Affirm'ative, *n.* That side of a question which affirms; as, "On this important question 30 senators voted in the *affirmative*, and 10 in the *negative.*"

Affirm'ative, *a.* That which affirms; as, an *affirmative* answer. — That which may be affirmed; as, an *affirmative* quantity.

Affirmative Quantity. (*Alg.*) A quantity to be added, in contradistinction to one that is to be taken away.

Affirmative, or *Positive Sign.* (*Alg.*) The sign of addition marked +, meaning *plus*, or more. The early writers on algebra used the Latin word *plus*, or the Italian *più*, to signify addition, and afterward the letter *p*, as an initial or abbreviation.

Affirm'atively, *adv.* In an affirmative or positive manner.

Affirm'er, *n.* One who affirms.

Affix, *n.* [Lat. *af* for *ad*, to, and *figo*, I fix.] (*Gram.*) A term applied to a syllable added to the *end* of a word, by which the form and signification of the word are altered. Thus in the words *wealth-y*, *weight-y*, *bulk-y*, and in *godly*, *odd-ly*, &c., the syllables *y* and *ly* are the affixes, which qualify the meanings of the words to which they are attached, and fit them for a new and different use; as, "This man loves *wealth*;" "That is a *wealthy* merchant." Verbs are in this way made from adjectives, as from the adjectives *sharp*, *quick*, *thick*, we have *sharpen*, *quicken*, *thicken* respectively; and adjectives and adverbs from nouns, as in the examples just given. — In the Latin and Greek, and many other languages, there is the same system of affixes of which we have given examples in the words *weighty*, *bulky*; and in these languages the different cases of nouns, and adjectives, and the different tenses and persons of the verbs, are also formed by affixes. The affix is also sometimes termed *suffix*, and *postfix.*

Affix', *v. a.* To fix or unite; to attach; to fasten. — To connect with; to subjoin;

"The seal of the state is *affixed* to this act."

Affix'ion, *n* The act of affixing, or the state of being affixed. (R.)

Affixt'ure, *n.* That which is affixed. (R.)

Affla'tion, *n.* The act of breathing upon anything.

Affla'tus, *n.* [Lat. *afflatus*, a blast, a breath, and in a figurative sense, inspiration, enthusiasm.] A term which, among the ancieuts, denoted the supposed inspiration of particular persons, such as poets. It has been sometimes used in the same sense by English writers: "The prophetic *afflatus*"

(*Med.*) A vapor or blast, a species of erysipeias, which attacks people suddenly. So named from the erroneous supposition that it was produced by some unwholesome wind blowing on the part.

Afflict', *v. a.* [Fr. *affliger.*] To trouble; to grieve; to cause pain or sorrow. — Usage has restricted this verb to things of the mind, or prolonged pains of the body. When the casual and intentional wounding of the body is spoken of, *inflict* is used: as, to inflict a wound. — Man inflicts, but God only *afflicts.*

Afflict'ed, *p. a.* Visited with pain or sorrow; grieved.

Afflict'edness, *n.* The state of being afflicted; grief; sorrow.

Afflict'er, *n.* One who afflicts.

Afflict'ing, *p. a.* Causing affliction; grievous.

Afflict'ingly, *adv.* In an afflicting manner.

Affliction, *n.* The state of being afflicted, or the cause of pain or sorrow; calamity. — See AFFLICT.

Afflic'tive, *a.* That which causes affliction.

Afflic'tively, *adv.* Painfully.

Affluence, *n.* [Fr. from Lat. *affluentia.*] In older English this word applied to the physical inflow of water, as of the tide, and the arrival of anything in large numbers, as, an *affluence* of strangers. It is now commonly used for a great abundance of resources; plenty; wealth. — It expresses the aggregate rather than the process of an inflowing abundance.

Affluency, *n.* The same as AFFLUENCE. (O.)

Affluent, *n.* (*Geog.*) A stream or river that flows into another river; so, the Ohio is an *affluent* to the Mississippi.

Affluent, *a.* Abundant in wealth; plentiful; exuberant; wealthy. — Sometimes with its primary sense: flowing to any part; as, *affluent* blood.

Affluently, *adv.* In an affluent manner.

Affux, *n.* [Lat. *affluo*, to flow to.] The act of flowing, or the thing which flows to; accession; augmentation; increase; addition.

"The *affux* of colder or warmer water."—*Locke.*

Affux'ion, *n.* The act of flowing to a particular place; that which flows from one place to auother; as, an *affluxion* of blood from the heart to the head. — Sometimes also employed as *affux.*

Affoga'dos, a village of Brazil, prov. of Pernambuco, 3¼ miles S. of the town of this name, with a harbor suitable for large vessels. *Trade*, cotton and sugar. *Pop.* 1000.

Afford', *v. a.* [Lat. *ad*, to, and *forum*, market.] To bring to market, or to bring forward in court. Hence, generally, to produce according both to moral and natural productions; as, the sun *affords* light, the sea *affords* fish, the fields corn; a well-spent life *affords* peace at the last. — To produce, confer, expand in proportion to one's means and resources; as, *to afford* relief or consolation; *to afford* opportunity, &c. — To be able to bear, to part with, or to dispose of; as. I cannot *afford* to buy it.

Affor'est, *v. a.* [From L. Lat. *afforesto.*] (*Law.*) To turn ground into a forest.

Affran'chise, *v. a.* [Fr. *affranchir.*] To make free; to enfranchise. Applied to individuals and boroughs.

Affran'chisement, *n.* [Fr. *affranchissement.*] The act of making free; enfranchisement. — See EMANCIPATION, and SLAVERY.

Affray', *n.* [From Fr. *effrayer*, to affright.] (*Law.*) A skirmish or fighting between two or more persons. It is a public offence to the terror of the community, and so called because it affrights or makes persons afraid; but there must be a stroke given or offered, or a weapon drawn, otherwise it is not an affray. — It differs from *assault* in that it is a wrong to the public, while an assault is of a private nature; and from a *riot* in not being premeditated.

Affre', DENIS AUGUSTE, a French student at the seminary of St. Sulpice, who rose to be archbishop of Paris. B. at St. Remy, 1793; D. 1848. — Affre fell while endeavoring to prevent bloodshed between the soldiery and Parisian insurgents. Although previously warned by General Cavaignac of the dauger to be apprehended from appearing among an excited mob, he replied, that "his life was of small consequence," and, preceded by a man in a workman's dress, with a green branch, as an emblem of peace, in his hand, he went forth to stay the fury of the combatants. Some of the crowd who beheld him thought they were betrayed, and he was soon shot down. When he fell, he was surrounded by many of the insurgents, who blamed the *Garde Mobile* for the act, and on whom they vowed to avenge him. He, however, exclaimed, "No, no, my friends, blood enough has been shed; let mine be the last on this occasion." He was buried on the 7th of July, 1848, universally regretted by the people.

Affreet', *n.* See AFRIT.

Affreight', *v. a.* [Fr. *frêter.*] To hire a ship for freight.

Affright', *v. a.* [A. S. *afyrhtian*, to tremble with fear.] To put in a sudden fear by some external and sudden exhibition; to terrify; to startle.

Affright', *n.* Terror: fear, denoting a sudden impression, in opposition to fear, which implies a long continuance.

Affright'edly, *adv.* With terror or sudden fear.

Affright'er, *n.* One who frightens.

Affright'ment, *n.* The same as affright. (R.)

Affront', *v. a.* [Fr. *affronter.*] To insult openly; to offend; to treat with insolence.

Affront', *n.* An open insult, as distinguished from a secret or insidious attack by word or deed; an abuse; a provocation; outrage.

Affrontee', *a.* [Lat. *af* for *ad*, to, and *frons*, face; Fr. *affronté.*] (*Her.*) A term applied to animals facing each other on an escutcheon.—The French word *affronté* is also often used in Eng. Heraldry.

Fig. 42. — AFFRONTEE.

Affront'er, *n.* One who affronts.

Affront'ing, and AFFRONTIVE, *a.* That occasions or causes an affront.

Affuse', *v. a.* [Lat. *affundo.*] To pour one thing upon another.

Affu'sion, *n.* The act of pouring a liquor upon something.

(*Med.*) The affusion of cold water on the head or body of patients is sometimes practised with success by physicians, especially in the treatment of typhus fever, when the fever is of a low contagious character and in its early stage.

Affy', *v. a.* [O. Fr. *affier*, to pledge one's word.] To join by coutract; to affiance; to bind: to join.

Afghanistan. In 1887, the actual boundary of *A.* was fixed by treaty bet. Gt. Britain and Russia, but it may be described as a country of Asia, stretching from the mountains of Tartary to the Arabian sea, and from the Indus to the confines of Persia. On the E. it is bounded by the Punjab; on the S. by Scinde, Beloochistan, and Bwhalpoor; on the N. by Indepeudent Turkestan; and on the W. by Persia. — *Area*, estimated 225,000 square miles. — *Desc.* By far the greatest part of this region is mountainous. To the W. of the Soliman mountains, which may be regarded as its eastern barrier, it assumes the character of an extensive table-land, considerably elevated above the neighboring countries. The Hindoo Coosh mountains, which form its northern bulwark, are a continuation of the great Himalaya chain, of which they are the rivals in height, massiveness, and grandeur. Some of their peaks attain to an elevation of 20,493 feet. The interior mountain-ranges diminish in proportion to their distance from the principal chain, and, bosomed among them, are to be found some of the most fertile and beautiful valleys in the world. In these, vegetation is of the same kind as that of India generally; consisting of cotton, rice, millet, maize, turmeric, and sugarcane. In the higher lands, the various species of the fruits, herbs, and woods of Europe grow wild, and wheat, barley, beans, turnips, and several artificial grasses, are cultivated with success. — *Rivers.* The principal are the Cabul, Koorum, Helmund, Krshrood, Gonal, and Lora, all partaking, more or less, of the character of mountain torrents, — now swelling and rushing rapidly, or becoming all but stagnant in some parts, in accordance with the changes of the seasons. — *Climate.* According to its latitude, it should be decidedly hot, but, on account of the irregularity and height of its surface, the climate varies. — *Inhabitants.* A robust, hardy race, of Caucassian origin, generally addicted to, predatory warfare, and evincing a decided contempt for the occupations of civil life. Their language is called Pachtoo, half

Fig. 43. — AFGHAN SOLDIER, in winter costume.

of the words of which are Persian. — *Gov.* A limited monarchy, before the death of Shah Soojah, but since then the country has been divided into three independent states, Cabul, Candahar, and Herat, each governed by its own chief. — *Towns.* The principal are Candahar, Herat, Peshawur, Jellalabad, Ghuznee, and Cabul. — *Manf.* Woollen stuffs, carpet, silk, felt, sword-blades, fire-arms, and jewelry. — COMMERCE. By caravans: camels in the plains; asses and mules in the mountains. — *Exp.* Iron, assafœtida, madder, tobacco, furs, horses, raw silk, an intoxicating drug called churus, gum, dried fruits, spices; saffrou, antimony, cochineal, and other dyeing materials; shawls and turbans, Mooltanee chintzes, and indigo. — *Rel.* Mahometanism. — *Pop.* about 5,000,000. — Lat. between 28° and 30° N.; Lon. between 62° and 73° E. — The Afghans seem to have, at all times, manifested a strong predilection for war, and all the foreign invasions which swept the plains of Hindostan previous to the advent of the British on the shores of India proceeded from *A.* The greatest rulers of *A.* in modern times were Ahmed Khan (1730–1772), who liberated his country from Persia, and Dost Mohammed (1829–1863), who, not without glory, long resisted a British invasion; defeated the Persians, and ultimately took possession of Herat. The ambition of England has always been to establish a distinct and paramount influence in *A.*, and so to shut to Russia the three great highways which connect *A.* with India. With that aim, British armies have several times invaded *A.*, but these expeditions, though attended with easy victories, have always proved a failure. In 1878 again, the English government having sent to Shere Ali, one of the sons of Dost Mohammed, and then the ruler of Cabul, a mission so numerous as to look rather like an army than an embassy, the Ameer refused to receive it, and before long the mission turned into an invasion. Cabul and Candahar were occupied, and on May 5, 1879, Yakoob Khan, who had just succeeded his father Shere Ali, signed the treaty of Gandamak, by which he agreed to admit a British representative to reside in Cabul. Soon after a popular rising took place in Cabul, and on Sept. 3, 1879, Sir Louis Cavagnari and his staff of 86 men were murdered. Cabul was then entered again, and Yakoob Khan, accused of complicity in the massacre, was sent as a prisoner to India. Abdurrahman Khan, who succeeded as ruler, has since been maintained by British influence. Under a dispute as to the boundary of *A.*, in the Pamirs, Russia seized this mountain region in 1895, expelling the Chinese and Afghans; since then it has (except the Little Pamir) been conceded by treaty to Russia.

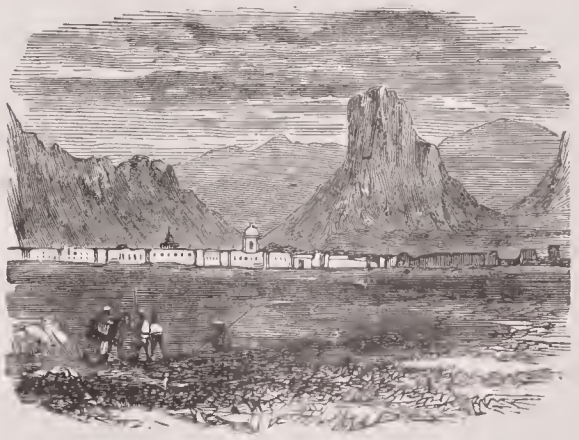


Fig. 44. — CANDAHAR.

Afield', *adv.* [From *a* and *field.*] To, or in the field.

"What keeps Gurth so long *afield?*"—*W. Scott.*

A'fiom (AFIOOM, or AFIUM), or **Ka'ra His'sar.** [Ar. from *afium*, the opium poppy, and *kara hissar*, the black castle.] A town of Asia Minor, 50 m. S.S.E. of Kutaieh, built on the southern side of a fertile plain, about 200 miles E. of Smyrna. — *Manuf.* Fire-arms, sabres, and tapestry: but the principal articles of trade are opium and madder, which are raised in the neighborhood. *Pop.* about 20,000. Lat. 50° N., lon. 38° E.

Afire', *adv.* [From *a* and *fire.*] On fire.

Afloat', *adv.* [From *a* and *float.*] Borne up by the water; floating. Figuratively, adrift; abroad; at sea. — Loose; distracted.

Afoot', *adv.* On the feet; walking, in opposition to riding; — hence, in action; in motion.

Afore', *prep.* [A. S. *ütforan.*] Precedent in time or space; sooner; before.

(*Mar.*) The French *avant.* All that part of the vessel which lies forward, or near the stem. — *Afore the mast*, a phrase applied to a common sailor who holds no office on board a ship.

Afore'going, *a.* Going before.

Afore'hand, *adv.* Beforehand.

Afore'mentioned, *a.* Mentioned before.

Afore'named, *a.* Named before.

Afore'said, *a.* Above, or before said.

Afore'thought, *a.* (*Law.*) Prepense; premeditated.

Afore'time, *adv.* In the time before; in the old time.

A fortio'ri. [Lat., with stronger reason.] (*Log.*) A term employed in a chain of reasoning, to denote that what follows is a more powerful argument than that which has already been adduced.

"Any private person, and *a fortiori* a peace officer, is bound to arrest a felon."

Afoul', *a.* and *adv.* (*Naut.*) Not free; entangled.

Afra', St. Dedicated by her mother to the service of the Cyprian Venus, she was converted to Christianity by the bishop Narcissus, sentenced to death during the persecution of Christians by Diocletian, and burned on the stake. B. at Augsburg; D. Aug. 7, 304.

Afra'gola, a town of South Italy, 6 miles N.N.E. of Naples. Large manuf. of straw bonnets. *Pop.* 13,000.

Afraid', *a.* [A. S. *afered*, to frighten.] Expresses all degrees of fear between the most trifling apprehension and the highest consternation; fearful; apprehensive; timid; cautious; careful; frightened; alarmed; terrified: suspicious; distrustful; anxious.

"There loathing life, and yet of death *afraid*,
In anguish of her spirit thus she prayed"—*Dryden.*

Afrancesa'dos, *n.* [Sp.] The name given to the Spaniards who took the oath of fidelity and allegiance to Joseph Bonaparte and the constitution of Bayonne. They were treated with great severity by Ferdinand VII. after his restoration in 1814. In 1820, however, a general pardon was granted.

Afra'nia, the inventor of the bassoon. He flourished at Ferrara in the 16th century.

Afra'nius, a comic poet, who wrote some Latin comedies, of which only a few fragments remain. — Flourished about 100 years B. C.

AFRANIUS, a senator of Rome, who was put to death by Nero for having written a satire against him.

Afree'dis, a clan of Afghans, who inhabit the Kyber hills, on the frontiers of the Punjab and Cabul. They command the passes of their hills, and their maliks or chiefs hold themselves entitled to levy a toll on those who would pass with safety through their country. They are a warlike, determined race of clansmen.

Afresh', *adv.* [O. Fr., fresh.] Anew; again; a second time.

Africa. One of the great divisions of the globe, and the third in superficial extent. Our limits are too narrow to permit anything more than a sketch of the geography of this continent, exhibiting merely an outline of the existing state of knowledge on the subject, and by turning to the separate articles relating to this continent, the readers will find under each head of country, city, river, &c., the latest and best information that we have been able to collect.

I. HISTORY. — The name *Africa*, probably of native origin, was given by the Romans to one of their African provinces, which comprehended the city of Carthage; but the real name of this continent, both in the Greek and Roman writers, is LIBYA. Herodotus, the earliest Greek author extant who has transmitted to us any information about *A.*, calls the native tribes in the northern part by the general name of Libyans, and those in the south Ethiopians. Egypt, according to this system, hardly belongs to *A.*, but lies, like an isolated slip, between the two adjacent countries. He asserts, nevertheless, that *A.* is surrounded with water, except at the narrow neck now called the Isthmus of Suez. When the Greeks were settled in Egypt under Ptolemy, one of Alexander's captains, B. C. 323, they necessarily became better acquainted with the Red Sea and the course of the Nile. We have in Pliny a distinct account of Suetonius Paulinus, A. D. 41, crossing the great mountains of Atlas, and going some distance south; and, in Ptolemy, we have an account of a Roman officer, Maternus, who set out from the neighborhood of Tripoli, and went a four months' march in the southern direction. This route must have brought him into the latitude of Timbuctoo, and if the story is true, the Niger might have been thus known to the Romans. On the occupation of Egypt by the Arabs, in the seventh century of our æra, and the spreading of this conquering people through *A.*, the regions south of the Sahara soon became known to them, and felt the influence of their religion and their armies. At the beginning of the 15th century, nevertheless, the only portion of the west coast of *A.* with which European navigators were acquainted was that between the Straits of Gibraltar and Cape Nun or Non, in lat. 28° 40′, an extent of not more than 600 miles. From this point commenced that career of discovery, by the Portuguese, by which the entire coast of *A.* has been made known to the modern world. In 1432 or 1433 the formidable promontory, since known by the name of Cape Bojador, lat. 26° 20′, was doubled by Gilianez. In 1447, the Cape Verde islands were discovered by Antonio di Noli, a Genoese in the Portuguese service. In 1471, John de Santarem and Pedro de Escalona advanced as far as Cape St. Catharine, lat. 2° 30′ S. In 1486 Bartholomew Diaz discovered the Cape of Good Hope, which was doubled by Vasco de Gama in 1497.

Fig. 45. — VASCO DE GAMA.

This great navigator, continuing his voyage to the north-east, reached the straits of Bab el Mandeb at the entrance of the Red Sea, so completing the circumnavigation of the whole extent of the *A.* coast. — In addition to this acquaintance with the coast, the Portuguese, in course of time, formed various establishments in the space lying between the Senegal and the Gambia, along the banks of the Zaire, and in other parts of Congo. Finally, this nation very soon, also, established themselves along the east coast of *A.* by the conquest of Quiloa, Melinda, &c., from the Arabs, 1505. — It is said that in 1364, long before Cape Nun was passed by the Portuguese, the French had already formed settlements very far to the south of that cape, but all these establishments were successively abandoned, except those of the Senegal. Several journeys into the interior were undertaken by the French residents at the month of the Senegal about the close of the 17th and the commencement of the 18th century. The most important of these were the voyages of M. Brue, who ascended the river Senegal as far as to the cataract of Felu. In 1714, M. Compagnon succeeded in the perilous undertaking of visiting the kingdom of Bambouk; and the kingdom of Gallam, which occupies the space between the Senegal and the Sahara, was early explored by the French settlers. — Settlements upon the west coast of *A.* were also early made, in imitation of the Portuguese and French, first by the English and afterwards by the Dutch. But no considerable progress was made till the first journey of Park, 1795–1796, who, passing through the kingdoms of Bondou, Kasson, and Kaarta, reached Sego, the capital of Bambarra, and there beheld the Niger "flowing slowly to the eastward." Park advanced beyond this point to another town named Silla, on the same river, and returned to the Gambia by a more southerly tract, following the course of the Niger as far as Bammakoo, and then proceeding through the mountainous districts of Manding, Konkodoo, and Dindikoo. On a second expedition, which was undertaken at the expense of the English government, 1805, this adventurous traveller was killed on the Niger. — In these dangerous enterprises there appear, in succession, the names of Capt. Tuckey, who ascended the Niger for about 280 miles; Bowditch, who in 1817 explored parts of the territories of the Fantees and the Ashantees; Clapperton, who in 1822 reached Sackatoo, where he died; and Richard Lander, who in 1830 succeeded in discovering the mouth of the Niger. At an earlier date (1768-73) James Bruce penetrated Abyssinia, travelling from Massowah to the head waters of the Blue Nile, then believed to be the source of that great river. This was the first scientific journey into the interior. — The zeal for discovery in Africa, so strongly felt in the last century, sent also out a succession of travelers to explore the southern regions of that vast continent. The principal settlement in this quarter, that of the Cape of Good Hope, was founded by the Dutch about 1650, and taken from them by the British in 1806. For more than a hundred years this colony occupied only the extreme angle of the *A.* continent. The first traveller who penetrated any considerable way into the interior was Capt. Henri Hop, who was followed by the Swede Sparrman, and by the French naturalist Vaillant, whose journeys were made between 1775 and 1785, and extended to the territory of Bosjesmans, three or four hundred miles north from Cape Town. In 1836, Andrew Smith scaled the Caffrarian mountains, and in 1837, Capt. Alexander traversed the countries of the Namaquas, Bosjesmans, and the Hill-Damaras. In 1849, Dr. Livingstone departed on his first journey, and to him credit is due for most valuable contributions to our geographical knowledge of southern Africa. He disclosed to us the true country of the negro race, traced the vast Kalahari desert, tracked the course of the great river Zambezi, discovered lakes N'gami, Nyassa, and Shirwa, and indicated new fields for commmercial enterprise. After him Stanley, whose career of exploration began in a search for Dr. Livingstone, added immensely to our knowledge of Central Africa, his greatest achievement being the identification of the Lualaba, discovered by Livingstone, with the Congo, and the exploration of this great river throughout its course. In 1851, Dr. Barth made a notable journey across the Sahara to Lake Tchad. The discovery of the great lakes of Central Africa was due to a succession of explorers, Tanganika being reached by Barton and Speke in 1858; Victoria N'yanza by Speke in 1858; Albert N'yanza by Baker in 1864, and Albert Edward N'yanza by Stanley in 1889. The lakes of the Zambezi and Congo systems were discovered by Livingstone between 1858 and 1868. Little now remains to be discovered of the interior of this once "Dark Continent."

II. TOPOGRAPHY. — This enormous peninsula is attached to the Asiatic continent by the Isthmus of Suez; but at two other points, the strait of Bab-el-Mandeb, and that of Gibraltar, it approaches close to the respective continents of Asia and Europe. Its area is 11,290,030 sq. m. The equator cuts it into two parts of unequal magnitude, though the extreme southern and northern coasts are, on an average, pretty nearly removed the same distance from the equinoctial line. It lies between S. lat. 35° at Cape Agulhas, and N. lat. 38° at Cape Bon, and between W. lon. 17° 40′ at Cape Verde, and E. lon. 50° 20′ at Cape Guardafui. Its greatest length, from the Cape of Good Hope to Cape Bon, is about 4,475 m.; its greatest breadth, from Cape Verde to Cape Guardafui, is about 4,225 m. — The geographical position and coast-line of *A.* are characterized by lying, for the most part, within the tropics, and by the comparatively few deep indentations of the coast. Its northern shores are washed by the Mediterranean, and are the most irregular part of the African coast, presenting the indentations of the Arabian Gulf, the large gulf of Sidra, and that of Cabes. Only one river of any considerable magnitude, the Nile, flows from the African continent into the Mediterranean, but this is one of the most singular streams in the world, whose course the traveller may follow from the coast into the interior for over 1200 miles, without meeting with one single current that adds its waters to it. The Atlantic washes the western coast of *A.*, which, within the dominions of Morocco, is generally low, and succeeded in the interior by fertile plains of immense extent. South of this region, the arid character of the Sahara is found extending even to the shores of the ocean, and hardly disappearing before we arrive at the Senegal. From the Senegal to the Cape of Good Hope the coast is now pretty well known, but the same minuteness of survey has not been applied to all parts of it. The great characteristic in its outline is the gulf of Guinea, the northern shores of which have a general direction east and west through 20° lon. The Senegal, Gambia, and Rio Grande are the three largest rivers north of Sierra Leone. The great African river, south of the equator, is the Zaire, or Congo. Between the Congo and Cape Negro there are numerous streams, such as the great Coanza, and others which are of minor importance. From Cape Negro to the Orange river, which is a large stream, we have a coast of 800 to 900 miles, almost without fresh water. — The Cape Colony is so far known, that its geographical features need not be noticed in this general sketch. From False Bay to the extremity of Algoa Bay is a line of coast over 400 miles long, running nearly due east and west, and presenting to the Southern ocean as broad a front as the Spanish peninsula offers to the Atlantic. — South of the Zambesi, the great river of the Eastern coast, extensive ruins of great cities have been found, proving a once flourishing State, possibly ancient Phœnician settlements. Farther north on the coast other streams, of less importance, reach the sea. In its interior aspect Africa presents two well-marked divisions, the northern table-lands and the central and southern plateau. The former comprises the great Sahara region, largely, though by no means completely, a desert expanse. The plateau region, which begins to the north of Abyssinia, occupies nearly all of Central and Southern Africa. The average elevation of this vast plateau is about 4000 feet. It descends on all sides by a series of terraces to the lowlands of the coast region. The great rivers generally rise within it, and descend from the highland region in a series of rapids and cataracts which preclude navigation. — *Lakes.* The great lakes of Africa lie principally along the eastern rim of the plateau, the N'yauzas forming part of the Nile system, Tanganyika and others being connected with the Congo, and Nyassa with the Zambezi. Lake Tchad drains a basin in the Central Soudan, its overflow passing into the desert. Salt lakes are of frequent occurrence in the area of the Continental drainage. Perhaps the most remarkable is the Assal lake, which lies in a depression east of Abyssinia, 600 feet below the level of the Red Sea. SOUDAN, the SARAHA, of the countries under the general name of ATLAS regions, of the high lands of the ancient Cyronaica, and the desert of BARCA, will be found under their respective names. — *Minerals.* Salt is widely distributed, but in the Soudan is wholly wanting. Gold is found chiefly in South Africa, and since about 1885 has been profitably worked, especially so in the Transvaal; the formation consists chiefly of agrillaceous slates, and schists, saudstones and conglomerates. Copper exists in large quantities. The diamond fields in the districts of the Vaal and Orange rivers, north of Cape Colony, have the most abundant yield, beyond all other diamond fields put together, quite eclipsing those of India and Brazil; they were discovered in 1869 and up to 1897 the total out-put of precious stones of all kinds was estimated at over 5 tons in weight, valued at more than $300,000,000.

III. METEOROLOGY. — Africa lies almost entirely in the torrid zone, and is the hottest of all continents. The greatest heat, however, is not found under the equator, but to the north of it, in consequence of the northern portion being of greater extent than the southern, and of less elevation. The greatest temperature is found throughout the Sahara. In Upper Egypt and Nubia eggs may be baked in the hot sands, and the saying of the Arabs is, "In Nubia the soil is like fire and the wind like flame." The regions along the Mediterranean and Atlantic coasts are rendered more temperate by the influence of the sea. To the south of the Great Desert, where the country becomes more elevated, the temperature decreases, and some spots, quite near the equator, reach the altitude of permanent snow. Regular snowfall, however, does not occur even in the most southern or northern regions. — *Winds.* — *A.* is not much under the influence of the regular winds, except the *monsoons* of the Indian ocean. The north is much exposed to the hot winds and storms from the Sahara, which are called in Egypt *khamsin*, in the Mediterranean *sirocco*, and in the western regions *harmattan*. Extreme heat and dryness are the characteristics of these winds, which, raising the sand, filling the air with dust, and favoring the powers of evaporation, are often fatal to the vegetable and animal creation. — *Rain.* The Sahara and the Kalihari of southern Africa are almost rainless regions. The lateral regions of this continent, from the Kawara to the Senegal, receive copious falls of rain with the S.E. trade-winds; but the largest supply of rain appears to be brought by the summer-monsoon on the east coast. This monsoon, lasting from April to October, extends over the Indian ocean in a half-circle from S.E. to N.E. by W. From the latitude of Mozambique to the Equator it has a general direction from S.E., and there the chief rainy season is found during April, June, and July

Under the equator the direction of the monsoon changes, and becomes S.W. To these winds are to be ascribed the heavy falls of rain that dreuch the extensive plains and ascending grounds of the east horn of *A*. Farther iuland they are broken by the great Abyssinian table-lands, so that they do not extend beyond the strait of Bab-el-Mandeb, S.E. of which a great fall of rain consequently occurs; to the N.W., on the other hand, scarcely any rain falls. The S.E. monsoon does uot stop in the coast regions, but continues uorthward as far as lake Tchad and Kordofau; in both regions its influences begin to be felt in May, or one month later than on the coast.

IV. Human Species. — The southern regions of Africa are occupied by two nations, the *Hottentots* and *Caffres*. The Hottentots occupy the northern part of Cape Colouy and the basin of Orange river. Their profile is hideous, and their foot is so singularly formed that they can be tracked by their marks. They are certainly the most indolent, helpless, and dirty of the human family. The Caffres differ both from the Hottentots and those whom we call Negroes. They are generally well made and of rounded limb. In the useful arts of life, the Caffres are far above their Hottentot neighbors. They exteud from Natal, on the southern coast, into the interior, probably as far as the tropics. — The most widely extended race in *A*. is the *Negro* or *Ethiopian*, observing that under this name we uuderstand only the truo negro race, which, whatever resemblance they may bear to the other dark races of Africa, still differ from them considerably in physical character and geographical distribution. Varieties of language, shades of complexion, &c., exist among them, yet we must recognize the whole Ethiopian race as forming a distinct and widely spread family. Beginniug on the west coast with the Scnegal river, which is the southern limit of the arid deserts, we find a race essentially different from those of Northern Africa. In the woolly hair, black skin, the profile of the face and forehead, the oblique iusertion of the incisive teeth, the form of the pelvis, and the legs, we see the undoubted characteristics of a race peculiar to the *A*. continent. As war and the slave-trade have often transplanted the Negro from his localities in *A*., it is difficult to say what parts of the continent must be cousidered as his proper country, but it may be safely assumed that the Negro is on his native soil in all the regions that extend from Senegal southward, aloug the gulf of Guinea, and south of the equator as far as the sixteenth degree of latitude. — The desert of the Sahara, and the southern limits that border on Soudan, swarm with innumerable tribes of mixed races, and living a wandering life. They are not Arabs, but they have adopted the religion of Mohammed. The most numerous and widely spread race of the desert are the Berbers.—The mountain regions of the Atlas, as well as the whole shores of the Mediterrancan from the straits of Gibraltar to the Cyreuaic regions, have been subject to the invasion of conquerors ever since the earliest periods of history. The Phœnician, Greek, and Roman, Vandals and Goths, and Arabs from Asia, have at differeut periods possessed portions of these regions, and mixed their blood with that of previous races. The Arab invasion has produced the most permanent effects, and that nation now occupies the uiost fertile parts of the Atlas region and the towns on the coast, and are generally known to us by the incorrect appellation of Moors and Berbers. — The ruling race of Amhara and Tigré, who are included under the name of *Abyssinians*, must either belong to Arabic stock, or if they be considered as a separate, they are still a nearly related family. It is probable that the various peoples who occupy the widely spread Abyssinian provinces contain many varieties of the human species, the remnants of nations become extinct, or the result of the intermixture of different races. The Arab race, which sometimes has mingled with negro and other races, now occupies a large part of the countries north of Abyssinia as far as the Mediterranean; but the population of the Nile basin is of a very motley

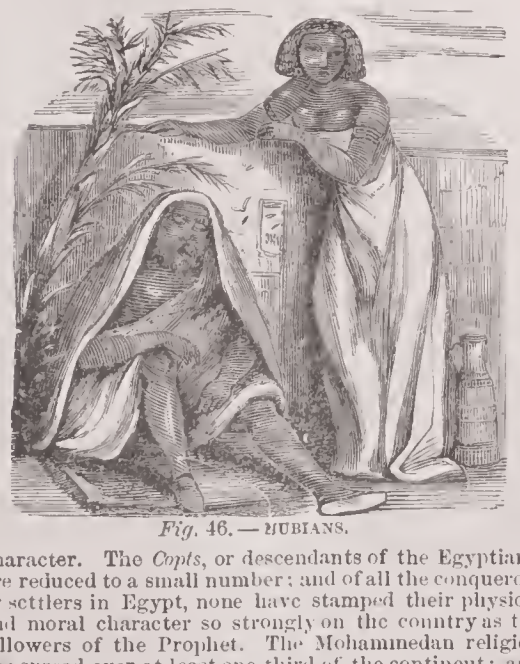


Fig. 46. — NUBIANS.

character. The *Copts*, or descendants of the Egyptians, are reduced to a small number; and of all the conquerors or settlers in Egypt, none have stamped their physical and moral character so strongly on the country as the followers of the Prophet. The Mohammedan religion has spread over at least one third of the continent; and some of its precepts and practices seem well adapted to win the favor of the indolent and pleasure-loving negroes, among whom prevails the most disgusting Fetichism.—The only African countries where Christianity is now established, excepting the few European settlements, are Egypt and Abyssinia. In Egypt it is confined to the Copts, and in Abyssinia both its doctrines and precepts are as ill understood as they are obeyed. — The Jews are found in the Samen of Abyssinia, in Egypt, and indeed scattered as far west as the kingdom of Morocco. They do not seem to have established themselves south of the Sahara. — The *Arabic* is the only character that is now used in Africa by those who wish to read and write, except those employed by the people of Tigré and Amhara. Its use is, however, limited to very few in Soudan, where it is only great doctors who can read and write. — The Berber and Shelluh tongues are spoken in the Barbary states, and along the Atlas mountains. The Mandingo language is used from the Senegal to the Joliba. On the western coast, a corrupt Portuguese is heard; in the regions of Abyssinia, the Tigré and Amhara tongues prevail. The languages of the blacks are as multifarious as the nations. In Sahara alone, 43 dialects are said to be spoken. But of all the 150 languages said to be spoken in *A*., we are hardly acquainted with 70.

V. Zoölogy. — In the animal kingdom, *A*. seems richer than any other quarter of the globe. It can enumerate five times as many species of quadrupeds as Asia, and three times as many as all America. It excels Asia in the size of its colossal river-horse (hippopotamus), gigantic giraffe, and large antelopes and apes. That giant of birds, the ostrich, is exclusively indigenous to Africa. But the most beneficial gift of nature to the African is the camel, the constitution of which is in every respect adapted to the country and climate. Of the quadrumana, there are 55 species, among which the most interesting is the Chimpanzee, and the most wonderful is the ferocious Gorilla discovered by the dramatic traveller M. du Chaillu. Among the other animals are the elephant and rhinoceros, the lion, panther, leopard, ounce, jackal, hyena, wolf, fox, dog, cat, mongus, bat, rat, marmot (*cavia capensis*), hare, rabbit, jerboa, porcupine, hedgehog, mole, civet-cat, ichneumon, bear, horse, ass, zebra, zebu, sheep, goat, innumerable varieties of the gazelle, the buffalo, fallow-deer, the roe, swine, emgalos, babyroussa, and other quadrupeds, whose natural history has been as yet by no means

Fig. 47. — ZEBU.

sufficiently investigated; even the problematical unicorn is still said to exist in the interior. The varieties of birds are equally numerous; among which is the crown-bird, the most beautiful of the feathered tribes; the flamingo, kingfisher, pelican, and many kinds of parrots; the peacock, partridge, pheasant, widow and cardinal-bird; the cuckoo, the cuculus indicator, turtle-doves, pigeons, ducks, geese, &c. The class of reptiles comprises the crocodile and boa-constrictor, with many other serpents, some innoxious, others highly poisonous. The bays and rivers abound in fish, but the variety of the species is not so great as in the northern seas, and many of the most useful are entirely wanting. The shrubs and earth swarm with termites, ants, scolopendras, spiders and caterpillars, while passing armies of locusts obscure the sun like clouds. The most beautiful insects abound.

VI. Botany. — To the traveller who passes from the south of Europe to Tangier, the appearance of the African coast presents nothing remarkably different from what he has left in Europe; and along the whole of the most northern shores so great a similarity continues to be preserved, that he may fancy himself still in South Spain or Italy. But as soon as the chain of Atlas is passed, the scene begins to change; the excessive dryness of the climate on the northern borders of the Great Desert is such, that few trees, except the date, can maintain an existence. It is, however, in this arid region, where rain seldom falls, that the groves of date palms form a screen impervious to the rays of the sun, and cherish beneath their shade, the orange, the lemon, the pomegranate, and the vine, the latter of which climbs to the summit of their trunks by means of its twisted tendrils. Although reared in constant shade, all these fruits acquire a more delicious flavor than in what would seem a more favorable climate. — In Egypt, the European plants begin to disappear; in the districts still watered by the Nile, we find all the richness of vegetation of the spring months of Barbary; abundance of rice, barley, and wheat; rich fields of sugar-cane; olives, figs, vines, and plantains that have been introduced; while in the hotter or drier, or more southern, the date is the chief object of the scenery. In the richer parts of the country we find the acacias which produce gum-arabic, large tamarisk-trees, called atlé, great quantities of the senna plant (*Cassia obtusifolia* and other species), intermixed with various herbs belonging to tropical genera. Cotton, coffee, indigo, and tobacco are cultivated with the greatest success. In Abyssinia are first found species of the ginger tribe (*Scitamineæ*), in the form of cardamoms, which afterward become a feature of African vegetation within the tropics. — In the equinoctial parts of

Fig. 48. — PHŒNIX DACTYLIFERA. (The Date-tree.)

Africa all trees of European vegetation, and even the date-tree itself, disappear; where moisture exists in sufficient abundance to favor vegetation, the flora partakes in a certain degree, particularly on the east side, of the plants of India, but is to a much greater extent composed of species peculiar to itself. The landscape is characterized by masses of the unwieldy Baobab (*Adansonia*), huge cotton-trees (*Bombax pentandrum*), large gramineous plants with branching stems, sago palms (*Sagus raphia*), and others of the same majestic tribe. In some places the woods abound in pine-apples, which, although not natives of the continent, have established themselves as completely as in their native stations in tropical America. With the general nature of the vegetation change also the species that are cultivated for the food of man. In the tropical regions of Africa, no waving fields of corn reward the labors of the husbandman; the vine is unknown, the figs are of other and of useless species, and of all the northern fruits the orange and the lime alone remain. In their stead the cassava (*Iatropha manihot*), the yam (*Dioscorea*), the pigeon-pea (*Cytisus cajan*), and the ground-nut (*Arachis hypogæa*), are the farinaceous plants; the papaw (*Carica papaya*), the tamarind, and the uitta or doura-tree (*Parkia Africana*), are the fruits in some places; the Senegal custard apple (*Anona Senegalensis*), the gray plum (*Parinarium*), and the Safn, in others; and the bread-fruit of Polynesia is represented by a large tree called musanga, the seeds of which are as agreeable as hazelnuts. As we approach the southern point of this continent, a new change passes over the face of nature; tropical plants disappear as they have formerly appeared, not however to find their places occupied by the plants of the north, but to contemplate an order of vegetable life so different, that its very genera had been previously unseen. The Karroos of the Cape Colony are the residence of fleshy, leafless, distorted, shapeless tribes of Stapelias, of Mesembryanthemums, Euphorbias, Crassulas, Aloes, and other succulent plants, each holding to the soil by the weak support of a single, wiry root, and feeding rather upon the dews of heaven than the moisture of the soil, — a situation to which they are admirably adapted by the want or imperfect state of their evaporating pores, so that whatever humidity they are able to collect is parted with as slowly as the limited supply is furnished to them. Among these grow stunted bushes of endless species of heath (*Erica*), and succulent geraniums (*Pelargonium*), strong-scented Buchu plants (*Diosma*), and a great variety of shrubby *Compositæ*. The hills and rocks are scattered over with a remarkable tribe of plants called Cycadeæ, intermediate, as it were, between ferns and palms; the plains are permanently clothed with patches of a rush-like plant called *Restio*. — At Cape Town has been introduced the American aloe, and the oaks and stone-pines of Europe have found a congenial climate. — Such are the more prominent features of the vegetation of Africa. Its islands partake more or less of the nature of the flora of the adjacent continent.

VII. Political Divisions.—The earlier divisions of Africa in use by writers were merely geographical, the native political divisions being but little known. These divisions have been in great measure replaced by those adopted by colonizing nations. On the east *Egypt* extends far up the course of the Nile, its former districts of Nubia having been recently re-conquered. *Abyssinia* occupies the northeastern section of the plateau region. Westward from it lie the Nubian districts of *Sennaar* and *Kordofan* and the native states of *Darpur*, *Wadai*, and *Bagirmi*. On the coast of Abyssinia is the Italian colony of *Erythria*, while south of the Gulf of Aden lies *Somali Land*, whose coast is in part claimed by France and Great Britain. *British East Africa*, a recent extensive division, extends on the coast from the river Juba to about 5° N. lat. and inland to Kordofan and Darfur. Adjoining it on the south and extending to the Rovuma River, lies *German East Africa*, a great area extending inland to Lake Tanganyika, and the Congo Free State. Further south extends the Portuguese district of *Mozambique* for about 1000 miles along the coast. South of this lie *Zululand* and some other native states under British protectorate, and the British colony of *Natal*. Inland from these provinces are situated the two Boer republics, called the *Orange Free State* and the *South African Republic* (formerly the *Transvaal*). South of these, extending to the extremity of the continent, is the large

British possession of *Cape Colony*. In the interior, north of the Orange river, which forms the northern boundary of Cape Colony, stretches a vast area claimed by Great Britain, occupying all the territory between the Portuguese and Southwest German possessions, and reaching to the southern extremity of Lake Tanganyika. This great territory is bounded on the west by *Damaraland*, an extensive area north of the Orange river, claimed by Germany, and *Angola*, which has long been held by Portugal. The vast interior, north of the British and Portuguese possessions, is occupied by a great recently-formed state, known as the *Congo Free State*, which is under the protection of Belgium. It embraces most of the basin of the Congo. North and west of it, extending to the Atlantic, lies *French Congo*, extending indefinitely inward, and north of this again is the *Cameroon* country, claimed by Germany. The country north of the Gulf of Guinea is largely held by European nations. The *British Niger Territory* extends inland nearly to the Sahara and to the native kingdom of *Bornu*. Adjoining it on the west lies *Dahomey*, under French protectorate. Germany claims *Togoland*, still further west; Great Britain the *Gold Coast*, inland from which she has recently conquered the large native kingdom of *Ashantee;* then comes the black republic of *Liberia*, established by the United States; while on the northward coast Great Britain possesses the two colonies of *Sierra Leone* and *Gambia*. With the exception of the last named colonies, France claims the whole country from Liberia to Cape Blanco, her claim extending over the basins of the Senegal, the Senegambia and the upper Niger, and indefinitely inward. Spain claims the coast of Sahara from Cape Blanco to Cape Bajador. The northwestern angle of Africa is occupied by the independent kingdom of Morocco, east of which lies the French colony of *Algeria* and the French protectorate of *Tunis*. *Tripoli* and *Barca*, provinces of Turkey, bring us again to the borders of Egypt. South of Barca lies the Libyan desert, nominally under Turkish rule, but actually independent. South of *Tripoli* lies the Turkish province of Fezzan.

VIII. The African Islands.—The chief islands of Africa are, in the north Atlantic, the groups of the Madeiras and the Canaries, the Cape Verde Islands, Fernando Po, St. Thomas, and a number of less important islands; in south Atlantic, St. Matthew, Ascension, St. Helena and Tristan d'Acuuha; in the south Indian ocean, Madagascar, Mauritius, Bourbon, Zanzibar, &c.; and in the north Indian, the islands of Socotra. The maritime nations of Europe have been no less active in taking possession of these islands than of the mainland; Zanzibar, Mauritius, Socrata and Pemba being held by Great Britain; Madagascar, Reunion and the Comorin islands by France; the Madeiras, Cape Verdes, St. Thomas and Prince's Island by Portugal, and the Canaries, Fernando Po and Annobon by Spain.

IX. Area and Population. — The population of Africa, according to the most recent estimate, is about 130,000,000. Its area is estimated at 11,514,500 square miles, of which less than 2,000,000 square miles remain unclaimed by European nations, this principally consisting of desert regions which offer no temptation to European greed.

X. The Partition of Africa.—The era of discovery, which by 1890 had led to acquaintance with the more important features and characteristics of the continent and its inhabitants, was followed by one of occupation and partition, which has led to the result above mentioned. Previous to 1876, England, France and Portugal alone possessed domains in Africa, and none of these showed any vigorous inclination to extend them. A change began with the formation of the International African Association, under the presidency of Leopold II., of Belgium, in 1876, and of the International Association of the Congo, in 1878. Stations were subsequently formed on the Congo, and in 1885 the Congo Free State was formed, under the patronage of Leopold, but otherwise independent. This state is 865,000 square miles in extent, and includes most of the region drained by the Congo. Since that date it has considerably developed, and a railroad is (1897) being built past the rapids of the Congo which must give the new state an immense impetus. The establishment of this state was followed by an energetic movement in Europe for the possession of Africa, particularly on the part of Great Britain, Germany and France, each of which laid claim to great areas of the continent, whose location and extent have been above given. Italy failed in her effort to take possession of Abyssinia, and Portugal found her undefined claims limited by the activity of Great Britain. British Africa now embraces more than 2,500,000 and French Africa nearly 3,000,000 square miles—the latter including much of the Saharan region Germany claims 822,000 and Portugal 841,000 square miles. The most recent historical event of interest is the loss of the upper Egyptian provinces in consequence of the Mahdist rebellion in 1884, and the subsequent remarkable journey of Stanley to the relief of Emin Pasha in 1887-90. In 1896 Great Britain sent an army south for the recovery of the southern provinces of Egypt, defeating the Mahdists and regaining much of the lost territory.

Af'rica, in *Penna.*, a vil. of Franklin co., 7 miles E. of Chambersburg.—In *Georgia*, a village of Heard co.—A village of Spalding co.

Af'rican, *n.* (*Geog.*) A native of Africa.

—*a.* Belonging or relating to Africa.

African Association. A society formed in London, in 1788, for the purpose of offering encouragement to travellers and scientific men to explore the interior of Africa. Four travellers were successively engaged, and among them the celebrated Mungo Park. In 1803, the association was incorporated with the Royal Geographical Society.

African Company. A society of merchants, established in the reign of Charles II., for trading to Africa, and incorporated in 1754. When the expenses of the company had to be defrayed out of the public purse, its charter was recalled by parliament, and its possessions were annexed to Sierra Leone.

African Hemp. Fibres remarkable for their strength, produced by several species of *Sanseviera*, a genus of plants included in the order *Liliaceæ*. These fibres are also known as bowstring hemp.

African Islands. A cluster of low islands in the Indian Ocean, on one of which the *Spitfire*, a ship of the English navy, was wrecked, 21st Aug., 1801. Lat. 4° 53′ S.; Lon. 53° 33′ E.

African Methodist Episcopal and Zion Churches. See Methodist.

African Teak. The timber of the *Oldfieldia Africana*, a tree belonging to the natural order Euphorbiacæ. It is exceedingly strong and durable.

Af'ricanus. See Scipio,(Publius Cornelius.)

Af'rikeah, Afrikiah, or Mahadiah. A seaport of the kingdom of Tunis, on the Mediterranean. It was taken by Charles V., who demolished its fortifications. *Pop.* 3,000. 115 miles S.S.E. of Tunis.

Af'shars, or Afschars, *n. pl.* A Persian tribe, of foreign origin, who claim to be descendants of the Turkomans. They are comprised under two divisions, Shamloo and Kirkloo, and reside for the most part in towns, of which Abivert and Helat are the principal. The tribe is said to occupy altogether 20,000 houses.

Aft, *adv.* [A. S. *aft*, behind.] See Abaft.

Af'ter, *a.* [A. S. *æfter*, from *æft*, *eft*, after, again.] Subsequent, succeeding; as, an *after* period of life.

After, *prep.* Posterior in time.

"Good *after* ill, and *after* pain delight;
Alternate, like the scenes of day and night."—*Dryden.*

—Following in place:—commonly applied to words of motion; as, he came *after*, and stood *behind* him.

"Sometimes I placed a third prism *after* a second, and sometimes a fourth *after* the third."—*Newton.*

—In pursuit of; in search of; following.—Concerning; in relation to.

"*After* whom dost thou pursue?"—1 *Sam.* xxix. 14.
"I will inquire *after* him."

—In imitation of.

"This allusion is *after* the oriental manner."—*Pope.*

—According, or in proportion to. (o.)

After, *adv.* In succeeding time or place; afterward. It is used of time mentioned as succeeding some other. So we cannot say, "I shall be happy *after*, but hereafter;" but we say, "I was first made miserable by the loss, but was *after* happier."

(*Naut.*) More aft, or toward the stern; as, the *after* sails.

After all. At last; in fine; in conclusion; upon the whole.

Af'ter-ages, *n. pl.* Successive times; posterity.

"What an opinion will *after ages* entertain of this religion?"—*Addison.*

Af'ter-day, *n.* A future day.

Af'ter-game, *n.* A new expedient after the original plan has miscarried. "To play an *after-game.*"

Af'ter-math, *n.* (*Agric.*) The grass which grows after the hay has been mowed and made. It is also called rowen, rowett, latter-math, and, when left long upon the land, fogy. When made into hay, it is not good for horses, especially those which are driven fast and work hard. Cows and sheep are fond of it, and it is not injurious to them. Whether it be more profitable to cut a second crop of hay, or to feed off the after-math, must depend on circumstances and situations. Unless the meadows can be irrigated, or well manured, taking off two crops of hay in one year exhausts them, and is apt to produce moss, which the tread of sheep and cattle prevents.

Af'ter-most, *a.* (*Naut.*) Hindermost; nearest the stern;—opposed to *foremost.*

Af'ternoon, *n.* That space, or interval, which is from twelve at noon till the evening. Figuratively, the decline. "The *afternoon* of life."

Af'ter-pains, *n. pl.* (*Med.*) The pains after birth, caused by the delivery of the placenta.

Af'ter-proof, *n.* Evidence posterior to the thing in question.

Af'ter-sails, *n. pl.* (*Naut.*) The sails of the mizzen-mast, and the stays between the main and the mizzen-masts.

Af'ter-taste, *n.* A taste remaining upon the tongue after eating or drinking.

Af'ter-thought, *n.* Reflection or thought arising after the finishing of a thing;—repentance.

Af'ter-times, *n. pl.* In time to come; future ages.

Af'terward, *adv.* [A. S. *æfter*, after, and *weard*, towards.] In succeeding or future time, referring to something which preceded, and which it is supposed to follow. —This word is also written *afterwards*, but less properly.

Af'ton, in *Illinois*, a flourishing township of De Kalb county.

Afton, in *Iowa*, a town, former capital of Union co., about 50 miles S.W. of Des Moines, on C., B. & Q. R. R. *Pop.* (1895) 1,144.

Afton, in *Minnesota*, a post-township of Washington co., about 3 miles below Hudson, Wisconsin.—A post-village in this township, on the W. shore of Lake St. Croix, 20 miles S.S.E. of St. Paul.

Afton, in *New York*, a post-township of Chenango co.

Afton, in *Wisconsin*, a post-village in Rock township, Rock co., about 7 miles from Janesville.

Af'zul-Ghur', a town of the province of Delhi, presidency of Bengal, Hindostan, near the Kumaon mountains. Lat. 29° 25′ N.; Lon. 78° 40′ E.

A'ga, or Agha, *n.* The name of a dignity, also an epithet of respect, among the Turks. It signifies literally a great man, a lord, or a commander. In Turkey, the Aga of the Janissaries, while that corps existed, was their commanding officer or colonel, whose place was one of high authority and dignity in the state. There is also the Spahilar-aga, that is, the colonel of the spahis, or cavalry. The Capi-Aga, or Capi-Agassi, the chief of the eunuchs, is one of the principal officers of the court of Constantinople.

A'ga, a lofty round mountain in Brazil, on the route from Minas de Castello to the frontiers of Minas-Geraes.

Ag'ably, a town built of stone, on the Tuat oasis, between Tripoli and Timbuctoo, Africa. It is a station where merchants meet for business transactions. Lat. 26° N.; Lon. 0° 56′ E.

Ag'ades, or Agadez, a town of Central Africa, and the capital of the kingdom of Asben, tributary to the king of Timbuctoo. It is situated on a "green spot" in the desert, where the Soudan merchants assemble at fixed periods to transact business with those of Northern Africa. Lat. 18° N.; Lon. 13° E.

A'gadir, or Santa Cruz, a seaport town of Morocco, on the Atlantic Ocean, and the most S. in the empire; Lat. 30° 26′ 35″ N., Lon. 9° 35′ 56″ W. The vast sandy deserts of N. Africa commence immediately to the S. of Agadir, and hence its bay is aptly termed by the Arabs *Bab-Soudan*, that is, *Gate of the Blacks.*

A'gag, a king of the Amalekites, who, on the Israelites coming out of Egypt, attacked them in the wilderness and slew all stragglers. *A.* was a general name of the kings of the Amalekites.

Again', *adv.* [A. S. *âgen.*] A second time; once more; marking the repetition of the same thing.—On the other hand.—On another part.

"Behold yon mountain's hoary height,
Made higher with new mounts of snow:
Again, behold the winter's weight
Oppress the lab'ring woods below."—*Dryden.*

—In return.—Back.

—In order of rank and distinction; marking distribution.

"Question was asked of Demosthenes, what was the chief part of an orator? He answered, Action. What next? Action. What next, *again?* Action."—*Bacon.*

—Besides; in any other time or place.

"There is not in the world *again* such a spring of brave military people as in England."—*Bacon.*

Again and again. With frequent repetition; often.

"This is not to be obtained by one or two hasty readings; it must be repeated *again and again*, with a close attention."—*Locke.*

Against', *prep.* [A. S. *ongeon.*] Contrary; opposite, in general; in opposition to any person.

"His hand will be *against* every man."—*Gen.* xvi. 12.

—In contradiction to any opinion; as, a collection of tracts *against* slavery.

—With contrary motion or tendency; used of material action.

"The kite flieth *against* the wind."—*Bacon.*

—Contrary to rule or law; as, a thing *against* the law of nature.

—Opposite to, in place.

"*Against* the Tiber's mouth, but far away."—*Dryden.*

—In provision for; in expectation of.

"The like charge was given them *against* the time they should come to settle themselves in the land promised."—*Hooker.*

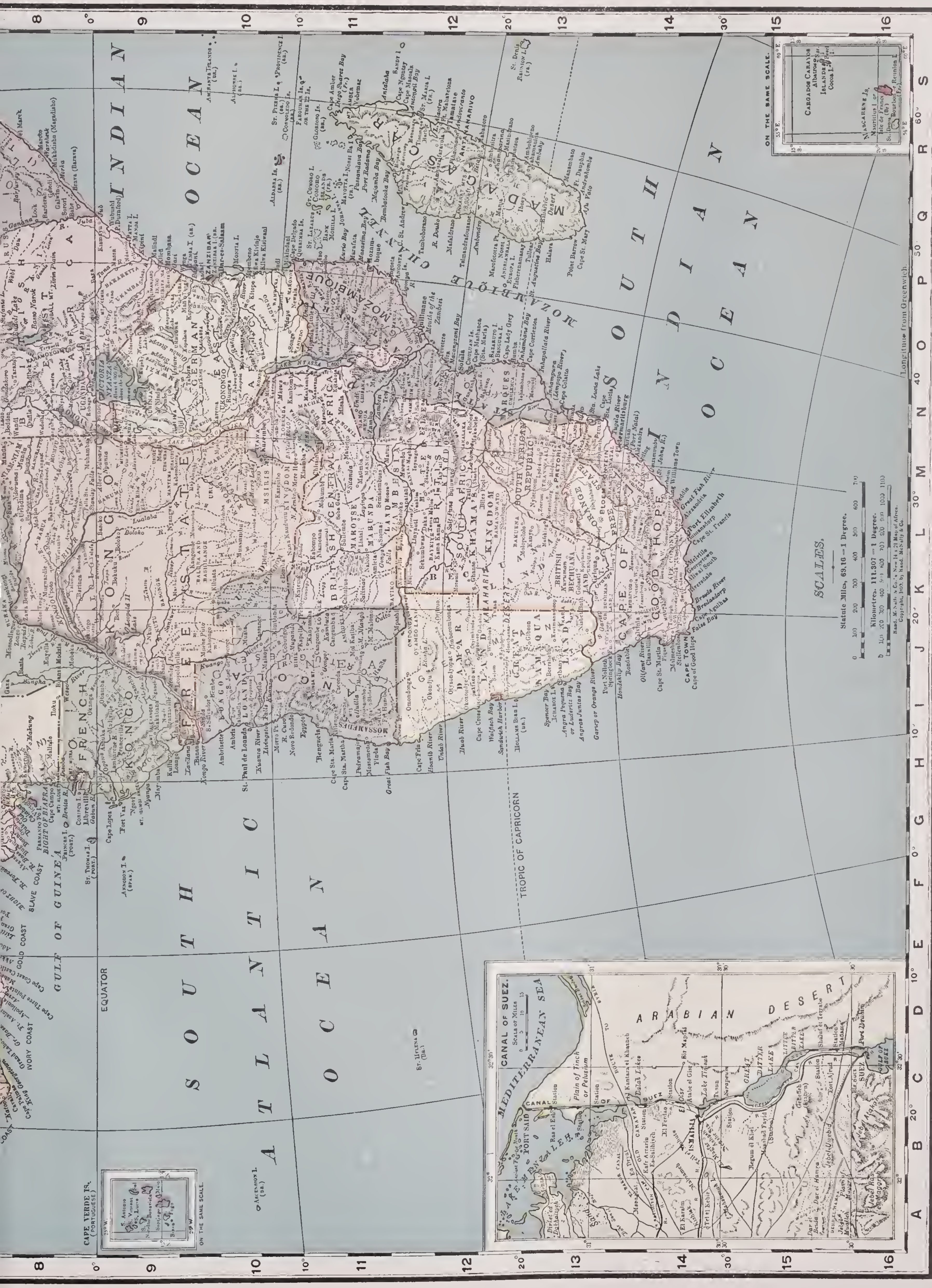
Agalmat'olite, *n.* [Gr. *agalma*, image, *lithos*, stone.] (*Min.*) A name originally given to a variety of *Pinite* used by the Chinese for carving grotesque figures and idols. These minerals vary in color from grayish-green to yellow and red; they are all more or less soft and

Fig. 49.

A CHINESE BASSO-RELIEVO CARVED IN AGALMATOLITE.

unctuous to the touch, and capable of being cut and polished. They consist solely of silica and alumina, with a little carbonate of lime and potash. Before the blowpipe they whiten, but are infusible.

NORTH ATLANTIC OCEAN
MEDITERRANEAN SEA
BLACK SEA
CASPIAN SEA
PERSIAN GULF
GULF OF ADEN
RED SEA
ADRIATIC SEA
BAY OF BISCAY
NORTH SEA
ARAL SEA
ARABIA
PERSIA
TURKESTAN
ASIA MINOR
MOROCCO
ALGERIA
TUNIS
TRIPOLI
FEZZAN
LIBYAN DESERT
EGYPT
NUBIAN DESERT
GREAT DESERT
SAHARA
SOUDAN
SENEGAL
SIERRA LEONE
TROPIC OF CANCER
MADEIRA ISLANDS
CANARY ISLANDS
AZORES ISLANDS


SOUTH ATLANTIC OCEAN
INDIAN OCEAN
SOUTH INDIAN OCEAN
GULF OF GUINEA
EQUATOR
TROPIC OF CAPRICORN
MOZAMBIQUE
CAPE TOWN
CAPE VERDE IS. (PORTUGUESE)
ON THE SAME SCALE.
CANAL OF SUEZ.
MEDITERRANEAN SEA
ARABIAN DESERT
SCALES.
Statute Miles, 69.16 = 1 Degree.
Kilometres, 111.307 = 1 Degree.
Longitude from Greenwich

AFRICA

Area,
11,514,307 sq. m.
Pop ...127,038,370

COUNTRIES.

ABYSSINIA .N 6
(Kingdom)
Area,
150,000 sq. m
Pop.....3,500,000

ALGERIA ....G 2
(French Colony)
Area,
184,474 sq. m.
Pop.....4,124,732

CAPE OF GOOD HOPE..K 15
(British Colony)
Area,
221,311 sq. m.
Pop.....1,527,224

EAST AFRICA, STATE OF, M 12
(Portuguese Colony)
Area,
261,700 sq. m.
Pop. 1,500,000

EGYPT.....L 3
(Turkish Tributary State)
Area,
400,000 sq. m.
Pop.....6,817,265

FRENCH KONGO..I 8
(French Territory)
Area,
250,000 sq. m.
Pop.....6,900,000.

GERMAN EAST AFRICA..M 10
(German Protectorate)
Area,
351,040 sq. m.
Pop.....2,800,000

GERMAN SOUTH-WEST AFRICA
(German Protectorate)
J 13
Area,
342,000 sq. m.
Pop. 250,000

KAMERUN...I 8
(German Proteetorate)
Area,
193,570 sq. m.
Pop. 2,600,000

KONGO INDEPENDENT STATE
K 9
(Belgian Colony)
Area,
900,000 sq. m.
Pop.....14,000,000

LIBERIA ....E 7
(Republic)
Area,
14,360 sq. m.
Pop. 1,068,000

MADAGASCAR
P 12
(French Territory)
Area,
228,500 sq. m.
Pop.....3,500,000

MOROCCO ...E 2
(Empire)
Area,
219,000 sq. m.
Pop.....5,000,000

NATAL .....M 14
(British Colony)
Area,
20,460 sq. m.
Pop. 543,913

ORANGE FREE STATE..L 14
(Republic)
Area,
48,326 sq. m.
Pop. 207,503

PORTUGUESE WEST AFRICA..I 10
(Portnguese Territories)
Area,
600,000 sq. m.
Pop.....10,000,000

COUNTRIES.

RIVIÈRES DU SUD..A 6
(French Colony)
Pop. 47,541

SENEGAL...D 6
(French Colony)
Area,
14,700 sq. m.
Pop. 135,000

SIERRA LEONE
D 7
(British Colony)
Area ...400 sq.m.
Pop. 75,000

SOUTH AFRICAN REPUBLIC..L 13
(Repnblic)
Area,
119,139 sq. m.
Pop. 119,128

TRIPOLI.....J 3
(Turkish Province)
Area,
398,876 sq. m.
Pop.....1,000,000

TUNIS .....H 2
(French Protectorate)
Area,
45,000 sq. m.
Pop.....1,500,000

Agal'lega, or GALLEGA, an island of Africa, near Madagascar; Lat. 10° 12′ N.; Lon. 54° 8′ E.

Agal'loehum, *n.* [Gr. *agallochon*, the aloe.] (*Med.*) Aloes-wood, supposed to be the wood of the *Excœaria agallocha*. Aloes-wood is imported from China in small, compact, ponderous pieces, of a yellow, rusty brown color, with black or purplish veins, and sometimes of a black color. It has a bitterish, resinous taste, and a slight aromatic smell.

Agal'ma, *n.* [Gr.] (Law.) An impression or image of anything on a seal.

Ag'al-wood, *n.* See EAGLE-WOOD.

Ag'ama, the appellation given to a body of troops, in Macedonia, nearly equal to the Roman legion.

Ag'amæ. [Gr. *a*, priv., and *gamos*, marriage.] (*Bot.*) A name given by some authors to the large division of the vegetable kingdom, called Flowerless or Cryptogamic plants. — See CRYPTOGAMIA.

Agamem'non, king of Mycenæ and Argos, son of Atreus and Eriphyle, brother of Menelaus and commander-in-chief of the Grecian army at the siege of Troy. In the earliest and most credible authors, Homer and Hesiod, we find no trace of the long train of horrors which, according to later writers, laid waste the house of Pelops. (See ATREUS, PELOPS, TANTALUS, THYESTES.) *A.* and his brother were called Atridæ, from their father's name, according to the Grecian custom of giving to the son a *patronymic* name. He married Clytemnestra, sister of Helen. The Trojan war arose out of the abduction of Helen by Paris, son of Priam, king of Troy. It is commonly said, that a number of the princes of Greece having been drawn together as suitors by the extraordinary beauty of Helen, Tyndarus, exacted an oath from them, that on whomsoever the choice should fall, if the maid should be carried off, all the rest should unite to recover her; and that in virtue of this oath, the confederate princes assembled under the command of *A.* They were long detained in the bay of Aulis, in Bœotia, by a calm, occasioned by the anger of Diana (see IPHIGENIA), but finally arrived before Troy. During the siege of this town, protracted for ten years, *A.* appears superior to the other chiefs in battle and in council, and maintains, under all circumstances, the dignity of a commander. The most memorable event of the siege of Troy is the quarrel of *A.* and Achilles (see ACHILLES), the subject of the *Iliad*, in which the former placed himself very completely in the wrong. Returning from Troy, *A.* was treacherously murdered by his wife; who, during his absence, had formed an adulterous attachment with Ægisthus, son of his uncle Thyestes. This catastrophe is the subject of the *Agamemnon* of Æschylus, one of the most sublime compositions in the range of the Grecian drama. Orestes, son of *A.*, then a child, was saved by the care of his tutor, and timely flight. After passing seven years in exile, he returned in secret, avenged his father's death by the slaughter of his mother and of Ægisthus, and recovered his paternal kingdom, which he ruled with honor.

Agame'des and Tropho'nius, two architects who designed the entrance of the temple of Delphi, for which they demanded of the god whatever gift was most advantageous for a man to receive. Three days after, they were found dead in their beds.

Agamen'ticus, in *Maine*, a mountain of York co., 4 miles from York Harbor. It affords pasture up to its summit, 673 feet above the sea-level, and is a seamark for the entrance of Piscataqua river. Lat. 43° 16′ N.; Lon. 70° 39′ W.

Ag'ama. [Gr. *agamai*, to wonder at.] (*Zoöl.*) A gen. of lizards, distinguished by their short and thick body, covered with a lax skin, which is capable of being inflated with air at the will of the animal. They are frequently beset with spines, which are raised up when the skin is inflated, presenting a formidable array. Many of them are capable of changing the color of the skin. Different species of this genus are found in Asia, Africa, Australia, and America. The *frilled Agama*, a native of Australia, is a very extraordinary-looking animal. Around its neck, and covering its shoulders, it carries a frill, which, on the approach of danger, is elevated.

A'gami, *n.* (*Zoöl.*) The *Trophia crepitans*, an interesting bird, sometimes also termed the *Gold-breasted Trumpeter*, classed by Dallas among cranes, by Brisson among pheasants, and making the first genus in Temminck's *Alectorides*. It is the size of a pheasant or large fowl, but appears larger from having a long neck, and from standing high on its legs. It inhabits the forests of tropical America, and never visits the cleared grounds or the settlements. It is not easily tamed, but becomes attached to its benefactor with all the fondness and fidelity of the dog. It is fond of caresses, and offers its head and neck to be stroked. The peculiar noise made by the Agami, without opening the bill, is one of its most remarkable characteristics. The sound is sometimes preceded by a wild cry, interrupted by a call somewhat like "scherck," "scherck," and then follows the characteristic noise resembling the syllables, "Too, too, too." During this the breast is seen to heave, as in birds while singing, though the bill remains shut. This extraordinary sound is attributed to a sort of ventriloquism.

Ag'amous, *a.* (*Bot.*) That which has no visible flowers or sensual organs, like the Aganiæ.

Aga'na, one of the Ladrone islands, where Magellan was killed, on a voyage in search of the Moluccas. *Pop.* 3,000. — A Spanish governor resides here.

Aganip'pe, or AGANIPPÆ. (*Anc. Geog.*) A celebrated fountain of Bœotia, at the foot of Mount Helicon. It flows into the Permessus, and is sacred to the Muses, who, from it, were called Aganippedes.

Ag'apæ, *n.* [The pl. of the Gr. *agape*, love, or charity.] (*Eccl. Hist.*) The name given to those meetings of the early Christians where they sat and ate, at a common table, of food which had been provided by the voluntary contributions of the members of the society, the entertainment being concluded with the holy kiss. These meetings, which were usually held in the same house or apartment in which they assembled for divine worship, are at least mentioned once in the *New Testament*, namely, in the 12th verse of the epistle of Jude, where it is said of certain unworthy brethren, "These are spots in your feasts of charity." These love-feasts seem to have continued to be generally celebrated for several centuries. Ecclesiastical writers mention three kinds of them, — first, those which took place at marriages, called the nuptial or connubial agapæ, to which the bishop or pastor was usually invited; second, the anniversary, or, as they were called, natal agapæ, which were held in the churches on the festivals of the martyrs; and third, the funeral agapæ, at the interments of members of the congregation. The celebration of the love-feasts in the churches was at length expressly forbidden by the 25th canon of the Council of Laodicea, in A. D. 364; although the enactment would seem for a considerable time not to have been quite effectual, since we find it repeatedly renewed by subsequent councils.

Agapæmo'nians, *n. pl.* [From Gr. *agape*, love, and *mone*, abode, the family of love.] A small community of proselytes of a Mr. Prince, founded at Charlynch, near Bridgewater, England, in 1845. Doctrines: — a community of goods, and, it is believed, of persons.

Agapan'thus, *n.* [Gr. *agape*, love, and *anthos*, flower.] (*Bot.*) A small genus of ornamental plants, order *Liliaceæ*. The typical species is *A. umbellatus*, the African blue lily, a native of the Cape of Good Hope, whence it was brought to Holland. It is now a favorite garden-plant. It grows nearly a yard high, and in July bears a handsome bunch of blue flowers, which have no scent.

Agape', *adv.* [A. S. *geyppan*, to open.] Staring with open mouth; astare; agog; astonished. — See GAPE.

Agap'etæ, *n. pl.* (*Eccl. Hist.*) A name given to virgins and widows, who, in the early days of the Church, were made deaconesses, and resided with the ministers, sharing their duties. For some time the relation was maintained blameless; but it resulted in immorality, and councils were summoned to put an end to it.

Ag'aphite, *n.* (*Min.*) A name of the TURQUOIS, *q. v.*

Agape'tus I., a Roman pope, raised to the pontificate in 535, and died the year after. He opposed the attempts of Justinian to invade the rights of the Church.

AGAPETUS II., pope in 946, D. 956, was a man of great reputation for sanctity of character.

Ag'ar, Abraham's concubine. See HAGAR.

Ag'ar-agar, *n.* (*Bot.*) A name sometimes given to the alga, commonly known as Ceylon moss, used for making jellies. — See GRACILARIA.

Ag'arie, *n.* [Lat. *agaricum*.] (*Bot.*) The common name of the genus AGARICUS, *q. v.*; a mushroom.

(*Med.*) The Touchwood; a drug extracted from the *Boletus igniarius*, used in medicine and dyeing.

Agaric Mineral. (*Min.*) Called also Rock-milk, a variety of *Calcite*, q. v. It is very soft, white, breaking easily in the fingers, and deposited from waters containing carbonate of lime in solution. It covers the sides of a cave at Watertown, N. Y.

Agar'icus, *n.* [Gr. *agaricon*, a fungus.] (*Bot.*) One of the largest and most important genera of *Fungi*, including all the species of *mushrooms*. They have a cap (or pileus) of a fleshy nature, supported upon a distinct stalk, and a number of parallel unequal vertical plates or gills arising out of the cap, and inclosing the particles by which the species are reproduced, — particles which the vulgar call seeds, and the learned sporules. This genus consists of not fewer than a thousand species, inhabiting meadows, and heaths, and rocks, and masses of decaying vegetable matter, in all temperate regions of the earth. Among them, a large proportion are poisonous, a few are wholesome, but by far the greater are altogether unknown in regard to their action upon the human constitution. The species are often extremely similar; there is no means of distinguishing botanically the tribes that are poisonous from such as are wholesome; but there are some general characters which help us to separate the two groups. They have been tabulated as follows: — *Edible mushrooms.* 1. Grow solitary, in dry, airy places. 2. Generally white or brownish. 3. Have a compact, brittle flesh. 4. Do not change color, when cut, by the action of the air. 5. Juice watery. 6. Odor agreeable. 7. Taste not bitter, acrid, salt, or astringent. — *Poisonous mushrooms.* 1. Grow in clusters, in woods and dark damp places. 2. Usually with bright colors. 3. Flesh tough, soft, and watery. 4. Acquire a brown, green, or blue tint, when cut and exposed to the air. 5. Juice often milky. 6. Odor commonly powerful and disagreeable. 7. Have an acrid, astringent, acid, salt, or bitter taste. We should avoid all fungi which insects will not touch, and those which have scales or spots on their surface; and whatever may be the apparent qualities of the fungi, we should use with caution all which have arrived at their full development, or when they exhibit any signs of change. By soaking doubtful fungi, cut into slices, for about one hour in vinegar, and afterward washing them in boiling water, we get rid of any poisonous principles they may possess, and the process will not spoil them for the table. — The *A. campestris*, the common mushroom, and several varieties of the same, is the species commonly raised artificially for food. It is readily known in any state by its fragrant odor, the absence of which is extremely suspicious. When in a very young state, it resembles little snow-white balls, which are called *buttons;* afterward it acquires a stalk, separates its cap, and becomes shortly conical, with liver-colored gills, and a white, thick, fleshy cap, marked with a few particles of gray. At a more advanced age, the cap is concave, the color gray, and the gills black; in this state it is called a *flap*. For the method of cultivating it, and for its physiological characters, see MUSHROOM.

Aga'sias, or AGASSIAS, a sculptor of Ephesus, celebrated for his admirable statue of the Gladiator.

Agas'icles, a king of Sparta, who used to say, "A king ought to govern his subjects as a father his family."

Agassiz (*ăg'-a-see*), ALEXANDER, an American naturalist, son of Prof. Louis J. R. Agassiz. See SECTION II.

Agassiz, LOUIS JEAN RODOLPHE, a very distinguished naturalist, of French origin; B. on the 28th of May, 1807, at Motiers, canton of Freyburg, Switzerland, where his father was a pastor. In 1818 he entered the Gymnasium of Bienne, and in 1822 was removed to the Academy of Lausanne, as a reward for his proficiency in science. He subsequently studied medicine and the experimental sciences at Zürich, Heidelberg, and Munich, at which last university he took the degree of M. D. He went soon after to Paris, where he gained the friendship of Cuvier and Humboldt. On returning to Switzerland, he was appointed professor of natural history at the college of Neufchâtel. From his earliest youth he evinced a peculiar inclination and aptitude for the cultivation of the natural sciences. In Heidelberg and Munich he occupied himself more especially with comparative anatomy. Being intrusted by Martius with the publication of an account of the 116 species of fishes collected by Von Spix in Brazil, he gave to the world that new classification of fishes to which he has subsequently remained steadfast. In 1839 he published his *Natural History of the Freshwater Fishes of Europe*, a subject which he treated with monographic completeness. While preparing this work he had published his *Researches on Fossil Fishes*, and his *Descriptions of Echinoderms*. The work, however, which contributed most liberally to his European reputation was his *Studies of Glaciers*, in which he advanced a theory tending to remodel the prevalent views of geologists as regards the incoherent and post-tertiary formation of the globe, and the dynamical causes by which those deposits have been affected. In 1846, on invitation, Mr. Agassiz embarked for America, and was appointed

Fig. 50. — PROF. AGASSIZ.

professor of zoölogy and geology in the Lawrence Scientific School. One of his great merits was the profitable enthusiasm that he called into existence in the pursuit of the natural sciences in his adopted country. His mode of teaching was extremely clear, and his disciples, the scientific youth of the United States, caught readily the practical spirit of their master. Agassiz was an upholder of the doctrine which teaches the successive creation of higher orders of organized beings on the surface of the earth, and believed that the human race has had, in its several distinct species, separate stocks of originality both as to time and space. His name is equally popular in the two worlds. The chair of natural history in Edinburgh, and a scientific chair in Paris, were offered to him, but he declined both. He was a member of all scientific academies of Europe. In 1865–1866 Prof. Agassiz made an exploration in Brazil, in company with his wife and a staff of well-trained scientific assistants. An American steamship company furnished the party with a free pass; and, as a graceful acknowledgement of their kindness, the steamer Colorado was made ever memorable by the course of lectures which the most popular scientific lecturers gave on board. This great mission may be ranked as one of the most important and most successful scientific expeditions of his life, and the published account is full of interest. Those results were shadowed forth in the book entitled *A Journey in Brazil*, that Prof. and Mrs. Agassiz published in 1868, a work abounding in charming sketches of Brazilian life and scenery, and which has been widely circulated. In 1871, he was appointed chief of the scientific corps attached to the *United States Coast Survey* expedition. D. Dec. 14, 1873.

Agas'trie, *a.* (*Anat.*) Having no alimentary canal.

Aga'ta, the name of several towns of Italy, the most remarkable of which is the ancient Mintumo, in the district of Gaeta, prov. of Naples. *Pop.* 7,000.

Ag'ate, *n.* (*Min.*) A semi-pellucid, variegated, and uncrystallized variety of *chalcedony*, gen. quartz (*Hyalus rhombohedras*, order *Hyalinea*, Dana), named after

Acnates, a river in Sicily, whence the Greeks are said to have first procured it. Chemically, it consists almost entirely of silica, colored by metallic oxides. The colors of agate are generally arranged in parallel or concentric bands, but sometimes form spots, clouds, and moss-like stains. These colors can be artificially heightened by boiling the stone in oil, and afterward in sulphuric acid, and by other ingenious but fraudulent processes which have been devised by the lapidary. Agates occur in nature as rounded pebbles, in Saxony, Arabia, and India. Some fine varieties, however, are found in several parts of the United States, but we do not believe that, till now, they have been worked for the trade. Agates take a high polish, and their beautiful colors adapt them for many ornamental purposes. They are cut into broches, seals, bracelets, and similar objects, and are largely employed for mosaic work. In the useful arts, agates are employed as burnishers, and, when sufficiently large, they are made into mortars, for chemical purposes. — The *Moss-agate*, or *Mocha-stone*, is curiously marked with figures resembling growing tufts or moss, of an opaque brownish-yellow color, which are due to oxide of iron. — The stones distinguished by mineralogists and lapidaries by the names of *Cornelian*, *Onyx*, *Sardonyx*, *Blood-stone*, *Chalcedony*, *Plasma*, have exactly the chemical composition of the agate.

(*Printing.*) Agate is also the name of a printing type, under the size of Nonpareil, as in the following line:

"Res est sacra miser."

Ag'ate-shells, *n.* (*Zoöl.*) A land African species of mollusks, 8 inches in length, belonging to the family of the *snails*, ord. *Helicidæ*.

A'gatha, St., a lady of Palermo, martyrized by Quintilian, the pro-cousul of Sicily, in the persecution of Decius, because she would not perform idolatrous worship, nor submit to his impure desires.

Agathar'chides, or Agatharcides, a Greek writer on geography. B. at Cnidos, in Asia Minor, lived B. C. 250, and wrote numerous works, and among them, one on the Erythræan sea, of which some extracts have been preserved. He is the earliest extant writer who attributes the annual rise of the Nile to the periodical rains in the upper regions of that river.

Agathar'chus, an Athenian artist, said to have invented scene-painting, and to have painted a scene for a tragedy of Æschylus.

A'gathis, *n.* [Gr. *agathis*, a clew.] (*Bot.*) A genus of trees, including the dammar and kawrie pines, ord. Pinaceæ.

A'gatho, or Agathon, a pope, born at Palermo, elected in 679; D. 682. He despatched legates to the council called at Constantinople to condemn the Entychians.

A'gathon, a tragic poet of Athens, contemporary and friend of Euripides. The dinner which he gave to celebrate his first dramatic triumph, B. C. 416, was made by Plato the ground-work of his Symposium. Few fragments only of his writings are extant.

Agathyr'sus, *n.* (*Bot.*) A name of the genus *Floridanum*, q. v.

Agath'ocles, a Syracusean of low extraction, who became ruler of a great part of Sicily. He was remarkable for beauty, strength, and capacity for enduring labor. In the outset of life, he belonged to a band of robbers; afterward he served as a private soldier, rose to the greatest honors, and made himself master of Syracuse. He conquered the greatest part of Sicily, B. C. 317. Being defeated at Himera by the Carthaginians, he carried the war into Africa, where, for four years, he extended his conquests over his enemy. He afterwards passed into Italy, and made himself master of Crotona. In his 72d year he was poisoned by his grandson Archagathus, B. C. 289, after a reign of 28 years of great prosperity mingled with the deepest adversity. His son-in-law, Pyrrhus, king of Epirus, inherited his influence in Sicily and southern Italy.

Ag'athophyllum, *n.* (*Bot.*) A genus of plants in the nat. ord. *Lauraceæ*. The species *A. aromaticum* yields the Ravensara nut, or clove nutmeg of Madagascar; used as a spice.

Ag'atize, *v. a.* To petrify into agate.

Agatized wood. A variety of petrified hornstone.

Agat'ton, a town on the coast of Guinea, near the mouth of the Formosa, 80 miles of Benin. Lat. 7° 20′ N.; Lon. 7° 6′ E.

Ag'aty, *a.* Having the nature of Agate; as, an *agaty* flint.

Ag'awam, in *Massachusetts*, a town in Hampden co., on the river Connecticut, 3 miles S. W. of Springfield; *pop.* (1890) 2,352.

Ag'awan, in *Massachusetts*, a small stream of Plymouth co., the waters of which unite Buttermilk bay.

Aga've, daughter of Cadmus and Hermione, married Echion, by whom she had Pentheus, who was torn to pieces by the Bacchanals. She is said to have killed her husband while celebrating the orgies of Bacchus. She received divine honors after death.

Aga've, *n.* [Gr. *agayos*, admirable.] (*Bot.*) A genus of plants of the tribe *Agaveæ*. The typical species is *Agave americana*, the American aloe or maguey. This plant is cultivated by the Mexicans, who obtain from it a favorite drink, called *pulque*, *octli*, or agave wine. From pulque an ardent spirit is distilled, which is known by the name of *Mezcal*, or, less commonly, *aguardiente de Maguey*. — The plant is of slow growth; but when fully developed, its leaves, which spring directly from the ground, attain a height of from five to eight feet. From the midst of the great cluster of leaves a flower-stem arises, and from this numerous flower-bearing branches spring, so that the whole plant has somewhat the appearance of a candelabrum. It was formerly erroneously supposed that the agave lived a hundred years before flowering; hence it was frequently called the *Century Plant*. It really flowers only once in about ten years, and the planter has to wait patiently for the flowering season to obtain a supply of pulque, as this liquor is formed from the juice contained in the young flower-stalk. From the leaves of this and other species of the agave genus, the useful fibre called *aloe-fibre*, *Maguey pitĕ* or *pitá hemp*, is obtained. — See Amaryllidaceæ.

Aga'veæ, *n. pl.* (*Bot.*) A tribe of plants, ord. *Amaryllidaceæ*. The *agave* is its most important genus.

Agde', a maritime town of France, dep. of the Hérault, on the river Hérault, 11 m. E. of Beziers. It is situated in a fertile district, and is a place of much commercial activity, forming one of the entrepots between Italy and Spain; population 10,314. *Ind.* Ship-building and distilleries. Was in 506 the seat of a council summoned by Alaric.

Ag'deh, a town of Persia, 70 m. W. from Yezd, which receives goats' hair from it for the manufacture of shawls.

Age, *n.* [Fr. *âge*.] Any period of time attributed to something as the whole, or part, of its duration; as, the *age* of man, the several *ages* of the world, the golden *age*.

"And Jacob lived in Egypt 17 years; so the whole *age* of Jacob was 147 years." — *Gen.* xlvii. 28.

"Jesus began to be about thirty years of *age*." — *Luke*, iii. 23.

— A succession or generation of men.

"Hence is it, that old men do plant young trees,
The fruit whereof another *age* shall take." — *Sir J. Davies.*

— The time in which any particular man, or race of men, lived, or shall live; as, the *age* of heroes.

— The space of a hundred years; a secular period; a century.

— The latter part of life; old age; oldness.

"Boys must not have th' ambitious care of men,
Nor men the weak anxieties of *age*." — *Roscommon.*

(*Physiol.*) During the progress of life from infancy to manhood, and from manhood to old age, the body undergoes certain marked changes (see Growth), which distinguish the different periods or stages of life. These are usually denominated ages, and are properly seven in number, though some make them fewer. They are — 1. Infancy; 2. childhood; 3. boyhood or girlhood; 4. adolescence; 5. manhood or womanhood; 6. age; 7. old age. The first age commences at birth, and extends to the end of the second year, by which time the first dentition is generally completed; the second extends to the end of the seventh or eighth year, when the second dentition is commonly over; the third extends to the age of puberty, which, in temperate countries, is from twelve to fourteen in the female, and from fourteen to sixteen in the male; the fourth extends to about the twentieth year in the female, and the twenty-fourth in the male; the fifth period extends in the female to about the forty-fifth or fiftieth year, when the power of procreation usually ceases, and in the male to about the forty-ninth or fiftieth year; the sixth period extends to the sixty-fifth; the seventh period finishes with life. — It ought to be observed that the point of time at which mature age lapses into *age* and *old age*, differs in every individual. It differs in many cases by a considerable number of years; and it differs according to primitive constitution, to the management of childhood; and the several circumstances included under the general term, *mode of life*.

(*History and Lit.*) Age is sometimes used as synonymous with century, and more frequently with a generation. A definite period in history distinguished by some special characteristic, such as great literary activity, is styled, with some appropriate epithet, an age. As, to speak of the age of Pericles, the Augustan age, the dark ages, the middle ages, the age of steam.

(*Geology.*) The second great division of time, as the *Devonian Age*, the time in which the Devonian system of rocks was deposited — or intervals in the life-history of the globe, marked by the prevalence of certain forms of animal or vegetable life, as the *Age of Reptiles*.

(*Law.*) The time when the law allows persons to do acts, which, for want of years, they were prohibited from doing before. Thus in crim. law, a person of the age of fourteen may be capitally punished for any capital offence, but under the age of seven he cannot. The period between seven and fourteen is subject to much uncertainty, it depends upon the infant's capacity to discern good from evil. The nubile age was fixed by the Roman law to 14 for males, and 12 for females, and at these respective ages either sex may, in England, consent to marriage, with the approval of guardians. Full age in male or female is 21 years, which age is completed on the day preceding the 21st anniversary of a person's birth. In the church of England, a man may become a deacon at 23, be ordained priest at 26, and is eligible for a bishopric at 30. In almost all universities of Europe and America, 21 is the age prescribed for admission at the bar or receiving the degree of doctor of medicine. The usual term of service in the American militia is from 18 to 45. A representative must have attained the age of 25, a senator in congress must be 30, and the president of U. S. 35 years old.

Ages of the world. We find the ages of the world mentioned by the earliest of the Greek poets. They compared the existence of mankind to the life of an individual, and the earliest period of the world to the tranquillity and happiness of youth. Hesiod speaks of five distinct ages: 1. The *Golden*, or *Saturnian Age*, when Saturn ruled the earth, is represented as having been that of perfect innocence and happiness. 2. The *Silver Age*, which he describes as licentious and wicked. 3. The *Brazen Age*; violent, savage, and warlike. 4. The *Heroic Age*, which seemed an approximation to a better state of things. 5. The *Iron Age*, when justice and honor had left the earth.

Age of animals. The duration of life in animals is generally between 7 and 8 times the period which elapses from birth till they become adult; but this rule, besides being vague and indefinite, is quite useless in practice, because it affords no scale of gradation which would enable us to ascertain the precise age of individuals, the only inquiry of real importance or of practical application to the interests of society. More certain and scientific principles are derived from observing the growth and decay of the teeth. Unhappily, the observations have not been till now extended further than to the most important domestic animals. — *Horse.* Its age is known principally by the appearance of the incisive teeth, or, as they are technically called, the nippers. Of these there are six in each jaw, broad, thin, and trenchant in the foal, but with flat crowns marked in the centre with a hollow disk in the adult animal. The foal or milk teeth appear fifteen days after birth; at the age of two years and a half the middle pair drop, and are replaced by the corresponding permanent teeth; at three years and a half the two next, one on each side, fall, and are likewise replaced: and at the age of four years and a half the two external incisors of the first set drop, and give room to the corresponding pair of permanent teeth. All these permanent nippers, as we have already observed, are flattened on the crown or upper surface, and marked in the centre with a circular pit or hollow, which is gradually defaced in proportion as the tooth wears down to a level with its bottom. By the degree of this detrition, or wearing of the teeth, the age of the animal is determined, till the eighth year, at which period the marks are generally effaced; but it is to be observed that the external incisors, as appearing a year or two after the intermediate, preserve their original form proportionally for a longer period. After the eighth year, the age of the horse may be still determined for a few years longer by the appearance and comparative length of the canine teeth or tushes. These, it is true, are sometimes wanting, particularly in the lower jaw, and in mares are rarely developed at all. Those of the under jaw appear at the age of three years and a half, and the upper at four; till six they are sharp-pointed, and at ten they appear blunt and long; but after this period there are no further means of judging of the horse age, except ing from the comparative size, bluntness, and discolored appearance of the tushes. — *Oxen*, *sheep*, *goats*. The age of the horned cattle is indicated more readily by the growth of horns than by the detrition and succession of the teeth. Their horns consist of a hollow sheath of horn, which covers a bony core of the skull, and grows from the root, when it receives each year an additional knob of ring, the number of which is a sure indication of the animal's age. In the cow kind, the horns appear to grow uniformly during the first three years of the animal's life; consequently, up to that age they are perfectly smooth and without wrinkles, but afterward each succeeding year adds a ring to the root of the horn, so that the age is determined by allowing three years for the point or smooth part of the horn, and one for each of the rings. In sheep and goats the smooth, or top part, counts but for one year, as the horns of these animals show their first knob, or ring, in the second year of their age. — The age of other classes of animals cannot be determined by any general rule. — In *Birds* it may be sometimes done by observing the form and wear of the bill; and some pretend to distinguish the age of fishes by the appearance of their scales, but their methods are founded upon mere hypothesis, and entitled to no confidence.

Age of Plants. Plants, like animals, are subject to the laws of mortality, and, in many cases, have the period of their existence determined by nature with as much exactness as that of an insect. It is principally to annual and biennial plants that a precise period of duration is fixed. The remainder of the more perfect part of the vegetable kingdom, whether herbaceous, or

Fig. 51. — Doum-palm.
(*Hyphæne Thebaica.*)

shrubby, or arborescent, consist of plants which may be classed under two principal modes of growth. One of

these modes is to increase, when young, in diameter, rather than in length, until a certain magnitude is obtained, and then to shoot up a stem, the diameter of which is never materially altered. The addition of new matter to a trunk of this kind takes place by the insinuation of longitudinal fibres into the *inside* of the wood near the centre; on which account, such trees are called *Endogenous*, or *Monocotyledons*. The other mode is, from the beginning, to increase simultaneously in length and diameter, but principally in length. The addition of new matter to a trunk of this kind takes place by the insinuation of longitudinal fibres into a space beneath the bark, and on the *outside* of the wood, near the circumference; on which account such trees are called *Exogenous*, or *Dicotyledons*.—There is scarcely any well-attested evidence of an endogenous plant having acquired any considerable age, and, in fact, the mode of growth of such trees as palms seems to preclude the possibility of their existing beyond a definite period of no great extent. The diameter to which their trunk finally attains is very nearly gained before they begin to lengthen, and afterward all the new woody matter, which every successive leaf *necessarily* produces during its development, is insinuated into the centre. The consequence of this is, that the woody matter previously existing in the centre is displaced and forced outward toward the circumference; as this action is constantly in progress, the circumference, which in the beginning was soft, becomes gradually harder and harder by the pressure from within outward, till at last it is not susceptible of any further compression. After this has occurred, the central parts will gradually solidify by the incessant introduction by the leaves of new wood which thrusts outward the older wood, till at last the whole stem must become equally hard, and no longer capable of giving way for the reception of new matter. As soon as this occurs, the tree will perish; because its vitality is dependent upon the full action of all the functions of the leaves, and the cessation of one is the cessation of all.—But in exogenous trees, as in the oak, it is quite the reverse; to their existence no limited duration can be assigned; on the contrary, there is nothing physically impossible in the notion that some individuals now existing may even have been silent witnesses of the Noachain deluge. In consequence, first, of the new woody matter which is constantly formed by the leaves of such trees being insinuated beneath the bark near the circumference of their trunk; and, second, of the bark itself being capable of indefinite distention, no compression is exercised by the new parts upon those previously formed; on the contrary, the bark is incessantly giving way to make room for the wood beneath it, while the latter is, in consequence, only glued, as it were, to what succeeds it, without its own vital powers being in any degree impaired by compression. It is in the newly-formed wood that the greatest degree of vitality resides; in the old wood, near the centre, life, in time, becomes extinct; but as each successive layer possesses an existence in a great degree independent of that which preceded it, the death of the central part of an exogenous tree is by no means connected with a diminution of vitality in the circumference. The last cylinder having its own independent vitality, it will be apparent that, under circumstances constantly favorable to growth, individuals of this kind may continue to exist to the end of time.—The way by which the age of *exogenous* trees may be computed is by cutting out a portion of their circumference, and counting the number of concentric rings that are visible; the woody cylinder of one year being divided from the succeeding one by a denser substance, which marks distinctly the line of separation of the two years. In consequence of the extreme inequality in thickness of the annual layers of wood on opposite sides of a stem, a person judging of the whole age of a tree by the examination of the layers of the stunted side only, would commit errors to the amount of sixty per cent., and more. It is by no means impossible that the great age of 5000 years and more, assigned by Adausou to the baobab tree of Africa, and by the younger de Candolle to the deciduous cypress of Mexico, may be connected with errors of this nature.

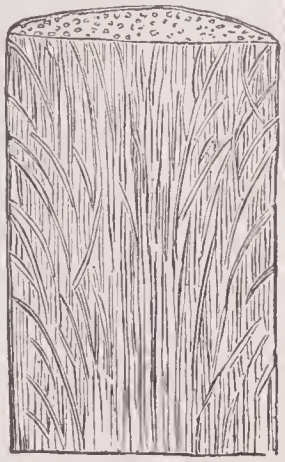


Fig. 52.

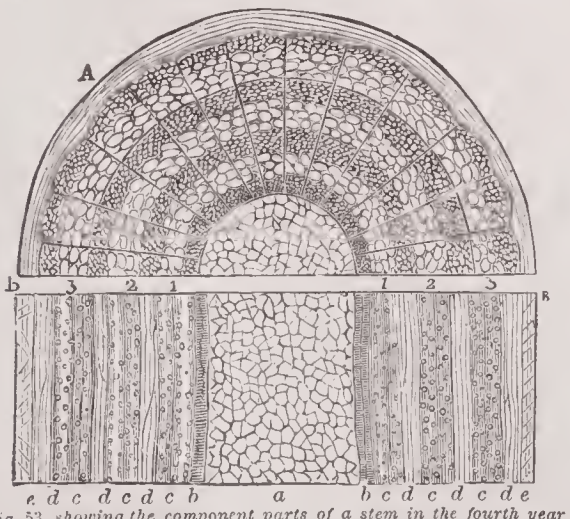


Fig. 53, showing the component parts of a stem in the fourth year of growth.

A, a part of a transverse section. B, a perpendicular section, the parts of each arranged accurately over the other.
a, the pith; *b*, the surrounding medullary sheath; *c* and *d*, layers of wood and bothrenchym intermingled. The open work in A shows the position and the extent of bothrenchym more clearly; *e*, the bark.

A'ged, *a.* Old, stricken in years: applied to animals and plants. Having lived a certain time; as, a man *aged* twenty years.

Age'da, the name of a plain, 90 m. from Buda, where the Jewish rabbis held a meeting, in 1650, to debate whether the Messiah had come; the question was decided in the negative.

A'gedly, *adv.* In the manner of an aged person.

A'gedness, *n.* The state of being aged.

Agelai'næ, *n. pl.* [Gr. *agele*, a herd.] (*Zoöl.*) The Troop-birds, a sub-family of birds, fam. *Sturnidæ*, ord. *Passeres;* the typical species of this sub-family is the *Agelaius phœniceus*, or blackbird.

Agelas'tus, a surname of Crassus, the grandfather of the rich Crassus. He only laughed once in his life, and this, it is said, was upon seeing an ass eat thistles.

Age'less, *a.* Having no age, or without ascertained age.

Ag'elnoth, an archbishop of Cauterbury and a favorite of King Canute. On the death of that monarch, he refused to crown his son Harold, pretending that the deceased King had commanded him to crown noue but the issue of Queen Emma. D. 1038.

A'gen, a town of France, cap. of the dep. of Lot-et-Garonne, on the right bank of the Garonne, on the railway from Bordeaux to Toulouse. It is the seat of a *Court of Appeal*. Its situation, though rather unhealthy, makes it the entrepôt of the commerce between Bordeaux and Toulouse. Environs beautiful. *Agen* was a prætorian city under the Roman emperors; *pop.* 21,316.

Agena'bat, a town of Transylvania, 10 m. N.E. of Hermanstadt. Lat. 46° 32′ N.; Lon. 24° 10′ E.

A'gency, *n.* [Fr. *agence*, from Lat. *agentia*.] The quality of acting; the state of being in action; action.

"The superintendence and *agency* of Providence in the world." *Woodward.*

—The office of an agent or factor for another; business performed by an agent.

"I am content to live cheap in a worse country, rather than be at the charge of exchange and *agencies*."—*Swift.*

A'geney, in *Iowa*, a town and township of Wapello co., not far from Des Moines River; *pop.* of township 1,223.
—A village of Winneshiek co., on Turkey River.

Agen'da, *n.* [Pl. of the Lat. *agendum*, to be done.] A memorandum-book.—(*Theol.*) Things which a man is bound to perform, in opposition to Credenda, or things which he is bound to believe. It also denotes the service or offices of the church, and sometimes, in Catholic countries, the church books compiled by public authority, prescribing the order to be observed by the ministers and people in the ceremonies and devotion of the church.

A'genois, in France, that part of the Province of Guienne, which now forms the department of Lot-et-Garonne.

A'genor, king of Phœnicia, was son of Neptune and Libya, and brother to Belus. He married Telephassa, called by some Agriope, by whom he had Cadmus, Phœnix, Cilix, and Europa. As Carthage was built by his descendants, it is called *Agenoris urbs*.

Ageno'ria, or AGENORA, *n.* (*Myth.*) The goddess of industry and courage. Her temple was upon Mount Aventine.—Also, a name given to the goddess of Silence, represented with one of her fingers pressing her lips.

A'gent, *n.* [Fr. from Lat. *agens*, doing.] One who conducts the affairs, or is intrusted with the commissions of another.

(*Law.*) An agent may be constituted either by express appointment or by implication of law, arising from the circumstances in which the parties are placed. In the following cases his appointment must be in writing:—To grant a lease of land for over three years; to create or assign any uncertain interest in land, or (except in copyholds) to surrender the same. An agent for a corporating aggregate must, in general, be constituted, not only by writing, but by deed; and in every case where a deed is to be executed by one man as agent or attorney for another, the agent or attorney must himself be authorized by deed for that purpose. An agency is determined by the death of the principal, or it may be revoked in his lifetime, except in cases where an authority is given in pursuance of a contract with another party. An agent may be *general* or *special*. The acts of a general agent bind his principal, although the agent may violate his private instructions. The power of a special agent is limited by the authority he has actually received. An agent, without special authority, cannot appoint another person to act in his stead.

(*Diplom.*) A general term applied to several ranks, as envoys extraordinary, and ministers plenipotentiary, ambassadors, ministers resident, secretaries of legation, &c. In ordinary language, the principal representative of one power at the court of another is termed the agent of that power at that particular court.

A'gent-ship, *n.* The office of an agent.

A'ger, *n.* [Lat., a field.] Among the ancient Romans, a portion of land allotted to each citizen. The writers of the middle ages employed the word *ager* to denote an acre of land.

A'ger, NICHOLAS, a professor of medicine at Strasburg; distinguished as a botanist and physician. Lived in the seventeenth century.

Agesan'der, a famous sculptor of Rhodes, who, in the time of Vespasian, made a representation of the Laocoon's history, which now passes for the finest relic of all ancient sculpture. The Laocoon was discovered at Rome in 1506, and afterward deposited in the Farnese Palace, where it still remains.

Agesila'us king of Lacedæmon, son of Doryssus of the family of the Agidæ, and father of Archelaus. During his reign, Lycurgus instituted his famous laws. Reigned B. C. 850.

AGESILAUS, king of Lacedæmon, son of Archidamus, of the family of the Proclidæ, was elevated to the throne after the death of his brother Agis, by Lysander, who afterward attempted to depose him. Called by the Ionians to their assistance against Artaxerxes, he commenced, after Lysander's death, his glorious career; defeated the Persians, but was compelled to stop in his victorious course, and turn his arms against Thebes, Corinth, &c., which had united against Sparta, and, in a subsequent war with Thebes, to contend against Pelopidas and Epaminondas, the greatest generals of those times. His prudence, however, saved the city, without the hazard of a battle. On his return from his last campaign in Egypt, loaded with honors and presents, he was overtaken by a storm on the coast of Libya, and perished, being then in his 84th year, after reigning 40 years, 361-321 B. C. He was a noble prince, and almost adored by his soldiers, though he sometimes violated the virtue of justice, in cases in which he could be useful to his country or friends.

Agesip'olis I., king of Lacedæmon, and son of Pausanias, who obtained a great victory over the Mantineans. He reigned 24 years, and was succeeded by his brother, Cleombrotus, 380 B. C.

Age'-worn, *a.* Worn or wasted by age.

Ag'ga, or AG'GONA, a town and district on the coast of Guinea, in which is a very high hill called the Devil's Mount. The English have a fort here. Lat. 6° N.; Lon. 0° 5′ E.

Ag'ger, *n.* A natural communication, formed during a storm, in 1825, between the North Sea in Denmark, North Jutland, and the Limfiord.

Aggera'tion, *n.* [Lat. *aggeratio.*] A heaping up; accumulation.

Aggerhuys', or AGGERHUUS, a Norwegian fortress and province, which is full of mountains, the largest and in many respects the most important in the kingdom. Its mines, agriculture, and commerce, are considerable and valuable. *Pop.* of prov. 116,365. Lat. between 58° and 62° N.; Lon. between 8° and 12° E.

Ag'geroe, an island in the Gulf of Christiania, not far from the mainland.

Aggerose', *a.* Which is formed in heaps.

Ag'gersoe, a small Danish island in the Great Belt, near the E. coast of the island of Zealand; Lat. 55° 12′ N.; Lon. 11° 12′ E.

Ag'gersund, a small island in the Cattegat, Norway.

Ag'gerzeen, *n.* (*Zoöl.*) A large Abyssinian antelope.

Aggi'ra, a town of Sicily, prov. of Catania, on the Giarretta river; *pop.* 11,204.

Agglom'erate, *v. a.* and *n.* [Fr. *agglomérer.*] To collect into a mass of such a kind as shall convey the idea of a multitude of parts, or intricacy. Without organization or structural arrangement.

Agglom'erate, and AGGLOMERATED, *a.* (*Bot.*) Collected into a heap or head.

Agglomera'tion, *n.* [Fr.] The act of agglomerating, or the state of being agglomerated. "An excessive *agglomeration* of turrets."

Agglom'erative, *a.* Having a tendency to collect together.

Agglu'tinant, *a.* [Fr.] Causing union or adhesion of parts, as glue.
—*n.* A viscous or adhesive substance causing union of parts.

Agglu'tinate, *v. a.* [Fr. *agglutiner.*] To cause parts to adhere or stick together.

Agglutina'tion, *n.* [Fr.] The act of agglutinating; the state of being agglutinated; the adhesive union or sticking together of parts.

Agglu'tinative, *a.* [Fr. *agglutinatif.*] That which has the power of procuring agglutination, as, an *agglutinative* roller.

Aggrandiz'able, *a.* That may be aggrandized. (o.)

Aggrandiza'tion, *n.* The act of aggrandizing. (o.)

Ag'grandize, *v. a.* [Fr. *agrandir.*] To make great, or greater. Applied to individuals and families, or their condition. To promote. To dignify. To exalt. To ennoble. To enrich.
—*v. n.* To become greater; applied in the same sense.

Ag'grandizement, *n.* [Fr. *agrandissement.*] The state of being aggrandized; the act of aggrandizing.

Ag'grandizer, *n.* One who aggrandizes or makes great another.

Ag'gravate, *v. a.* [Fr. *aggraver*, from Lat. *aggravare*, to make heavier.] To make heavy or heavier. It is not said of the augmentation of that which is physically weighty, but metaphorically, as, of the burden of trouble, or anything naturally oppressive. So the idea is by usage restricted to matters of feeling and moral responsibility. We aggravate a mental, not a material burden. Circumstances also aggravate offences. It is less usually employed directly of persons, than of their feelings or sentiments. To wound; to increase; to embitter; to magnify.

Aggrava'tion, *n.* [Fr. from Lat. *aggravatio.*] The act of aggravating, or making heavy.—The extrinsic circumstances, or accidents, which increase the guilt of a crime, or the misery of a calamity.—See AGGRAVATE.

Ag'gregate, *v. a.* [Fr. *agréger*, from Lat. *aggregare.*] To collect together; to heap many particulars into one mass.

"The *aggregated* soil
Death, with his mace petrifick, cold, and dry,
As with a trident, smote."—*Milton.*

Ag'gregate, *n.* The complex or collective result of the conjunction or acervation of many particulars.

"The reason of the far greatest part of mankind, is but an *aggregate* of mistaken fantasms."—*Glanville.*

(*Chem.*) When bodies of the same kind are united, the only consequence is, that one larger body is produced. In this case, the united mass is called an aggregate, and does not differ in its chemical properties from the bodies from which it was originally made.

Ag'gregate, *a.* Formed by the collection of any similar parts into a mass, body, or system.

(*Bot.*) A term applied to flowers, germs, peduncles, &c., assembled closely together. An *A. flower* is one which consists of a number of smaller flowers or fructifications, collected into a head by means of some part common to them all.—*A. fruits* are formed by the combination of several flowers, as the pine-apple and the mulberry. The term *anthocarpous* is more generally used. Some botanists apply the term aggregate to a compound fruit, consisting of numerous achænia (see this word), borne by a single flower; as the fruit of the ranunculus or the raspberry.

Ag'gregately, *adv.* Collectively.

Aggrega'tion, *n.* [Fr. *agrégation.*] The act of aggregating, or the state of being aggregated; sum; mass; whole; collection.

Aggrega'tive, *a.* [Fr. *agrégatif.*] Taken together; collective.

Aggrega'tor, *n.* [Lat.] One who aggregates or collects into a whole or mass; a collector.

Aggress', *v. n.* [Lat. *aggredi*, to approach.] To commit the first act of violence; to begin the quarrel.

Aggress', *n.* Aggression. (o.)

Aggres'sion, *n.* [Fr. *agression*, from Lat. *aggressio.*] The first act of injury; commencement of a quarrel by some act leading to war or controversy.

Aggress'ive, *a.* [Fr. *agressif.*] Which tends to aggress, or commences hostilities; offensive.

Aggress'iveness, *n.* The quality or state of being aggressive.

Aggress'or, *n.* [Fr. *agresseur.*] The person that first commences hostility; the assaulter or invader.

Aggriev'ance, *n.* [O. Fr. *agrevance.*] Injury; hardship inflicted; wrong endured; grievance. (R.)

Aggrieve', *v. a.* [O. Fr. *agrever.*] To give sorrow; to cause grief; to vex.

"Which yet *aggrieves* my heart even to this hour."—*Spencer.*

—To impose some hardships upon; to harass; to hurt in one's right.

"The landed man finds himself *aggrieved* by the falling of his rents."—*Locke.*

Aggroup', *v. a.* To bring together; to group.

Ag'haboe, a village and parish of Ireland, in Queen's co. *Pop.* 6,000.

Ag'hadoe, a town of Ireland, in the co. of Kerry. It is situated near the lake of Killarney, 15 miles S.S.E. of Ardfert.

Aghast', *adv.* [From *gaze.*] Standing in a state of gaping or staring wonder; horror-struck; astare.

"The aged earth *aghast*,
With terror of that blast,
Shall from the surface to the centre shake."—*Mil. Chr. Nat.*

A'ghrim, or AUGHRIM, a village of Ireland, co. Galway, 82 miles W. of Dublin; *pop.* 383. Near it the troops of William III. gained a decisive victory over those of James II. in 1691.

A'gile, *a.* [Fr. from Lat. *agere*, to act.] Ready or apt to move; nimble; active.

"With that he gave his able horse the head,
And bending forward struck his *agile* heels...."—*Shak.*

Agile Gibbon, *n.* (*Zoöl.*) A monkey of the fam. *Simiadæ.* It has very long arms, is 3 feet in height, and so called from the agility with which he leaps from branch to branch. It is a native of Sumatra.

Ag'ilely, *adv.* In an agile manner.

Ag'ileness, *n.* The quality of being agile; nimbleness, readiness for motion of the limbs; quickness; agility.

Agil'ity, *n.* [Fr. *agilité.*] Nimbleness; bodily activity.

Agil'lochum, *n.*—See AGALLOCHUM.

Ag'ilulf, duke of Turin, succeeded Antharic as king of Lombardy, and married his widow Theudelinda. He abandoned Arianism for the Catholic faith, and D. 616, after a reign of 25 years.

Ag'incourt, or AZ'INCOURT, a village of France, department of Pas de Calais, 23 m N.W. of St. Pol. The place is famous in history for the great victory gained near it in 1415 by the English monarch, Henry V., over a vastly superior French force.

A'gio, *n.* [It.] (*Com.*) A term used sometimes to express the variations from fixed pars or rates of exchange, but more generally to indicate by percentages the difference in the valuation of moneys. The Ital. word *agio* is explained to mean "an exchange of money for some consideration." Thus, if a coin is reduced in weight, and the real value is not equal to the nominal value, the difference is the agio.—As the current coins of every country have a kind of medium value at which they are generally taken, the term agio is also applied to express what must be paid over and above this medium value. The kinds of money on which, in the case of exchange, an agio is paid, are not always the more valuable intrinsically, but those which are most in request.—The term agio is also used to signify the rate of premium which is given, when a person having a claim which he can legally demand in only one kind of metal, chooses to be paid in another.

A'giotage, *n.* [Fr. from It. *agio.*] A speculation on the rise and fall of the public debt of states, or the public funds; stock-jobbing. The speculator is called *agioteur* in France.

A'gis. Four kings of Sparta have borne this name. I. Son of Eurysthenes, and grandson of Aristodemus, of the race of the Proclidæ. No certain dates can be assigned to these early times.—II. Son of Archidamus, reigned from B. C. 427 to 397, and was actively engaged in the Peloponnesian war.—III. Son of another Archidamus, reigned from B. C. 338 to 331 or 330. He fell in a battle won against the Lacedæmonians by Antipater, whom Alexander had left governor of Macedonia.—IV. Son of Eudamidas II., and a lineal descendant of Agesilaus. For endeavoring to reform the constitution of his country, and improve the manners of his people, they rose against him and put him to death, B. C. 241.

Agist', *v. a.* [Lat. *agistare.*] (*Law.*) To take in and feed strangers' cattle, and to collect the money due for it.

Agist'er, AGISTA'TOR, *n.* Officer appointed in England to look after cattle in the forests. Also called *Gist-taker.*

Agist'ment, *n.* (*Law.*) The act of taking other men's cattle into any ground at a certain rate per week; so called because the cattle are suffered *agiser*, i. e. to be *levant* and *couchant* there.

Ag'itable, *a.* [Fr. from Lat. *agitabilis.*] That which may be agitated, put in motion, or disputed.

Ag'itate, *v. a.* [Fr. *agiter*, from Lat. *agitare.*] To put in motion; to shake; to move nimbly; as, the surface of the water is *agitated* by the wind; the vessel was broken by *agitating* the liquor.—To affect with perturbation; to disturb or excite; as, the mind of man is *agitated* by various passions.—To stir; to discuss earnestly; to controvert; as, to *agitate* a question.—To consider or view mentally a thing or thought in all its aspects.

Agita'tion, *n.* [Fr. from Lat. *agitatio.*] The act of moving, or shaking something; the state of being moved or agitated; as, the waters, after a storm, are sometimes in a violent *agitation.*—Discussion; controversial examination; deliberation; as, a project now in *agitation.*—Violent motions of the mind; perturbation; disturbance of the thoughts.

"She could no longer hear the *agitation* of so many passions."—*Tatler.*

Ag'itative, *a.* Tending to agitate.

Agita'to. [It.] (*Mus.*) A rapid and violent, but broken and interrupted, style of performance, calculated to shake and surprise the hearer.—*Agitato allegro*, a style both perturbated and rapid.—*Agitato un poco*, a style a little agitated.

Ag'itator, *n.* [Fr. *agitateur.*] He that agitates anything. (*Hist.*) The name given to men appointed by Cromwell's army, to look after their interests. They were also called *adjutators.*

Agla'ia, *n.* (*Myth.*) The youngest of the three Graces, called also Pasiphæ. She was the wife of Vulcan.

(*Ast.*) One of the groups of small planets revolving between Jupiter and Mars.—See ASTEROIDS.

(*Bot.*) A genus of dicotyledonous plants, ord. *Meliaceæ.* The flowers of *Aglaia odorata* are used for perfuming certain varieties of tea.

Agla'ope. (*Myth.*) One of the Sirens.

A'glasonn, a town of Turkey in Asia, Anatolia, 55 miles from Sataliah. It stands on a mountain, and is the ancient Lysinæ.

Ag'let, or AIG'LET, *n.* [Fr. *aiguillette.*] A tag of a lace, or of the points formerly used in dress. They were sometimes formed into small figures.

A'glie, a town of Italy, Piedmont, 10 m. S. of Ivrea. It has a splendid palace and gardens. *Pop.* 4,500.

Aglow', *a.* Hot; glowing.

Ag'met, or AGMAT, a town of Morocco, on a river of the same name, 16 m. S. of Morocco.

Agnadel'lo, a village of North Italy, 10 m. E. of Lodi, near which Louis XII. of France completely defeated the Venetians, on May 14, 1509, and the Duke of Vendome gained a victory over prince Eugene in 1705.

Ag'nail, *n.* [A. S.] A disease of the nails; a whitlow.

Agna'no, a celebrated lake near Naples, supposed to have been the fish-pond of Lucullus' villa. Near its banks are the natural vapor-baths of San-Germano, and on the opposite side the famous *Grotta del Cane*, a small cave in the rock, from the ground of which a mephitic vapor issues, which has the power of depriving a dog or other animal of all sensation in a few moments.

Ag'nate, *n.* [Lat. *agnatus.*] A relation in the male line. My son, brother, paternal uncle, and their children, as also my daughter and sister, are my agnates.

Agna'tic, *a.* Relating to male generations.

Agna'tion, *n.* Descent from the father, in a direct male line.

Ag'nes, ST. A holy woman who suffered martyrdom at the time of the persecution of the Christians in the reign of the emperor Diocletian.

Ag'nes, ST., one of the Scilly, islands, not worthy of notice but for its lighthouse, with a revolving light, 138 feet above high-water mark. Lat. 49° 53′ 37″ N.; lon. 6° 19′ 23″ W.

Ag'nes, ST., a parish and town in Cornwall, England. Area, 8,660 acres; *pop.*, chiefly mining, 8,000. St. Agnes Beacon, in the neighborhood, rises to a height of 664 feet.

Ag'nes of AUSTRIA. See ALBERT I.

Ag'nes Sorel, the mistress of Charles VII., king of France, born in 1409, of a noble family, was one of the most beautiful and accomplished women of her time. Lady of honor to the Duchess of Anjou, she attracted the favor of the young king, and yielded to his passion after some resistance. The English then had possession of half of France; and Charles VII., though naturally bold, became depressed and inactive under the weight of his misfortunes. *A.* alone was able to rouse him from his apathy, and make him feel what he owed to himself and his people. The eventual success of his arms increased his passion for his mistress, who did not, however, abuse her power over him. She retired, in 1445, to Loches, where Charles had built her a castle. He afterward conferred on her the county of Penthièvre, in Bretagne, and the château de Beauté, on the bank of the Marne; whence she received the name of *dame de beauté.* She had lived here about 5 years, frequently visited by the king, when the queen invited her again to court, in 1449. *A.* consented, and, to be nearer the king, went to the castle of Masnal-la-Belle, where she d., in 1450, so suddenly as to afford suspicion of poison.

Ag'new, JAMES, a British general in the Am. revolution. Distinguished at the battle of Brandywine, and killed at the battle of Germantown, Oct. 4, 1777.

Ag'no. (*Myth.*) One of the nymphs who nursed Jupiter. She gave her name to a fountain on mount Lycæus.

Agno'lo, BACCIO D', a Florentine sculptor and architect of great reputation. B. 1460; D. 1543.

Agno'men, *n.* [Lat., a surname.] Was, in ancient Rome, the fourth or honorary name bestowed on account of some extraordinary action, virtue, or accomplishment. Thus the *A. Africanus* was given to Publicus Cornelius Scipio, on account of his exploits in Africa.

Agnomina'tion, *n.* Allusion of one word to another, by resemblance of sound.

Agno'ni, a town of S. Italy, 18 m. N.N.E. of Isernia.

Agnostie, (*ag-nŏs'tĭk*, or *a-nŏs'tĭk.*) [Gr. *a priv.*, and *gnostikos*, good at knowing, from *gignosko*, to know.] One of a school of thinkers who disclaim any knowledge of God, or of the origin of the universe. They hold that the mind is limited to an *a posteriori* knowledge of phenomena, and that the infinite is beyond its range.

Agnothe'rium, *n.* (*Pal.*) A fossil animal the size of a lion, allied to the dog.

Ag'nus castus, *n.* [Lat.] The name of the *Chaste-tree*, a species of *viter*, so called from an imaginary virtue attributed to it of preserving chastity.

Ag'nus Dei. [Lat., Lamb of God.] (*Eccl. Hist.*) A prayer of the Catholic liturgy, beginning with the words *Agnus Dei*, sung before the communion and at the close of the mass.—*Also*, a round piece of wax, on which is impressed the figure of the sacred Lamb, with the banner of the cross, or of St. John, with the year and the name of the Pope. The Pope consecrates and distributes a great number of them.

Ago', *adv.* [A. S. *agan*, past or gone.] Past; gone; since; as, *long ago*—that is, long time past since.—Generally, reckoning time toward the present, we use *since;* as, it is a year *since* it happened: reckoning from the present, we use *ago;* as, it happened a year *ago.*

A'go, or AGOA, DE PA'O, the mountain-peak near the middle of the island of St. Michael, in the Azores, upwards of 3,000 feet high.

Ag'obard, archbishop of Lyons, one of the most celebrated prelates of the 9th century. D. 840.

Agog', *adv.* [A. S. *gangan*, to go.] Abroad; abroach; astir; adrift; agoing.—The idea seems to be that of excited interest, with a tendency to distraction; the faculties not only actively astir, but going, as it were, different ways at once, under the influence of curiosity, delight, surprise, or desire.

"They put the heads of our servant-maids *agog for* husbands."—*Addison.*

"The gandy gossip, when she's set *agog*,
In jewels drest, and at each ear a bob,
Goes flaunting out, and, in her trim of pride,
Thinks all she says or does is justify'd."—*Dryden.*

Agog'ebic, in *Michigan*, a lake 2 m. wide and 25 m. long, situated in the N.W. of the state, about 12 m. S. of Lake Superior. The W. branch of the Ontonagon river is its outlet.

A'gon, an island of Sweden, in the gulf of Bothnia, with a good harbor. Lat. 61° 20′ N.; lon. 18° 10′ E.

Agon'es Capitolini, games celebrated at Rome every fifty years upon the Capitoline hill, established by Diocletian. Prizes were proposed for agility and strength, as well as for poetical and other literary compositions.

Agon'ic Line, *n.* [Gr. *a*, priv., and *gonia*, angle.] (*Phys.*) An irregularly curved imaginary line, called also *a line of no variation*, connecting points of the earth where the magnetic coincides with the geographical meridian. Such a line cuts the E. of S. America, and passing east of the W. Indies, enters N. America, near Philadelphia, and traverses Hudson's Bay; thence it passes through the N. Pole, entering the old world E. of the White Sea, traverses the Caspian, cuts the E. of Arabia, turns then toward Australia, and passes through the S. Pole, to join itself again.—*Isogonic lines* are lines connecting those places on the earth's surface in which the declination of the magnetic needle is the same.—See DECLINATION and MERIDIAN.

Ag'onism, *n.* [Gr.] Contention for a prize. (o.)

Ag'onist, *n.* A contender for prizes. (o.)

Agonis'tes, *n.* A prize-fighter; one that contends at any public solemnity for a prize. Milton has styled a tragedy *Samson Agonistes*, because Samson was called out to divert the Philistines with feats of strength.

Agonis'tic, Agonis'tical, *a.* Relating to prize-fighting.

Agonis'tically, *adv.* In an agonistic manner.

Agonis'tics, *n. pl.* The art of prize-fighting.
Ago'nius, (*Myth.*) A Roman deity who presided over the actions of men.
Agonoth'etes, *n. pl.* The officers who sat as umpires at the Grecian games. They settled all disputes which arose, and decided to whom the prizes should be awarded.
A'gonus, *n.* (*Zoöl.*) A genus of acanthopterygious fishes, mostly found in the northern Pacific ocean. They never exceed nine or ten inches in length, and are no where used as an article of human food.
Ag'onize, *v. a.* [Fr. *agoniser.*] To feel agony; to be in excessive pain.

"Or touch, if, tremblingly alive all o'er,
To smart and *agonize* at ev'ry pore."—*Pope.*

Ag'onize, *v. n.* To afflict with agouy.
Agoniz'ingly, *adv.* With agony.
Ag'ony, *n.* [Fr. *agonie*, from Gr. *agonia*, a struggle.] Literally, the struggle of the wrestler in the public contests of Greece. Agony is therefore, primarily, pain so severe as to produce contortions of the muscles; thence, generally great pain of mind or body. The pangs of death; properly the last contest between life and death.
Agra, the public square of ancient Greek cities, corresponding to the *Forum* of the Romans.
Agorac'rites, a Grecian statuary of the 5th century B. C. He was a pupil of Phidias, and one of the most skilful artists of his time.
Ag'oræa. (*Myth.*) A name of Minerva at Sparta.
Ag'oreus, *n.* (*Myth.*) One of the names of Mercury, from his presiding over markets.
Agos'ta, or AUGUSTA, a town of Sicily, in Val di Noto, with an excellent harbor. In 1763 it was mostly swallowed up by an earthquake, but has been rebuilt. Lat. 37° 13′ N.; Lon. 15° 13′ E.; about 18 miles N. of Syracuse. *Pop.* 9,735. It was off this port that De Ruyter, the famous Dutch admiral, in command of the united Dutch and Spanish fleet, 22d April, 1676, was defeated by the French under Duquesne, and received his death-wound.
A'got, a small island in the English channel. Lat. 48° 58′ N.; Lon. 2° 4′ W.
Agoua'ra, *n.* (*Zoöl.*) The Crab-eater, a carnivorous animal, allied to the Raccoons, fam. *Ursidæ*, a native of South America. It equals in size an ordinary fox, to which it bears a slight external resemblance. It has derived its name of Crab-eater from its habit of feeding on all kinds of crustaceas and mollusks, whether marine or terrestrial.

Fig. 54.—AGOUARA. (From Tenney's Manual of Zoölogy.)

Agoult', (COMTESSE D'.) See STERN, DANIEL.
Agouti, *n.* (*Zoöl.*) A South American animal, of the family *Hystricidæ*, ord. *Rodentia*. The agoutis live for the most part upon the surface of the ground, not climbing nor digging to any depth; and they commonly sit upon their haunches, when at rest, holding their food between their forepaws, in the manner of squirrels. By eating the roots of the sugar-cane, they are often the cause of great injury to the planters.

Fig. 55.—AGOUTI.

Ag'ows, a remarkable people of Abyssinia, inhabiting a territory to the east of the sources of the Bahr-el-Azrek (Blue river) or Abyssinian Nile.—*Ext.* 60 miles long and 30 broad. This district is fertile in the highest degree. It produces large quantities of honey, and raises remarkably fine cattle, with which it almost exclusively supplies Gondar, the capital.—*Pop.* considerable, but not ascertained.—There is another tribe of the same people, called Tcheretz Agows, who inhabit a district on the northern bank of the Tacasse.
A'gra, a vast N.W. prov. of Hindostan, belonging for the most part to England, bounded N. by the prov. of Delhi, S. by Malwa, E. by Oude and Allahabad, and W. by Rajpootana. Its length is about 250 and its breadth 180 miles.—*Area*, 9,298 miles.—*Desc.* To the N. of the river Chumbul the country is flat and thinly wooded; but in the N.W. direction, trees become more abundant and the surface more undulated. The district between the Jumna and the Ganges, called the Doab, is the most fertile part of the province.—*Rivers.* The Ganges, the Jumna, and the Chumbul.—*Towns.* Alwur, Bhurtpoor, Deeg, Mathura, Muttra, Etawah, Gwalior, Calpee, Gohud, and Nharwar. *Inhab.* A mixed race of Mahometans and Hindoos.—*Prod.* Sugar, cotton and indigo.—*Minerals.* Salt, marble and copper.—*Manuf.* Coarse cotton cloths, fine muslins, and some silks.—*Pop.* ab. 6,000,000. Lat. between 25° and 28° N. *Climate* approximates to temperate during a part of the year, and in the winter months may even be pronounced cold; but during the prevalence of hot winds, to which the whole of Central Asia is occasionally liable, the heat is insupportably great, and the climate, in consequence, unfavorable to European constitutions. The province of Agra has been the theatre of some of the most daring scenes in the great revolt of 1857.
A'gra, the capital city of the above prov. and the seat of the British civil authority. Lat. 27° 12′ N.; Lon. 78° 6′ E. It stands on the S.W. bank of the river Jumna, the houses being built of stone, and very lofty, but the streets so narrow as hardly to admit the passage of a carriage.—The Hindoo inhabitants hold this city in great veneration, from its being the place of the *avatâra*, or incarnation of Vishnu, under the name of *Parasu Rama*. In 1504, A., then called Badul-ghur, became the seat of the Mohammedan empire, but it began to decline in 1647, when Shah Jehan transferred his court to Delhi. Whilst it was the residence of Shah Jehan, however, he built a superb mausoleum, probably the most magnificent in the world, for his wife, the Begum Noor-Jehan. This structure was called the Taj Mahal, or crown of edifices, and cost $18,000,000. Here Shah Jehan himself rests beside the Begum, at the distance of three miles from the city. In 1803, Agra was captured by the British. In the great Indian revolt of 1857, the 4th of July, took place the battle of Agra, in which 10,000 Sepoys were defeated by 500 British. *Pop.* 168,622.

Fig. 56.—AGRA.—THE TAJ MAHAL.

A'gram, ZAGRAB, a fortified and well-built city of Austria, and the cap. of Croatia, 160 m. S.S.W. of Vienna. *Manf.* principally silks and porcelain. It was partly destroyed by an earthquake on Nov. 9th, 1880. *Pop.* 37,529.
Agra'rian, *a.* [Lat.] Relating to fields or grounds.
Agrarian law. The *A.* law was enacted to distribute among the Roman people all the lands which they had gained by conquest, and for limiting the quantity of ground possessed by each person to a certain number of acres. For full examination of this important element in the history of the Roman republic, see Niebuhr's *History*, translation by Hare and Thirlwall, vol. ii., pp. 129–173; Plutarch's *Lives of the Gracchi*, and Cicero's speech against Rullus.
Agra'rian, *n.* A partisan of agrarian principles.
Agra'rianism, *n.* The doctrine of agrarians.
Agra'rianize, *v. a.* To distribute lands among the people.
Ag'reda, MARIE D', superior of the convent of the Immaculate Conception at Agreda, in Spain, who pretended to have received directions in a vision to write the life of the Virgin Mary, which she accordingly did. B. 1602; D. 1665. Her "Life of the Virgin Mary" was prohibited at Rome, and censured by the sorbonne of Paris, though highly esteemed in Spain.
Ag'reda, a town of Spain, prov. Soria, at the foot of Mont Cayo. *Pop.* 3,120.
Agree', *v. n.* [Fr. *agréer.*] To be in concord; not to differ; to harmonize.

"The more you *agree* together, the less hurt can they do to you."—*Pope.*

—To grant; to assent; to admit.

"They will *agree* to all reasonable conditions."—2 *Maccab.* xi. 14.

—To settle terms by stipulation; to accord.

"*Agree* with thine adversary quickly."—*Matt.* v. 25.

—To be of the same mind or opinion.

"Milton is a noble genius, and the world *agrees* to confess it."
Watts.

—To be consistent; not to contradict.

"Their witness *agreed* not together."—*Mark* xiv. 50.

—To suit with; to be accommodated to; to tally.

"His principles could not be made to *agree* with that constitution."—*Locke.*

—To be good for health.

"The asses' milk *agrees with* me."

Agree', and **Agre',** *adv.* In good part. (o.)
Agreeabili'ty, *n.* Willingness to be pleased.
Agree'able, *a.* [Fr. *agréable.*] Suitable to; consistent with.

"That which is *agreeable* to the nature of one thing, is many times contrary to the nature of another."—*L'Estrange.*

—Pleasing; pleasant; grateful; welcome; charming; as, *agreeable* travel; *agreeable* news; an *agreeable* lady.
Agree'ableness, *n.* The quality of pleasing.
Agree'ably, *adv.* Consistently with; in a manner suitable to; pleasingly.
Agreeb, a high and conical mountain in central Egypt, about 16 miles inland from the gulf of Suez. Lat. 28° 12′ N.; long. 32° 42′ E.
Agreed', *p. a.* Settled by consent.

"When they had got known and *agreed* names."—*Locke.*

Agree'ingly, *adv.* In conformity to.
Agree'ment, *n.* [Fr. *agrément.*] Concord; harmony; resemblance; similarity.
(*Law.*) A mutual bargain, contract, or covenant. Taken in its most extended sense, it comprehends a large proportion of the transactions of civilized man in the mutual intercourse of society. In a more limited sense, it is the mutual assent to do a thing; the effect of this assent, or the instrument itself, showing what has been agreed. Every State has particular laws on this important matter. It may, however, be noticed as general rule: 1st, that the *assent* is the essence of an agreement, and that the parties must be in situations to testify their free assent to it. Thus lunatics, infants, and married women are, for obvious reasons, deemed incapable of binding themselves by any engagement. 2. That the *subject* of agreement must not be tainted with illegality; for it would be evidently repugnant to common sense that the law should be called to enforce performance of any act which it has expressly forbidden, or which would be contrary to its general policy. 3. In order to secure the aid of the law in carrying it into effect, an agreement must have certain qualities mutually beneficial to the parties, or must be entered into with certain prescribed solemnities. Courts of justice cannot be called upon to take cognizance of idle or inconsiderate promise. An agreement must either be contracted by a formal instrument in writing, sealed and openly acknowledged by the party who has bound itself to it; or if contracted in a less formal manner, by word or otherwise, it must appear that the parties derive from it reciprocal benefit. Upon this principle, a promise to make a voluntary gift can never be enforced; but there is a continuing right in the party promising, to retract his promise or donation, until the gift is actually completed. An agreement takes the name of *deed* or *specialty contract* when put in writing under seal, but not when put in writing for a memorandum.
Agres'tic, AGRES'TICAL, *a.* [Fr. *agreste*, from Lat. *agrestis.*] Having relation to the country; rude; rustic.
A'greve, ST., a town of France, dep. Ardèche; *pop.* 3,133.
Agric'ola, CNEIUS JULIUS, an eminent Roman commander, b. A. D. 40, in the reign of Caligula. Tribune of the people and *prator* under Nero, he was made a patrician and governor of Aquitania by Vespasian. Consul in 77, he married the same year his daughter to Tacitus, the historian, who has so admirably written his life. The next year he was appointed governor of Britain; extended his conquests into Scotland; and built a chain of forts from the Clyde to the frith of Forth, to prevent the incursions of the inhabitants of the North. He defeated Galgacus on the Grampian Hills, and then made peace with the Caledonians. On the accession of Domitian, *A.* was recalled, and quietly retired into private life. D. A. D. 93.
Agric'ola, JOHN, a polemical writer of celebrity, B. at Eisleben, Saxony, 1492; D. at Berlin, 1566. From being the friend and scholar, he became the antagonist of Martin Luther. He entered into a dispute with Melancthon, advocating the doctrine of faith in opposition to the works of the law, whence the sect, of which he became leader, received the name of Antinomians.
Agric'olist, *n.* An agriculturist.
Agric'olous, *a.* Agricultural.
Ag'riculfor, *n.* A farmer.
Agricult'ural, *a.* Which relates to agriculture.
Agricultural Implements are the instruments used in tillage and the various operations necessary for the proper cultivation of the soil; comprising implements for harvesting, stock-feeding, land-draining, preparations for market, the application of steam-power to agriculture, &c.—See CLOD-CRUSHER, CUTTER, CHAFF-CUTTER, DRAINING, DIBBLE, DRILL, DRESSER, DRESSING-MACHINE, HOE REAPING-MACHINE, HORSE-RAKE, HARROW, MANURE-DISTRIBUTOR, PLOUGH, ROLLER, SOWING, TOP-DRESSER, THRASHING-MACHINE, TURNIP-CUTTER, WINNOWING, &c.
Agricult'urist, *n.* One versed in agriculture.
Ag'riculture, *n.* [Fr. from Lat. *ager*, a field, and *cultura*, cultivation.] The science which explains the mode of cultivating the ground, as to cause it to produce, in plenty and perfection, those vegetable products which are useful to man and to such animals as are reared by him for food or labor. It is the most ancient, the most

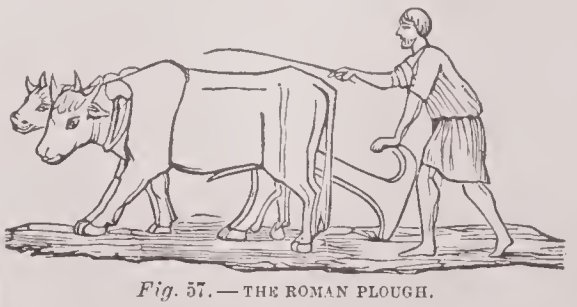


Fig. 57.—THE ROMAN PLOUGH.
(Used in the days of Cincinnatus.)

universal, and the most important of the arts. Since Cain, "the tiller of the ground," and Noe, "the husbandman," agriculture, the basis of all other arts, has ever been, in all countries, coëval with the first dawn of civilization.

A complete history of Agriculture would be the true history of mankind. To give a connected and even imperfect account of the practice, statistics, and history of agriculture in all countries, would be inconsistent with the general plan of this work, and of little use to the reader. We shall, therefore, limit ourselves here to some general remarks on the state of agriculture in our country, which would not find place under other heads; pointing out the principal divisions, in which will be found all useful information on this subject.

Agriculture of the United States.—The vast territory of the United States presents every variety of soil and climate. Its agriculture embraces all the products of European cultivation, together with some of the warmer countries, as cotton, sugar, and indigo. The agricultural implements are, in many respects, similar to those of Great Britain and France. But as a general rule, those of the U. S. exceed all others in their wonderful adaptation of machinery for all purposes of cultivation and harvesting of crops. So successful have been our farming implements in repeated contests on European soil, that their rapid introduction into foreign markets is only impeded by the greatly increasing demand at home. The disposition of the American to experiment, to test alleged improvements, and adopt labor-saving expedients, gives a great impulse to the genius of inventors, as may be seen by the number of agricultural patents granted, which was but 43 in 1847; while in 1866 they increased to 1778, and during the years ending with the last decade, have still more wonderfully increased. This mental activity of the American farmer, so much in contrast with the blind opposition of the European countrymen to any improvement, is owing, in great part, to the superior intelligence of the former. In Europe, land is dear and labor cheap; but in the United States the reverse is the case, hence the European cultivator is led, by a regard for his own interest, to endeavor to make the best of his land; while the American has the same inducement to reduce to the lowest possible minimum the proportion of manual labor employed in its operations. Unhappily, this principle is too often carried to a disastrous extreme. A man, possessor of a large estate, with reduced means, believes it necessary to scratch over the whole, when his assurance of success would be to concentrate his labor upon a small area. Another cause of deterioration of soil, quoted as a warning in the reports to Congress, is the cheapness of Western lands, the original price of which bears such insignificant proportions to their intrinsic value, that the owner, after having overtaxed the soil for immediate results, deems it cheaper to remove to new lands, than to sustain and increase the productive capacity of his present farm. One result of this error is the removal westward, year by year, of the centre of wheat production, thus adding transportation and other charges to its ultimate cost, threatening to render export next to impossible. But the immediate consequence of this indifference for conservation or fertilization of soil is, that, with land generally richer than that of European countries, the average production in America remains far below that of any country in Europe. The average yield of wheat per acre in America was 13·75 for the year 1895; a lower average than that shown for the more carefully cultivated fields of the wheat-raising European countries, such as Germany, France, Belgium and Ireland.

Table of Grain production in the United States in the census years 1850 to 1890, and in 1895:

Years.	Indian Corn.	Wheat.	Oats.	Barley.	Rye.
1850 .	592,071,104	100,485,940	146,584,179	5,167,015	14,188,813
1860 .	838,792,742	173,104,924	172,643,185	15,825 898	21,101,380
1870 .	760,944,549	287,745,626	282,107,157	29,761,305	15,918,790
1880 .	1,754,861,535	459,479,003	407,858,900	44,113,495	19,831,595
1890 .	1,489,970,100	399,262,000	523,621,000	68,000,000	28,000,000
1895 .	2,151,139,580	467,103,947	824,443,537	87,373,000	27,210,000

The total wheat crop of the world in 1895 was estimated at 2,552,677,000 bushels. The hay crop of the United States in 1895 was estimated at 47,078,000 tons; the potato crop at 297,237,000 bushels; the sugar crop in 1894 was: cane sugar, 611,186,922 lbs., beet sugar, 45,191,296 lbs., maple sugar, 7,633,036 lbs., sorghum sugar, 822,572 lbs. Of this the great bulk of the cane sugar was produced in Louisiana and of beet sugar in California. The cotton crop has increased in the following proportions, the estimate being in bales: 1830, 976,845; 1840, 2,177,835; 1850, 2,096,706; 1870, 3,154,946; 1880, 5,757,397; 1890, 7,313,726; 1894 (the highest yet known), 7,527,211; 1896, 7,162,473.

If we now consider the product of American fields as compared with those of Europe, we will find a general decrease in quantity per acre cultivated; which seems plainly to indicate a wastefulness and want of system in the practice of a majority of American farmers. Another suggestive fact concerning the wheat-growing States is, that the yield per acre in each is very nearly in inverse ratio to the time that has elapsed since the settlement of the State. Thus, in the statistical report for the year 1867, the states of California, Nebraska, and Kansas present the highest results. (See PRODUCTS, under the name of every State.)—It is incontestable that the unfavorable average yield of farm crops in America is mostly caused by the facility of new settlements in the Western States and Territories, and this cause may probably weigh for many years on their statistics, if we consider the relative unimportance of improved land in the United States, as shown by the following table; but the increasing interest of the American people in the advancement of agricultural science, and their growing inclination to employ in agriculture capital, business energy and active enterprise will soon counterbalance the causes of apparent inferiority. "Already there are evidences that among American husbandmen more stable views and more systematic practices are beginning to prevail. In the central settlements of the West, farm animals, the basis of systematic practices, are held in higher esteem than formerly, and a preparation at least is made for some simple rotation of crops. There is a disposition in the South to produce their own bread and meat, and hold their cotton as a surplus. These and other signs of thoughtfulness and growing wisdom are apparent."

Table showing the cereal production of the United States in 1895, arranged by States:

States and Territories.	Indian Corn.	Wheat.	Oats.
	Bushels.	Bushels.	Bushels.
Alabama, . .	44,376,487	373,283	5,210,172
Arizona, . . .	132,730	250,654	. . . . .
Arkansas, . .	51,359,558	1,452,300	8,306,486
California, . .	2.256,852	40,097,798	1.690,04o
Colorado, . .	3,690,976	2,808,250	3.389,252
Connecticut, . .	1,768,338	7.301,069	742,219
Delaware, . .	4.281,291	1,069,300	468,790
Florida, . . .	6.186,645	. . . . .	406.327
Georgia, . . .	42,172,281	1,330,706	6,679.048
Idaho, ...	50,839	1,221,899	1,102,358
Illinois, . . .	255,136,554	19,060,712	73.707,130
Indiana, . . .	121,635.768	20,294,492	25.895,595
Iowa, ...	298,502,650	13,654,778	182,967.338
Kansas, . . .	204,759,746	22,919,566	30,075.992
Kentucky, . .	93,939,331	9,501,225	13,252,458
Louisiana, . .	22,574,284	. . . . .	575,745
Maine, . . .	596,904	83,808	5.551,484
Maryland, . .	16,531,205	7,800,756	2.320,010
Massachusetts,	1,847,224	. . . . .	549,864
Michigan, . . .	33,600.242	15.237 863	23,265.192
Minuesota, . .	35,956.690	65.584,155	77.995,084
Mississippi, . .	35,977,169	37,184	2.076.812
Missouri, . .	238,072,248	18,499,968	30,547,699
Montana, . . .	33,975	1,065,223	2,446,071
Nebraska, . .	125,685,069	14,787.024	39.911,696
Nevada, . . .	50 839	1,221.899	1 102,358
New Hampshire	1.079,531	48.134	1,091.122
New Jersey, . .	9,233,044	1,340.924	3,818,416
New Mexico, .	733,203	809.248	393,773
New York, . .	18,014.170	7,301,069	45.666,354
North Carolina,	36,378,412	4,748,552	7 652,333
North Dakota, .	658,979	61,057.710	19,067 914
Ohio,. . . .	92,783,186	32,215,579	31,404,193
Oktahoma, . .	. . . . .	2,592.656	. . . . .
Oregon, . . .	353,628	11.862,720	7.240 982
Pennsylvania, .	43.512.681	20.456.429	36,536.311
Rhode Island, .	284.805	. . . . .	121.986
South Carolina,	19,860,908	858.624	4.390.322
South Dakota,	12.423,442	29,261.088	18,154,774
Tennessee, . .	83,133,025	5,766.728	10.234,958
Texas, . . .	107,905,566	2,084 610	14,568.178
Utah, ...	183,035	2,443.526	927.357
Vermont, . .	2,153,460	185.078	5,100,598
Virginia, . . .	32,607,158	6,505 582	8,125,0.1
Washington, .	93.263	7.195.052	3 671 975
West Virginia, .	16,662,789	4,303.780	3,539,320
Wisconsin, . .	33,093.497	8,616 218	63,020.629
Wyoming, . .	68 283	198.198	581.175
Total, . .	2,151,138,580	467,102.947	824 443,537

The grain consumption of the United States, per capita, is a fraction over 40 bushels; in Europe it is less than 18 bushels. The number of acres under cultivation in 1895, was as follows: Indian corn, 82,075,830; wheat, 34,047,332; and oats, 27,878,406; total value of product, $946,580,000. For information on agricultural matters, see the various States, also CATTLE, CLIMATE, COTTON, UNITED STATES (*Agriculture*), DRAINING, FARM, FRUITS, GRASS LAND, MANURE, HUSBANDRY, MARKETS, ORCHARDS, POULTRY, SOIL, SUGAR, TOBACCO, TRAINING ANIMALS, VINE, WOODS, &c.

Agrigen'tum. (*Anc. Geog.*) A Sicilian city, now *Girgenti*, distinguished by the magnificence and gigantic size of its ruins, which bear certain testimony that the stories related of its extraordinary wealth in old times are not entirely without foundation. It is situated on the S. coast of Sicily, about 3 m. from the sea. Lat. 37° 19′ 25″ N., Lon. 13° 27′ E.; population, 22,027. Its situation was peculiarly strong and imposing, standing as it did on a bare and precipitous rock, 1,100 feet above the level of the sea. It was considered the second city in Sicily. Among the most magnificent of its buildings were the temples of Minerva, of Jupiter Atabyris, of Hercules, and of Jupiter Olympus; the latter, which vied in size and grandeur of design with the finest buildings of Greece, is said to have been 340 feet long, 60 broad, and 120 high, the foundation not being included, which was itself remarkable for the immense arches upon which it stood. The people of *A.* were noted for their luxurious and extravagant habits. After the expulsion of the Carthaginians from Sicily, it fell, with little resistance, under the power of the Romans.

Agrimo'nia, *n.* (*Bot.*) A genus of plants with yellow flowers, ord. *Rosaceæ*. The Common Agrimony, *A. eupatoria*, is a perennial herb common in Canada and in the U. S., to be found in fields, about hedges and shady places, and flowering in June.

(*Med.*) The decoction of *A.* is a mild tonic, alterative and astringent; good for bowel complaints, chronic mucous diseases, gravel, asthma, coughs, and scrofula.—A volatile oil may also be obtained of its root and leaves.

Ag'riopes, *n. pl.* (*Zoöl.*) A genus of acanthopterygian fishes, 8 to 9 inches in length, belonging to the family which Cuvier denominates *joues cuirassées*. The *A.* are characterized by having only nine rays in the pectoral fins. They inhabit the Pacific.

Agrip'pa, CAMILLO, a celebrated architect of Milan in the 16th century, who, under the pontificate of Gregory XIII. accomplished the removal of a vast obelisk to St. Peter's Square.

Agrip'pa, HENRY CORNELIUS, b. at Cologne, 1486, author of two treatises on the *Vanity of the Sciences*, and on *Occult Philosophy*; printed at Lyons, 1550.

Agrip'pa Herod. See HEROD.

Agrippa, MARCUS VIPSANIUS. The celebrated friend and general of Augustus Cæsar, B. about 63 B. C. He commanded the fleet of Augustus, in the victory of Mylæ; and afterward in that more decisive contest which annihilated the power of Sextus Pompeius, and gave to Augustus the full possession of Sicily. In the naval victory of Actium, *A.* was again the admiral of the successful fleet. In reward for these services he shared with Mæcenas the full confidence of Augustus, who gave him in marriage his own niece, the sister of the young Marcellus. *A.* was previously married with the daughter of Atticus, by whom he had a daughter, Vipsania, afterward the wife of Tiberius; but he probably divorced her. His rivalry with Marcellus caused him to be sent in an honorable exile, but he was recalled after the death of his rival. In 18 B. C., he shared with Augustus the tribunitian power for five years, and was looked upon as the undoubted successor of the Emperor, when he died, B. C. 12.

Agrip'pa, MENENIUS, consul of Rome, 503 B. C. He is celebrated for having appeased a commotion among the Romans, by the political fable of the belly and the members. D. at an advanced age, very poor, but universally esteemed for his wisdom and integrity.

Agrippi'na, the Elder, daughter of Vipsanius Agrippa and of Julia, the daughter of Augustus, B. about 12 B. C. She married Cæsar Germanicus, whom she accompanied in his military expeditions. On the death of the latter at Antioch, A. D. 19, she returned to Rome. Tiberius, jealous of the affection of the people for *A.*, banished her to a small island, where she D. of hunger, in 35.

AGRIPPINA, the younger, daughter of the foregoing, and mother of Nero, was at once cruel and licentious. After losing two husbands, she married her uncle, the emperor Claudius, whom she poisoned in 54, to make way for her son Nero, who caused her to be assassinated, and exhibited to the senate a list of all the crimes of which she had been guilty.

Agronom'ic, AGRONOMICAL, *a.* Relating to agronomy.

Agron'omy, *n.* [Fr. *agronomie*, from Gr. *agros*, a field, and *nomos*, a rule.] The science or theory of agriculture.

Agros'teæ, *n. pl.* [Gr. *agros*, a field.] (*Bot.*) A tribe of plants, ord. *Graminaceæ*.

Agrostem'ma, *n.* [Gr. *agros*, a field, and *stemma*, a garland.] (*Bot.*) A gen. of plants, ord. *Caryophyllaceæ*, now limited to the species *A. githago*, the well-known Corn-cockle, distinguished by its large, entire, purple petals.

Agros'tis, *n.* (*Bot.*) A genus of plants, tribe agrosteæ, consisting of a considerable number of species with loose branches, capillary panicles of flowers, and a creeping habit. They are at once known among other grasses by the glumes (*a.*) or outer scales of each flower, being two in number, unequal in size, of a membranous centre, and containing but a single flower; while the inner scales are short, very thin, and two in number. The *A. alba*, or white-top, is found in all Northern States of America, in meadows, or on dry soils.

Fig. 58.—AGROSTIS ALBA.

Agrostog'raphy, and AGROSTOL'OGY, *n.* That part of botany relating to grasses.

Aground', *adv.* On ground; stranded; hindered by the ground from passing farther; ashore.

A'gua, a volcanic mountain of Central America, 25 miles S.W. of Guatemala. Its crater is 15,000 feet abovo the sea.

A'guacalien'te, in *California*, a settlement in San Diego co., near a warm spring, about 60 miles N.E. of San Diego.

Aguadil'la, a seaport town of the Antilles, in the island of Porto Rico, 65 miles W. of San Juan. *Pop.* about 3,000.

A'guas Calien'tes, a town of Mexico, cap. of prov. of same name. It is celebrated for its fine climate, and the hot springs in its vicinity. Lat. 22° N.; Lon. 101° 45′ W. *Pop.* 22,534.

A'gua Fria, in *California*, a post-town of Mariposa co., on a creek of the same name which flows into Mariposa river.

A'gua Fria, in *New Mexico*, a village of Santa Fé co.

A'gue, *n.* [Fr. *aigue.*] (*Med.*) An intermittent fever. This disease consists of cold, hot, and sweating stages, in succession, attending each paroxysm, and followed by an intermission. They are of three genera: 1. *Quotidiana*, in which the paroxysms return at the morning, at an interval of about 24 hours; 2. *Tertiana*, in which the paroxysms come on at midday, with an interval of about 48 hours; 3. *Quartana*, in which the paroxysms come on in the afternoon, with an interval of about 72 hours. Each paroxysm of an intermittent fever is divided into three different stages, which are called the *cold*, the *hot*, and the *sweating stages*, or *fits*. The *cold* stage commences with languor, a sense of debility, and sluggishness in motion, frequent yawning and stretching, and an aversion to food. The face and extremities become pale, the features shrink. At length the patient feels very cold, and universal rigors come on, with pains in the head, back, loins, and joints, — nausea and vomiting of bilious matter; the respiration is small, frequent and anxious; sensibility is greatly impaired: the pulse is small, frequent, and often irregular, and the shiverings terminate in a universal and convulsive shaking. These symptoms abating after a short time, the second stage commences with an increase of heat over the whole body, redness of the face, dryness of the skin, thirst, pain in the head, throbbing in the temples, anxiety, and restlessness; the respiration is fuller and more free, but still frequent; the tongue is furred, and the pulse has become regular, hard, and full. If the attack has been very severe, then perhaps delirium will arise. When these symptoms have continued for some time, a moisture breaks out on the forehead, and by degrees becomes a sweat, and this, at length, extends over the whole body. As this sweat continues to flow, the heat of the body abates, the thirst ceases, and most of the functions are restored to their ordinary state. This constitutes the third stage. When the paroxysms are of short duration, and leave the intervals quite free, we may expect a speedy recovery; but when they are long, violent, and attended with much anxiety and delirium, the event may be doubtful. Marsh miasma, or the effluvia arising from stagnant water, or marshy ground, when acted upon by heat, are the most frequent causes of this fever. Persons exposed to a climate in which ague prevails endemically, may most effectually preserve themselves by carefully avoiding sudden changes of temperature, and the night and morning air, and by the constant use of flannel clothing. The first object in the treatment of this disease is a change of residence, without which the best remedies will often prove ineffectual. One peculiarity of this fever is its great susceptibility of a renewal from very slight causes, as from the prevalence of an easterly wind, even without the repetition of the original excitiug cause. But the most curious and inexplicable in this disease is its property of periodicity. During the intermission, what becomes of the malady? Why, after a specific interval, does it uniformly recur? Though thought to have a bacterial origin, the cause of *A.* is not yet definitely determined.

A'gue, *v. a.* To strike as if with an ague.

A'gue-cake, *n.* (*Med.*) The enlargement of the liver or spleen, caused by the ague.

A'gued, *a.* Struck with the ague.

Ague'da, a river of Spain, in the prov. of Salamanca, falling into the Douro, and forming part of the frontier of Portugal on the N.E. of Beira.

A'gue-spell, *n.* A charm for the ague.

Aguesseau, HENRI FRANCOIS D', a chancellor of France, b. at Limoges, 1668. In the office of advocate-general of Paris, in 1691, and nine years after, of procurer-general, he displayed all the energies of his nature; he gave vigor and support to the laws, banished corruption from the tribunals, and distributed justice with an impartial hand. His attention was particularly directed to the management of the hospitals; and in the enlarged views of a benevolent heart, he often resisted with boldness and success the intrigues of royal favorites, and even the prejudices of Louis XIV. After this monarch's death, he was appointed by the Duke of Orleans, the regent, to succeed Voisin as chancellor, but was exiled the following year, on account of his opposition to Law's financial system. His recall, two years after, at the moment of the great financial crisis, was for him a signal triumph, and by insisting on making good the government obligations, he prevented bankruptcy and contributed to restoring general confidence. *A.* retired from office in 1722, rather than yield to Cardinal Dubois, the unworthy favorite of the regent. He retired quietly to Fresne, until 1727, when he was reappointed chancellor, and continued to administer justice uninterruptedly till 1750. Being then 82 years of age, and feeling himself unable to discharge the high duties of his station, he sent in his resignation to the king, who accepted it, but granted him an annuity of $20,000. This he did not enjoy long, as he died the following year, Feb. 9th, 1751. — The principal features of Aguesseau's character, says the Duc de St. Simon, were much natural talent, application, penetration, and general knowledge; gravity, justice, piety, and purity of manners. According to Voltaire, he was the most learned magistrate that France ever possessed. Independently of his thorough acquaintance with the laws of his country, he understood Greek, Latin, Hebrew, Italian, Spanish, Portuguese, &c. His knowledge of general literature, assisted by his intimacy with Boileau and Racine, gave an elegance to his forensic speeches which was previously unknown at the French bar. His works, now extant, form 13 vols. 4to.; they consist principally of his pleadings and appeals, (*réquisitoires,*) when advocate and solicitor-general, and of his speeches at the opening of the sessions of parliament.

A'gue-tree, *n.* The sassafras is sometimes so called.

A'guila, in *Texas*, Victoria co., a small creek flowing into Lavacca bay. — Another creek of the same name (or *Aguilla*) in McLennan co., flows into the Brazos.

A'guilar de la Frontera, a town of Spain, 22 m. S.S.E. of Cordova; *pop.* 11,836.

A'guilas, a Spanish town, in the prov. of Murcia, on the Mediterranean, 38 m. from Carthagena; *pop.* 5,000.

A'guish, *a.* Pertaining to ague.

A'guishness, *n.* Quality of resembling an ague.

Aguja'ri, LUCREZIA, an Italian vocalist of great celebrity, who, for two songs a night, was engaged at a salary of $2,500 per night. D. at Parma, 1783.

A'gul, *n.* [Ar.] (*Bot.*) The *Hedysarum alhagi*, a little pretty shrub, ord. *Fabaceæ.*

A'gulhas Cape, Africa. See CAPE COLONY.

Ag'ylens, and **Ag'yiens.** (*Myth.*) A surname of Apollo.

Agyll'a. (*Anc. Geog.*) A town of Etruria, founded by a colony of Pelagians, afterwards called Cære, and now *Cerveteri.*

Agyn'nians, *n. pl.* (*Eccl. Hist.*) A sect which flourished about A. D. 694, and alleged that God forbade the eating of flesh, assuming the first chapter of Genesis to be the authority upon which the doctrine was founded. A revival of this ancient sect was attempted in 1814 without great success in England.

Agyr'ium, a town of Sicily, where Diodorus, the historian, was born. It is now *St. Filippo d'Argyro.*

Ah, *interj.* [Fr. and Lat. *ah*, Ger. *ach.*] An exclamation noting any sentiment of the soul, as rapture, triumph, joy, regret, contempt, &c., the sense being marked by its modulation.

Aha', *interj.* The sense of this exclamation is marked by the modulation of the sound. It expresses generally surprise, contentment, triumph, or contempt.

A'hab, son of Omri, seventh king of the separate kingdom of Israel. He was married to Jezebel, whose wickedness instigated him to the commission of such acts of cruelty and idolatry that he surpassed all his predecessors in impiety. He was slain by an arrow in a war with the Syrians, and his blood was licked by the dogs on the spot where he had caused Naboth to be murdered, about B. C. 876.

Aham'ta, a kingdom on the Gold Coast of Africa, late subject to the kingdom of Ashantee: bounded on the west by Apollonia, and on the east by the Fantee territories. It is the richest, and in every respect the most improved district upon this coast. The principal towns are Axim and Succondee. Ceded to England in 1872.

A'nar, a town of Persia, 60 miles from Tabriz. It numbers about 800 houses.

Ahas'ragh, a village and parish of Ireland, in Galway, 78 miles N.W. of Dublin. *Pop.* of parish, 5,500.

Ahasue'rus, or AHASHVEROSH, the name of the Persian monarch whose story is recorded in the book of Esther. (See ESTHER.) He is probably the same king as the Artaxerxes Longimanus of the Greek historians, whose reign commenced B. C. 465. — The name *A.* occurs also in Dan. ix. 1, where some interpreters take it for Astyages, king of the Medes; and in Ezra iv. 6, where Cambyses seems to be meant by it.

A'haus, a circle of the gov. of Munster, prov. of Westphalia, Prussia. *Prod.*, cattle and sheep. *Area*, 264 sq. m. *Pop.* 40,069. — *Cap.* of the same name.

Aha'va. (*Anc. Geog.*) A river of Assyria or Babylon, where Ezra assembled the captives who were returning to Judæa. (Ezra viii. 21.)

A'haz, or A'CHAZ, the 11th king of Judah, who reigned 743–728 B. C., and was contemporary with the prophets Isaiah, Hosea, and Micah. (See Is. i. 1; vii. 1; Hos. i. 1; Mich. i. 1.) He made the dial mentioned Is. xxxviii. 8. — Another Achaz, grandson of Jonathan, is mentioned 1 Chron. viii. 35; ix. 42.

Ahazi'ah, the son of Ahab, and the 8th king of Israel, who reigned 897–896 B. C. (1 Kings xxii. 40; 2 Chron. xx. 35.) — Another Ahaziah, the son of Jehoram, was the 5th king of Judah, 884–883 B. C. (2 Kings viii. 24; ix. 16.) He is called Azariah (2 Chron. xxii. 6) and Jehoahaz (2 Chron. xxi. 17; 2 Kings viii. 26.)

Ahead', *adv.* [From *head.*] Toward the head; forward; afore; afront; onward.

> "And now the mighty centaur seems to lead,
> And now the speedy dolphin gets *ahead.*"—*Dryden.*

— Headlong; precipitantly.

> "They suffer them (the children) to run *ahead.*"—*L'Estrange.*

Ahi'ah, the son and successor of the high-priest Ahitub.

Ahie'zer, son of Ammishaddai, and hereditary chief of the tribe of Dan, who came out of Egypt at the head of his tribe, consisting of 72,000 men.

Ahij'ah, the prophet who dwelt at Shiloh, and spoke twice to Solomon from the inspiration of God. He wrote the history of Solomon's life.

Ahim'aaz, the son of Zadok, and high-priest of Solomon. He rendered great service to David in his war with Absalom.

Ahim'elech, high-priest at Nob, in the days of Saul. He gave David the shew-bread to eat, and the sword of Goliath; and for so doing was put to death with his whole house by Saul's order. (1 Sam. xxii. 11, 12.)

Ahin'oam, wife of Saul (1 Sam. xiv. 50); also, a wife of David, mother of his eldest son Amnon. (1 Sam. xxv. 43; xxvii. 3; xxx. 5; 2 Sam. ii. 2.)

A'hiolo, or AKHIOLO, a seaport town of European Turkey, about 50 miles from Varna. It stands on the Black sea, and is in the prov. of Roumelia. It trades in salt, which is obtained from some springs in its vicinity.

Ahi'ra, chief of Naphtali, who came out of Egypt, at the head of 53,400 men.

Ahi'ram, son of Benjamin, and ancestor of the Ahiramites. (Num. xxvi. 38.)

Ahith'ophel, one of King David's counsellors, and highly esteemed for his political sagacity. He was certainly one of the first men of his age, both for wisdom and wickedness. His advice to Absalom, who followed the wicked part of it, but left the wise part unaccomplished, together with the tragical end of the politician, the first suicide recorded in history, are well known. (2 Sam. xvii. 1–23.)

Ah'len, a town of Suabia, 40 miles N.W. of Augsburg. *Pop.* 2,500.

Ahl'wardt, PETER, a learned German, b. at Greifswalde, 1710; D. 1791. He was the founder of the Abelite society, which had for its object the promotion of sincerity.

Ah'medabad, a district of British India, in the Bombay presidency, at the head of the Gulf of Cambay. *Area*, 4,356 square miles; *pop.* 650,000. Its capital, *Ahmedabad*, is situated in the prov. of Guierat, and stands on the Sabermatty, 120 m. N. of Surat. *Pop.* 130,000. Lat. 23° N.; Lon. 72° E. An earthquake nearly destroyed it in 1822.

Ahmed. See ACHMED.

Ah'med Khan, successor of Abuka Khan, and the first of the Moguls who professed Mohammedanism. He was conspired against by his courtiers, who set up in his stead Argoun, his nephew. Put to death A. D. 1234.

Ah'mednug'gur, a district of British India, in the presidency of Bombay. It is bounded on the north by Candeish, and on the south by Poonah. *Area*, 9,931 square miles. *Pop.* 990,000. — Its capital, *Ahmednuggur* stands on the Seena, 64 miles N. of Poonah. *Pop.* about 20,000. It was taken by the British in 1803.

Ah'medpoor, a town of Hindostan, 30 m. S.W. of Bahawulpoor. *Pop.* about 20,000.

Ah'med Shah el Abdaly, the founder of the kingdom of Cabul and Candahar. D. 1773.

Ah'mood, a town of British India, prov. of Gujerat. Lat. 22° 3′ N.; lon. 73° 6′ E.

Ah'napee, in *Wisconsin*, a city and township of Kewaunee co., situated on Lake Michigan at the mouth of the Ahnapee river, 12 m. N. of Kewaunee, on the Ahn. & Western R.R. *Pop.* (1895) 1,603.

Aho'ghill, a village and parish of Ireland, in the county of Antrim, 94 miles from Dublin. *Area*, 32,987 acres. *Pop.* 25,000.

Ahold', *adv.* (*Naut.*) *To lay a ship ahold*, formerly meant to bring her to the wind, in order to get out to sea.

Aholiba'mah, daughter of Anah, one of the three wives of Esau, and mother of Jeush, Jaalam, and Korah. In Gen. xxvi. 34, she is called Judith, and Aholibamah in the genealogical table.

Ahou'ai, *n.* (*Bot.*) The local name of the Brazilian tree *Cerbera ahouai*, ord. *Apocynaceæ.* The kernels of its nuts are very poisonous.

Ahoy', *interj.* (*Naut.*) A call; halloa.

Ahr'berg, a market-town of Germany, 3 miles from Ohrenbau. *Pop.* 4,000.

Ahr'ian, *n.* (*Geol.*) The middle group of the series of Devonian rocks belonging to Belgium and the Rhine. This group includes bluish-gray grits, sandstones, and shales.

Ah'riman, *n.* [Per.] A Persian deity, the demon or principle of evil; — the principle of good being Oromasdes, or Ormuzd.

Ahrweil'er, a town of Prussia, prov. Lower Rhine, on the Ahr, 23 m. W.N.W. of Coblentz. *Pop.* 3,709.

Ah'nitzol, emperor of the Aztecs, toward the end of the 15th century. He is said to have inaugurated a temple by the slaughter of 72,344 prisoners.

Ahull', *adv.* [From *hull.*] (*Naut.*) The situation of a ship when all her sails are furled on account of the violence of a storm, when, having lashed her helm on the lee-side, she lies nearly with her side to the wind and sea, her head being somewhat inclined to the direction of the wind.

A'hun, a town of France, dep. of the Creuse, 11 m. S. of Guéret. Formerly this was a place of importance, and it still possesses a few interesting remains of the ancient Agedunum. *Pop.* 2,500.

A'hus, or AHUS, a Swedish maritime town, 9 miles from Christianstadt, on the Baltic sea. It stands on the mouth of the Helgeo, has a good harbor, and is the port of Christianstadt.

Ai, *n.* (*Zoöl.*) The three-toed sloth (*Bradypus torquatus*), an animal of the *Bradypoda* or *Sloth* fam., ord. *Edentata.* The Ai is an herbivorous quadruped, of most uncouth appearance, treated by Buffon as one whose existence must be a burden to it, from its imperfect formation; but though uncouth and apparently disproportioned, it is found, on examination, that its organization and habits are as completely adapted to each other as are those of any other animal. It is true that the arms or fore-legs are nearly twice as long as the hinder pair; and that when it attempts to walk on the ground, the action is

most awkward and laborious: but when we consider that the Ai is formed to live not on the ground, but in trees, and not *on* the branches of trees, like the squirrel, but *under* them, the complete adaptation of its whole structure to its mode of life becomes apparent. "He moves suspended from the branch, and he sleeps suspended from

Fig. 59. — AI, OR THREE-TOED SLOTH.

the branch. Hence his seemingly bungled composition *is* at once accounted for; and in lieu of the Ai leading a painful life, and entailing a miserable existence upon its progeny, it is but fair to conclude that it enjoys life just as much as any other animal, and that its extraordinary formation and singular habits are but further proofs to engage us to admire the wonderful works of Omnipotence." They bring forth and suckle their young like ordinary quadrupeds; and the young Ai, from the moment of its birth, adheres to the body of its parent till it acquires sufficient size and strength to shift for itself. The head of the Ai is short, the face small and round, the hair coarse and shaggy, differing considerably in color in different individuals, but resembling, in general, dry, withered grass or moss. Its powerful claws, and the peculiarly enduring strength of its long arms, make very efficient weapons of defence against the large snakes by whom it is often attacked.— "The manner in which it moves is this: — Lying on its belly with all its four extremities stretched out from its body, it first presses one of its hind feet with all its might against the ground, whereby the corresponding side of the body is a little raised. The fore-leg on the same side thus becomes sufficiently free for the animal to advance it a trifle forward. It then hooks its powerful claws fast in the earth, and so drags its body a little onward. The same manœuvre is next repeated on the opposite side, and thus the poor creature progresses in the slowest and most laborious manner possible. But in proportion as the Ai's organization unfits it for terrestrial progression, it is wonderfully adapted to climbing trees. With its long arms it reaches up, and clings fast to the branches with its strong crooked claws. The *inverted* position of the soles of its hindfeet gives it a power of *grasping* the trunk of the tree which no other mammal possesses. Compared with the slowness of its motion, it is the best climber among mammals, while it is the worst walker; or, rather, it is the only mammal that can neither walk nor stand."

Ai. (*Anc. Geog.*) A city of Canaan, lying E. of Bethel, beside Bethaven, and already existing in the time of Abraham. (Gen. xii. 9.) The Israelites took Ai by ambuscade, and "utterly destroyed it." (Josh. vii. viii. ix. 3; x. 1, 2; **xii.** 9.)

Aï, a town of France. See AY.

Ai'as, or AJASSO, a ruined sea-port of Asiatic Turkey, on the N. shore of the gulf of Iskanderoon.

Aich'malotarch, *n.* [Gr., *chief of the captives.*] A title given by the Jews to the prince by whom they were governed whilst in captivity at Babylon.

Aid, *v. a.* [Fr. *aider.*] To help; to support: to suceor.

"By the loud trumpet, which our courage *aid*."—*Roscommon.*

Aid, *n.* [Fr. *aide.*] Help; support.

"The memory of useful things may receive considerable *aid*."—*Watts.*

—The person or thing that helps or supports; a helper.

"Thou hast said, it is not good that man should be alone; let us make unto him an *aid*, like unto himself."—*Tobit* viii. 6.

(*Feudal Law.*) See AIDS.

Aid, in *Ohio*, a post-township of Lawrence co., about 100 miles S.S.E. of Columbus.

Aid'ance, *n.* [O. Fr.] Aid. (R.)

Aid and comfort. The Constitution of the United States, art. 3, sec. 3, declares, that adhering to the enemies of the United States, giving them *aid and comfort*, shall be treason. These words, as they are to be understood in the Constitution, have not received a full judicial construction. They import, however, help, support, assistance, countenance, encouragement.

Aide'-de-Camp, *n.* [Fr.] (*Mil.*) An officer selected to receive and convey the orders of a general. Attached to the person of a general, he receives orders only from him. A lieutenant-general may appoint four aides-de-camp, in time of war, and two in time of peace, with the rank of lieutenant-colonel; a major-general two, and a brigadier-general one.

Aid'er, *n.* He that brings help or assistance; a helper.

Aid'ful, *a.* Giving aid; helpful.

Aid'ing, *p. a.* Which gives aid or assistance.

Aid'ing and abett'ing. (*Law.*) The offence committed by one who aids by some act in the perpetration of a crime committed in his presence, or near enough to it as to come readily to the assistance of his fellows.

Aid'less, *n.* Helpless; unsupported; undefended.

Aids', *n. pl.* [Fr. *aides.*] In the Feudal law, a kind of pecuniary tribute paid by a feudal vassal to his superior or lord, on occasions of peculiar emergency. The kinds of aids of most usual occurrence were: 1. When the lord made his son a knight: this ceremony occasioned considerable expense, and entitled the lord to call upon his tenant for extraordinary assistance; 2. When the lord gave his eldest daughter, he had her dower to provide, and was entitled by law to claim a contribution from his tenants for this purpose; 3. To ransom the lord's person, if taken prisoner. The aids have been abolished, by stat. 12 Car. II. c. 24.

Ai'gle, a town of Switzerland, can. Vaud, on the torrent Grande-eau, near the Rhone. *Pop.* 2,582.

Ai'gle (L'), a town of France, dep. Orne, on the Rille, 18 miles N.N.E. of Mortagne. *Manuf.* needles and pins; *pop.* 5,454.

Ai'gnan, St., a town in France, dep. Loire et Cher, 24 miles S. of Blois. In its vicinity is found the only quarry of gun-flints in France. *Pop.* 3,600.

Ai'gle, *n.* See EAGLE.

Aigrette', AIGRET, and EGRET, *n.* [Fr. *aigrette.*] An ornament for the head, in the form of a heron's crest.

(*Zoöl.*) The common name of the Grallatorial birds composing the gen. *Demigretta*, fam. *Ardeidæ*. They have a full occipital cross of elongated feathers, and the back has free plumes longer than the tail. Peale's Aigrette (*D. pealii*) of S. Florida is 30 inches long, and the wing 33 inches. The color is pure white, the terminal half of the bill black. Reddish Aigrette (*D. rufa*) of the Gulf States, is about the same size as the preceding.

Ai'gue-marine, *n.* (*Min.*) A name of the EMERALD, q. v.

Aigues' Mortes, a town of France, dep. Gard, 20 miles S.W. of Nimes, 4 miles from the Mediterranean, with which it is connected by a canal. It owes its name (*Aquæ Mortuæ*) to marshes caused by the retrogression of the sea. Aigues Mortes was formerly a seaport, and was the place where St. Louis embarked on his two expeditions to the Holy Land.

Aiguille', *n.* [Fr., needle.] (*Engin.*) A tool used to pierce holes in rocks for lodging gunpowder.

(*Geog.*) The name given to certain narrow and sharp-pointed peaks of the Alps. A mountain of this description in the S.W. part of France, on the road from Grenoble to Gap, called *L'Aiguille*, rises to the height of 6,562 feet above the sea.

Aiguillettes', AIGULETS, and AIGLETS, *n. pl.* [Fr.] The French name of the metal sheaths or *tags* at the end of laces or points. These *points* are now out of date: they were ties or bows, adorned at the end with aiglets, and were used instead of buttons for fastening dresses. They were, in the 16th and 17th centuries, not used merely for service, as the modern tag, but were profusely employed as ornaments. Tho aiguillettes were sometimes gold and silver, and elaborately chased. The pictures of Holbein give many examples of their form, and Shakspeare often alludes to them.

Aiguill'on, a town of France, dep. Lot et Garonne, 17 miles N.W. of Agen; *pop.* 3,781.

Ai'guisé, [Fr.] (*Her.*) A term employed to denote a cross which has the two angles at the ends cut off, so as to terminate in two points, in opposition to the cross *fitché*, which tapers at a point.

Ai'gulet, AIGLET, *n.* See AIGUILLETTE.

(*Naut.*) A lashing rope for securing the breeching of a gun on board a ship.

Ai'jalon. See AJALON.

Ai'ken, in *South Carolina*, a town, cap. of Aiken co., 17 miles E.N.E. of Augusta, Ga. Well known as a winter health resort. Several fine hotels are liberally patronized especially by invalids from the North. *Pop.* (1890) 2,362.

Ai'ken, or AITKIN, in *Minnesota*, a county intersected in the N. by the river Mississippi, and bounded S.W. by the lake Mille Lacs. *Surface*, undulating. *Area*, 1,900 sq. m. *Cap.* Aitkin. *Pop.* (1895) 5,224.

Ai'kin, ARTHUR, an English author, B. 1773, D. 1854. He has left a *Dictionary of Chemistry and Mineralogy*, and a *Manual of Mineralogy*.

Ai'kin, JOHN, an English physician, B. 1747, D. 1822. His two principal works are, *General Biography*, 10 vols. 4to., and *Lewis's Materia Medica*.

Ai'kin, Miss LUCY, an English author and poetess, B. 1781, D. 1864. Daughter of Dr. John Aikin, Miss Lucy devoted herself successfully to literary pursuits. Among other works of hers we quote *History of the Court of Queen Elizabeth; Memoirs of the Court of James I.; Memoirs of Addison.*

Ai'kinite, *n.* (*Min.*) An orthorhombic mineral, found in a massive form, or in long, imbedded acicular crystals, of a blackish lead-gray color, as in the gold region of Georgia. *Comp.* sulphur, 16·7; bismuth, 36·2; lead, 36·1; copper, 11·0=100.

Ail, *v. a.* [A. S. *eglan*, to feel pain.] To pain, to trouble, to give pain.

"What *aileth* thee, Hagar? fear not."—*Gen.* xxi. 27.

—To affect, in an indeterminate sense; as,

"What *ails* the man, that he laughs without reason?"

This word is never used without some indefinite term, or the word *nothing*; as, What *ails* him? He *ails* something; Nothing *ails* him;—but we never say: a fever *ails* him, or, he *ails* a fever.

—*v. n.* To feel pain; to be incommoded or in trouble.

—*n.* A disease. (R.)

Ailan'tus, or AILAN'THUS, *n.* (*Bot.*) The Tree of Heaven, a genus of the ord. *Xanthoxylaceæ*. The species *A. glandulosa*, native of China and now very common in our streets and shrubberies, resembles a gigantic stag's horn sumach, with very large leaves, unequally pinnate, and foot-stalks from 1 to 2 feet in length. It has many flowers on a terminal pedicle, whose anthers smell disagreeably. It grows very fast. The wood is hard, heavy, glossy, and susceptible of a fine polish.

Ailettes', or AILERONES', *n. pl.* [Fr., little wings.] A small square shield, the object of which was to furnish a protection for the neck and shoulders. For actual service, they were made of leather, and ornamented with a personal badge or device, or the heraldic bearings of the wearers. They came in fashion in the earlier part of the reign of Edward I., and ceased to be worn during the reign of Edward III. Dress ailettes were made of leather covered with silk or cloth, with fringes, and were laced to the shoulders of the hauberk with cords of silk.

Ail'ing, *p. a.* Sickly.

Ail'ment, *n.* Complaint; slight disease; illness.

"I am never ill, but I think of your *ailment*."—*Swift.*

Aim, *v. a.* and *n.* [Probably derived from O. Fr.] To point with a missile weapon; to direct it: — more particularly taken from the art of pointing the weapon by the eye, before its dismission from the hand.

"The proud Ideus *aims* his airy spear."—*Dryden.*

—To tend toward; to endeavor to reach or obtain; — followed by *at;* as,

"The end to which all men do *aim*."

Aim, *n.* The direction of a missile weapon.

"He bent his bow, uncertain of his *aim*."—*Dryden.*

—Hence, figuratively, a purpose; a scheme; an intention; a design.

"His ambitions *aim* against the throne."—*Milton.*

—The point to which the thing thrown is directed: hence, the object of a design; the thing after which any one endeavors.

"I suppose that the epistle has but one *aim*."—*Locke.*

Aimard, GUSTAVE, a French novelist. 1818–1883.

Aimargues, a town in dept. Gard, France; *pop.* 2,830.

Aim'less, *a.* Without aim or object.

Aim'lessly, *adv.* In an aimless manner.

Ai'moin, a French Benedictine monk, B. in the province of Perigord; D. 1008. He wrote a history of the French which brings us down only to the 16th year of Clovis II. (650). This history is not esteemed. His best work is the *Life of Abbon*, abbot of Fleuri-sur-Loire; it contains a great number of anecdotes, and frequently alludes to the political and public circumstances of the time.

Ain, a department in the E. of France, bordering the dep. of Saone et Loire, Jura, and part of Switzerland, on the N. and N.W., the Rhone on the E. and S., and the Saone on the W. *Area*, 592,674 hectares. *Pop.* 356,907 in 1891. *Chief towns*, Bourg, Nantua, Trevoux, Belley, Gex. Ferney, the residence of Voltaire, is situated in this dep. Numerous lakes or ponds in the S.W. render the climate unhealthy. *Exp.* oxen, wine, lithographic stones.

Ain'-tab, a town in the N. of Syria, on the S. slope of the Taurus; lat. 36° 58′ N., long. 37° 13′ 15″ E., at 30 miles W. of Bir, on the Euphrates. *Manuf.*, goat-skin leather, cotton and woollen cloths. *Pop.* about 20,000.

Ains'worth, ROBERT, an English author, B. near Manchester, 1660; D. 1743. The only work for which he is now remembered, is his *Latin Dictionary*. The first edition is of 1736, 1 vol. 4to. Notwithstanding the corrections which it has received from the labors of its successive editors, it still remains disfigured by many errors and deficiencies which leave the book a great way behind the present improved state of philological learning. The edition of 1752, in 2 folio vols., superintended by the Rev. William Young, is in great request as a handsome specimen of typography.

Ainsworth, WILLIAM HARRISON, an English novelist, B. at Manchester, 1805. His works are written in a lively style, and he is inexhaustible of invention. His most popular works are: *Rookwood; Tower of London; Old St. Paul's; Windsor Castle; Crichton*, &c. D. 1882.

Ains'worth, in *Iowa*, a post-village of Washington co., 30 miles W.S.W. of Muscatine.

Aion, a cluster of 16 islands in the Malay Archipelago, about 100 miles N. by W. from New Guinea.

Air, *v. a.* To cool; to refresh or purify; to dry or expel moisture, by exposure to the air.

"It were good wisdom, that, in such cases, the jail were *aired*."—*Bacon.*

"As the ants were *airing* their provisions one winter. . . . ."—*L'Estrange.*

—To take or enjoy the open air,—with the reciprocal pronoun.

"As I was *airing myself* on the tops of the mountains."—*Addison.*

Air, *n.* [Fr. from Lat. *aer.*] The fluid which surrounds the earth; the atmosphere.

"*Air* is that fine matter which we breathe."—*Watt.*

— The state of the air, considered in itself or with regard to our sensations: as, a healthful *air*, a damp *air*.

— Air in motion; a gentle wind.

"Fresh gales, and gentle *airs*,
Whisper'd it to the woods."—*Milton.*

— Publicity; exposure to the public knowledge.

"I am sorry to find it has taken *air*, that I have some hand in these papers."—*Pope.*

— The external appearance or manner of a person; as, a graceful *air*, the *air* of youth, &c. — An affected or labored manner or gesture.

"They give themselves *airs* of kings and princes."—*Addison.*

(*Chem.*) The air or atmosphere was once supposed to be an elementary body, but, since the last century, La-

voisier, and other philosophers after him, have proved that the air is a mixture of two gases, oxygen and nitrogen, with a small proportion of carbonic acid, and aqueous vapor. Several gaseous substances form minute ingredients in the air; of these the most important is ozone. Another interesting substance, discovered in 1894, and probably closely related to nitrogen, has been named argon. (See OZONE and ARGON). Estimated by measure, air is found to consist of 20·81 oxygen to 79·19 nitrogen: or, estimated by weight, 23·01 oxygen to 76·99 nitrogen. The air, in common with all other bodies, has weight. This is proved by weighing a bottle which contains air in a very delicate balance, and then by repeating the process after the air has been exhausted from the bottle by the air-pump. According to Biot, 100 cubic inches weigh 31 grains, that is 800 times less than water. Heat causes air to expand, cold to contract. The cupping-glass is a familiar instance of the former fact. If a bladder is half filled with air, and held near a fire, it will expand until the bladder is quite full; on being taken away, it contracts gradually to its former bulk. Air being elastic and compressible, it follows, that the higher we go, the lighter the air becomes. (For a fuller explanation of this, see BAROMETER.) Air dissolves a definite amount of aqueous vapor at different temperatures, hence the sudden formation and disappearance of clouds. In large masses, air has a blue tinge. The distant hills appear of this color, from being seen through several miles of air, and the sky appears blue from the same cause. As stated above, air consists of oxygen and nitrogen. Were it composed of oxygen only, we should breathe away our bodies too fast, while nitrogen alone would kill us. By this mixture, a proper strength of air necessary to life is kept up. The perfect mechanical mixture of the two gases which form air, is an excellent example of the diffusion of gases. When two gases are united, they gradually mix with each other until perfect diffusion takes place. The air, therefore, that is analyzed at the foot of Chimborazo has the same composition as that analyzed at its summit, though it differ materially in density. Combustion takes place in proportion to the density of the air. A candle, weighing an ounce, takes a longer time to burn at the top of a high mountain than one of the same size and weight at its bottom. From this it follows, that human beings must breathe slower in valleys and quicker at greater altitudes. The air is being continually rendered impure by the breathing of animals, the oxygen it contains being transformed into carbonic acid. This, however, lasts but a short time, being quickly separated into carbon and oxygen by plants, which retain the former body for their own nourishment, releasing the latter to serve again as support for animal life. This art. refers only to the chemical and mechanical properties of air. The constitution of the whole mass is to be found under the name ATMOSPHERE.—See also, ACOUSTICS, BALLOON, COMBUSTION, OXYGEN, RESPIRATION, &c.

Liquid Air. See GASES, LIQUEFACTION OF.

(*Mus.*) A piece of music, composed of a certain number of melodious phrases, united in a regular symmetrical form, and terminating in the key in which it began. A melody.—As employed in music, the origin of the word *air* is unknown. *Air* is the most important of the constituents of music. A composition may be replete with learned and ingenious harmony, may abound in fugue, in imitation, and all the contrivances of science, but without good melody, will never appeal to the heart, and seldom afford any gratification to the ear.—In music composed for the theatre, and which is constantly introduced into the concert-room, are the following varieties of air, designated by Italian denominations, viz.: *Aria di bravura* (literally, *air of courage*, or *a dashing air*), in which the performer displays his powers of execution, and seeks rather to astonish than please. *Aria di cantabile* (*singing air*), a tender, pathetic air, calling forth the expression and taste of the singer. *Aria di carattere* (*characteristic air*), which is distinguished by force and energy of expression, and by dramatic effect. *Aria parlante* (*speaking air*), which is rather declaimed than sung and is best suited to the *buffo*, or comic performer.—An *air varié* [Fr.] is literally an air with variations, but this name is often given by a composer, arranger, or performer to a melody fancifully variegated and embellished.

(*Paint.*) The medium, as transferred to a picture, through which natural objects are viewed.

Air, in *Alabama*, a post-village of Clark co., 118 miles S. of Tuscaloosa.

Air, in *Pennsylvania*, a village of Bedford co., on Big Cove creek.—*Also*, a township of Fulton county, more usually written AYR, *q. v.*

Air'-balloon, *n.* See BALLOON.

Air'-bath, *n.* A contrivance for drying anything by means of air, at a fixed temperature.

Air'-bed, *n.* A sack, in the shape of a mattress, divided into a number of air-tight compartments, a projection at one end forming the bolster. Each compartment is provided with a valve, and can be inflated with air by means of a bellows. They are generally made of vulcanized India-rubber. Their advantages are coolness, elasticity, and portability; and they are especially valuable to invalids. *Air-cushions* are conveniences of similar construction as air-beds, but less complicated, and cheaper.

Air'-bladder, *n.* (*Physiol.*) A peculiar organ with which the great majority of fishes are provided, and by which they are enabled to adapt the specific gravity of their bodies to the various pressures of the superincumbent water at different depths. It serves as a receptacle for a certain quantity of air, by the increase or decrease of which the alteration in the animal's weight, compared with that of the surrounding fluid, is accomplished. The vessel itself is composed of a lengthened sack, sometimes simple, as in the common perch, sometimes divided into two or more compartments, by a lateral or transverse ligature, as in the trout and salmon. In all cases it is composed of a thick internal coat of a fibrous texture, and of a very thin external coat; the whole being enveloped in the general covering of the intestines. The modifications of this organ are infinitely varied in different genera and species of fishes. In the greater number of instances, it has no external opening, and the air with which it is found distended, is believed to be produced by the secretion of a certain glandulous organ, with which it is in all these cases provided. In general, all fishes which enjoy great powers of locomotion, and have occasion to pass through various degrees of superincumbent pressure in their rapid transitions from the surface to the bottom of the ocean, are provided with this important organ; while fishes whose habits and organization confine them either to the surface of the water or to the bottom of the sea, as skates, soles, turbots, brills, etc., have no air-bladder. It is probable, but not sufficiently proved, that the air-bladder is connected with the respiration of fishes.—See ISINGLASS.

Fig. 60.—AIR-BLADDER. (*Corvina trispinosa.*)

Air'-blown, *a.* Blown by the wind.

Air'-born, *a.* Born of the air.

Air'-borne, *a.* Borne by the air.

Air'-bred, *a.* Caused by or produced from the air.

Air'-built, *a.* Built in the air, without any solid foundation; chimerical, as, an *air-built* castle.

Air'-casing, *n.* An air-tight casing around a pipe, etc., at a little distance from it, intended to secure the interposition of air as a non-conductor of heat or cold.

Air'-cavities, *n. pl.* (*Bot.*) See AIR-CELLS.

Air'-cells, AIR-CHAMBERS, AIR-CAVITIES, AIR-SACS, AIR-PASSAGES, *n. pl.* (*Physiol.*) Cavities connected with the respiratory system of animals. In the *Mammalia*, and specially in *Man*, the bronchi, after entering the lungs, diverge into innumerable ramifications, which become more and more minute, pervading every part of the pulmonary structure. They lead to minute cavities called *intercellular passages*, and these last, after numerous bifurcations, terminate each by a cul-de-sac, or *air-cell*. It will be understood from this that the air which enters the lungs has not, properly speaking, any circulation there. After entering through the trachea, and passing through the bronchial tubes and the intercellular passages, it inflates the terminal air-cells, which, being closed at their extremities, arrest its further progress. After a full inspiration, these air-cells are inflated and distended. During the succeeding expirations a part of the air in them, but about one tenth of it only, is expelled. The alternate process of inspiration and expiration is not therefore the alternate inflation and evacuation of the lungs, but merely one in which they are alternately more or less distended by air. In an adult, the dimensions of the air-cells vary from the 70th to the 200th of an inch.—In *Birds*, the air-cells, air-chambers, or air-sacs, are formed by a number of membranes subdividing and intersecting the thoracic-abdominal cavity; and in birds of strong wing and rapid flight, they extend often themselves into the bones. These remarkable cavities are connected with the respiratory system, but their principal use is that of rendering the body specifically lighter.—For the air-tubes of *Insects* and *Annulida*, see SPIRAL VESSELS.

(*Bot.*) The cavities in the leaves or stems, or other parts, containing air. In water-plants they have a very definite form, and are built up of little vesicles of cellular tissue, with as much regularity as the walls of a house: they, no doubt, enable the plant to float. In plants which do not float, as in the pith of the walnut-tree, their form is less definite: they often appear to be mere lacerations of a mass of cellular substance, and their object is unknown.

Air'-chambers, *n. pl.* See AIR-CELLS.

Air'-cushion. See AIR-BED.

Air'-drawn, *a.* Drawn or painted in air. (o.)

"This is the *air-drawn* dagger which led you to Duncan."—*Shak.*

Air'drie, one of the most flourishing inland towns in Scotland, parish of New Monkland, Lanarkshire, 11 miles E. of Glasgow.—*Ind.* Weaving of cotton goods and distillation of spirits. *Pop.* 15,133.

Aire, a small river of England, which rises in the West Riding of Yorkshire. Its source is a sheet of water about a mile in circumference, called Malham Tarn. After flowing 42 miles, it forms a junction with the river Calder.

Aire', a city of France, dep. Landes, on the Adour, 80 miles S. S. E. of Bordeaux. It is the ancient *Vicus Julii*, and has been since the 15th century the seat of a bishopric. *Pop.* 4,351.

Aire', a city of France, dep. Pas de Calais, at the confluence of the Lis and Laquette. Its fortifications are of great importance for the defence of the country between the Lys and the Aa. *Pop.* (1895) 8,303.

Air-embraced, *a.* Encompassed by air.

Air'er, *n.* One who exposes to the air.

Air'-escape', *n.* A contrivance for riveting off air from water-pipes.

Ai'rey, *n.* See AERIE and EYRY.

Air'-fountain, *n.* A jet of water produced by means of compressed air

Air'-gun, *n.* An instrument for projecting bullets, in which the moving power is the rush of condensed air allowed to escape, instead of the formation of gases arising from the ignition of gunpowder. In the stock of the air-gun is a condensing syringe, the piston of which condenses air into a cavity having a valve opening inward, just behind the bullet. The barrel is open, and the bullet (which should just fit the barrel) is inserted in the usual way. The trigger opens the valve behind the bullet, and permits the rush of the condensed air, which propels the bullet forward. The moment the finger is withdrawn from the trigger, the air closes the valve, and remains, somewhat less condensed than before, for the next discharge. No power, but only a convenient adaptation of power, is gained in an air-gun, since the condensation of the air itself requires an expenditure of power. The instrument has hitherto been little more than a toy.—Invented by Marin, a Frenchman, who presented one to Henry IV.

Air'-hold'er, *n.* An instrument for holding air; a gasometer.

Air'-hole, *n.* A hole to admit or discharge air.

(*Founding.*) A hole or cavity in a casting, produced by air which has not found passage through the liquid metal. It is also called *blow-hole*.

Air'ily, *adv.* In an airy manner; gayly.

Air'iness, *n.* The quality or state of being airy.—Lightness; gayety; levity.

"The talkativeness and *airiness* of the French language."—*Felton.*

Air'ing, *n.* A walk, or ride, or short journey to enjoy the free air.

"The little fleet serves to give to their ladies an *airing*."—*Addison.*

—Ventilation by admitting air; as, the *airing* of a room.—The act of exposing to the air for refreshing, purifying, or drying—as garments.

Air'-jacket, a garment, having several bags communicating with each other, which are filled with air by a leather tube, furnished with a brass stop-cock, by which means a person may float without learning to swim.

Air'less, *a.* Having no communication with the free air.

Air'-passages, *n.* See AIR-CELLS.

Air'-pipe, *n.* A pipe used to cleanse the holds of ships of foul air. It is used also for mines, &c. Air-pipe, called commonly Sutton's air-pipe, from the name of the inventor, is formed on the principle that air is necessary for the support of fire: hence, by closing the two holes under the copper or boiler, and in their room laying a copper or leaden pipe from the hold into the ash-place, by which means the foul air be discharged from the hold, it is clear that a supply of fresh air will come from the hatches to take its place.

Air'-plants, *n. pl.* (*Bot.*) A common name applied to *Epiphytes*, or plants which grow on trees or other elevated objects, not in the earth, and derive their nutriment from atmospheric moisture. They are to be distinguished from *terrestrial plants*, or those growing in earth, and from *parasites*, which derive nourishment directly from other plants on which they grow. The Lichens and Mosses that abound on the trunks or boughs of trees, or on old walls, fences, or rocks, from which they obtain nourishment, are air-

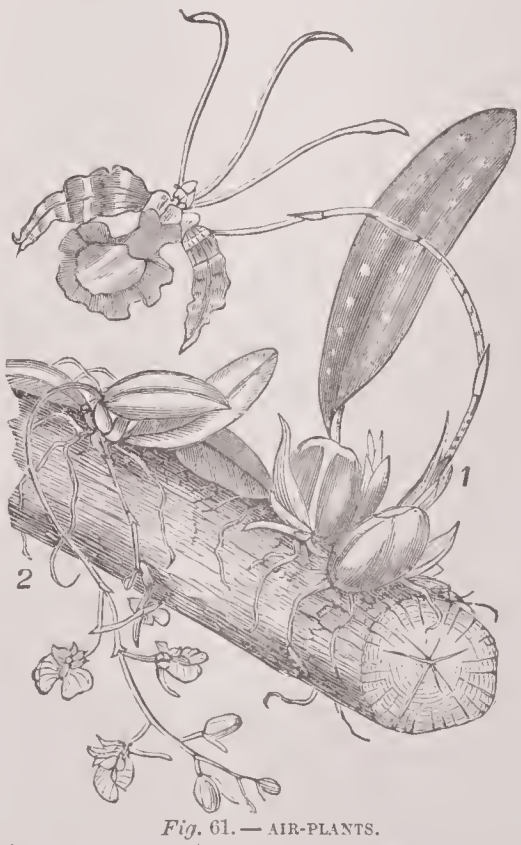


Fig. 61.—AIR-PLANTS.

plants. But the name is generally restricted to flowering plants of the *Orchidaceæ* (Orchis fam.) and *Bromeliaceæ* (Pine-apple fam.) living in the tropical parts of America, where a constantly moist state of the atmos-

phere is maintained by the exhalation of the trees upon which they cluster. They exhibit, in their handsome flowers, as well as in their general aspect, fantastic and infinitely varied forms. In hot-houses, they are very ornamental, but they require that the atmosphere should be rendered artificially moist, as well as warm. To the class of air-plants belongs also the *Tillandsia*, or Long Moss, hanging in long and gray tangled clusters or festoons from the branches of the Live-oak or Long-leaved Pine, in the Southern States of the United States. The accompanying figure represents two air-plants of the Orchis fam.: 1. *Calypso papilio*; 2. *Comparettia rosea*.

Air'-poise, *n.* An instrument for weighing air.

Air'-pump, *n.* (*Phys.*) A philosophical instrument for removing the air out of a closed vessel, so as to form as near an approach to a vacuum as possible. It is composed (*fig.* 62) of a cylinder, in which works a piston, furnished with a valve opening upward. At the bottom of the cylinder is another valve, also opening upward, and closing or opening a tube connected with the plate upon which is placed the vessel to be exhausted. If the piston is raised when it is at the bottom of the cylinder, the air pressing on the valve belonging to it keeps it closed, and a partial rarefaction of the air takes place. On lowering it, the air presses on the valve at the bottom of the cylinder, cutting off the communication between it and the receiver, and opening the valve in the piston. The piston, on being raised once more, again rarefies the air in the receiver, and continues to do so at each successive stroke of the pump. —An absolutely perfect vacuum can never be made in this way, as, at a certain point, the rarefied air becomes too attenuated to lift the piston-valve. In most air-pumps two cylinders are used, to save time; the piston of one descending, while that of the other is ascending. Connected with the tube leading to the receiver is a shortened barometer, the height of the mercury in which shows the exact degree of rarefaction. The first vacuum was made by Torricelli, but the first air-pump was constructed by Otto Von Guericke, in 1654.

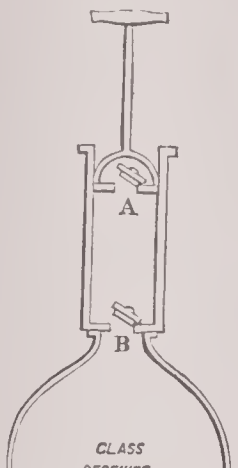


Fig. 62.

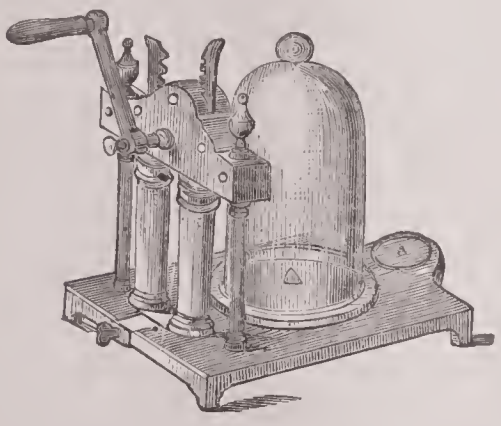


Fig. 63.

Air'-sac, *n.* See AIR-CELLS.

Air'-shaft, *n.* A hole made from the surface to the adits of a mine, to furnish fresh air to the miners.

Air'-slacked, *a.* Slacked by exposure to the air; as *air-slacked* lime.

Air'-threads, *n. pl.* (*Nat. Hist.*) The long filaments which float in the air in autumn. They are made by the long-legged field-spiders. — See GOSSAMER.

Air'-tight, *a.* Impermeable to air.

Air'-trap, *n.* A contrivance for expelling foul air from drains, &c.

Air'-tub, *n.* See SPIRAL VESSELS.

Air'-vessel, *n.* A vessel, cell, or duct, containing or conducting air.

(*Physiol.*) See SPIRAL VESSELS.

Air'y, *a.* Composed of air; as, the *airy* parts of bodies.

Belonging or relating to the air; high in air; open or exposed to the air.

"There are fishes not strangers to the *airy* region."—*Boyle.*

—Light as air; thin; unsubstantial; without solidity.

"I hold ambition of so *airy* a quality, that it is but a shadow's shadow."—*Shak.*

—Without reality; without any steady foundation in truth or nature; vain; trifling.

"With empty sound, and *airy* notions, fly"—*Roscommon.*

—Gay; sprightly; full of mirth; vivacious; spirited; light of heart.

(*Paint.*) Living; an effect produced by the proper distribution of light in a frame.

Airy, GEORGE BIDDELL, an English astronomer, born at Aluwick, 1801. The management of the Cambridge Observatory was intrusted to him in 1828. Fellow of the Royal Society, correspondent member of the French Institute, and other foreign scientific bodies, and Astronomer Royal. He was considered one of the most able and indefatigable *savants* of our age. His principal work is *Astronomical Observations*, Cambridge, 1828–1838, 9 vols. Died Jan. 4, 1892.

Aisle, *n.* [Fr. *aile*, from Lat. *ala*, a wing.] (*Arch.*) The wing of a building. — In churches, that lateral division which forms the side of the edifice. When a church is divided into three compartments, the middle or principal compartment, separated from the others by two rows of piers, is called the nave, and the two outlying compartments form the aisles. Modern churches have seldom more than two aisles; but in Gothic cathedrals there are often as many as four aisles, two on each side of the nave. Sometimes the term aisle is given to all the compartments of a church, which is then spoken of as *three-aisled*, the nave or body of the building forming the *middle aisle*, and the side compartments the *side-aisles*. — See NAVE, TRANSEPT.

Aisled, *a.* That has aisles.

Aisne, a river of France, which gives its name to a department. It rises to the west of a chain of hills which forms the western boundary of the basin of the Meuse, and, after a course of 150 miles, joins the river Oise, just above Compiègne. It becomes navigable at Rethel.

Aisne', a department in the north of France, including portions of the ancient Picardy, Isle of France, and Champagne. It is divided into 5 arrondissements and 37 cantons. It is drained by the rivers Oise, Aisne, and Marne, and gives rise to the Sambre, the Somme, and the Escant. *Area* 2,830 sq. m. Lat. betw. 48° 50′ and 50° N.; Long. betw. 2° 50′ and 4° 12′ E. The surface generally consists of undulating plains. The quantity of forest land is considerable, and the soil so fertile in grain and hay that the inhabitants export two thirds of their harvest. — *Ind.* Considerable manuf. of cotton; the famous manuf. of mirrors at St. Gobain; manuf. of linens, shawls in imitation of Cashmere, soaps, &c. Its chief towns are: Laon (préfecture), St. Quentin, Soissons, Château-Thierry, Vervins (sub-préfectures); La Fère, a fortress on the Oise, and La Ferté-Milon, the birthplace of Racine. *Pop.* 564,597.

Aissé, MLLE. DEMOIS, was born in Circassia, 1689, and purchased by the Count de Ferriol, the French ambassador at Constantinople, when a child of 4 years, for 1500 livres. The seller declared her to be a Circassian princess. She was of great beauty. The Count took her with him to France, and gave her an education, in which nothing was neglected but the inculcation of virtuous principles. Her disposition was good, but her life immoral. She sacrificed her innocence to the solicitations of her benefactor. On the other hand, she resisted the splendid offers of the Duke of Orleans; and, of her numerous suitors, she favored only the Chevalier Ayde A prey to the bitterest remorse, she lived in a continual struggle with herself, and died 1727, thirty-eight years old. Her letters, written in a pleasant and fluent strain, were published with notes by Voltaire, in 1787. They contain many anecdotes of the prominent personages of her times.

Ait', and **Eyot,** *n.* [From *islet.*] A small island in a river or lake. — It is called a *willow ait* when planted with osiers.

Ait'kin, in *Minnesota*, a N. central co.; formerly spelled AIKEN (*q.v.*)

Aix', a town of France, formerly capital of Provence, now chief town of arrond. in the dep. of Bouches-du-Rhône. It is situated in a plain, 16 miles N. of Marseilles. It is the seat of a *Court of Assizes* and a university, with faculties of theology and law. It has a magnificent cathedral, a museum of pictures, a collection of antiquities, and a library containing over 150,000 vols. — *Manuf.*, silk, wool, and cotton; *Trade*, oil. The town was founded by C. Sextus Calvinus, a Roman general, 120 years B. C., and received the name of *Aquæ Sextæ*, from its famous hot springs. *Pop.* 27,655.

Aix-la-Chapelle'. [Ger. *Aachen.*] The chief city of a district of the same name, prov. of the Lower Rhine, Prussia, on the river Wurm, 40 m. S.W. of Cologne. Lat. 50° 47′ N.; Lon. 6° 3′ E. *Pop.* 100,000. The situation of the city is agreeable; it stands on uneven ground, surrounded by hills of moderate elevation, generally covered with wood. There are many public buildings in the city deserving of notice, principally the *Minster*, which is said to have been commenced by Charlemagne, contains the tomb of this monarch, a great number of relics, and doors of bronze. Aix-la-Chapelle once possessed a much more extensive trade than it has at present. This decline has been caused by the springing up of other rival seats of industry all around it. *Manf.* Woollen cloth, kerseymeres, pins, needles, hats, and Prussian blue. Founded A. D. 125 by Severus Granius, a Roman general, under the name of *Aquis-Granum*. Aix was the favorite residence of Charlemagne. The emperors of Germany were once crowned here; and, as long as the Germanic empire lasted, this city claimed the privilege of being the place of coronation, as it was also the proper residence of the emperor. The name of Aix, or Aachen, is evidently derived from the springs, for which the place has been always famous. The hot springs have a temperature of about 143° Fahrenheit, and contain a large portion of sulphur. These waters are used both for bathing and drinking. In 1668, a treaty of peace was concluded at Aix between France and Spain. In 1748 a congress was held in it, between France, England, Holland, Austria, Spain, Sardinia and Modena, in order to adjust the political interests of these powers, which had suffered from a war arising out of the failure of the male branch of the house of Austria, by the death of Charles VI. in 1740. A treaty was concluded between all the powers, stipulating the independence of Switzerland, the free navigation of the Rhine, the security of the Protestant succession in England, and the disunion of the French and Spanish crowns. All the conquests made by the contracting powers were restored, and the state of affairs in the Indies was to remain as it was before the war. The terms of this treaty produced much dissatisfaction both in France and England, and the vagueness of the last stipulation gave rise to the *Seven Years' War*, which began in 1755. Another congress was held at Aix-la-Chapelle in 1818, between Russia, Austria, Prussia, Great Britain, and France, and a treaty was signed the 9th of October, which put an end to the occupation of France by the foreign troops.

Aix'-les-Bains, a town of France, dep. of H. Savoy, on the E. side of Lake Bourget, 8 miles N. by E. of Chambéry, celebrated for its sulphuretted hot springs, of the temperature of 112° to 117°, at an alt. of 823 feet above sea-level. They were in vogue among the Romans, and are still extensively resorted to. *Pop.* 4,253.

Aizo'on, *n.* [A. S. *aizon*, ever-living.] (*Bot.*) A genus of plants, ord. *Tetragoniaceæ*, having entire, fleshy leaves. The ashes of *A. canariense* abound in soda.

Aja'ccio, the chief town of the island of Corsica, which forms a depart. of France. Its harbor, to the north of the gulf of the same name, on the western coast of the island and at the confluence of the rivers Terignano and Restonico, is rendered unsafe by projecting rocks. — *Com.* Coral and anchovy fisheries. It is the handsomest city of Corsica, and the birthplace of Napoleon I., whose house is still to be seen. *Pop.* 17,327.

Aj'alon, (*Anc. Geog.*) Said to be the modern *Yâlo*, a village a little to the N. of the Jaffa road, about 14 miles W.N.W. of Jerusalem; was the town rendered memorable by Joshua's victory over the five Canaanitish kings, and still more so by the extraordinary circumstance of the miraculously lengthened day. See Joshua, X.

Ajan, the name of a long tract of the coast of east Africa, extending from near Magadozo, which is included within the limits of Zanguebar, northward to Cape Guardafui, a distance estimated at about ten degrees of the equator. *Towns.* Melinda, Brava, and Magadoxa.

Ajar', *adv.* [Eng. pref. *a* and *jar.*] Partly open, as a door.

Ajax, the name of two heroes of the Trojan war. 1. *A.*, son of Telamon, king of Salamis, was next in warlike prowess to Achilles. His chief exploits, recorded in the *Iliad*, are his duel with Hector (7th book), and his obstinate defence of the ships, in the protracted battle described in the 13th, 14th, 15th, 16th, and 17th books. Blunt in manners, rugged in temper, and somewhat obtuse in intellect, his strength and stubborn courage made him a most valuable soldier, but no favorite; and his confidence in these qualities induced him to despise divine aid, by which he roused the anger of Pallas, the author of his subsequent misfortunes. After Achilles's death, the armor of that hero was to be given as a prize to him who had deserved best of the Greeks. Ajax and Ulysses alone advanced their claims, and the assembled princes awarded the splendid prize to Ulysses. Ajax was so much mortified at this, that he went mad, and in his fury attacked the herds and flocks of the camp, mistaking them for the Grecian leaders, by whom he thought himself so deeply injured. On recovering his senses, and seeing to what excesses he had been transported, he slew himself.—2. *A.*, son of Oilens, remarkable for swiftness of foot and skill in using the bow and javelin. His notoriety is chiefly derived from events subsequent to the close of the *Iliad*. When the Greeks had entered Troy, Ulysses accused Ajax of having violated Cassandra in the temple of Pallas. He exculpated himself with an oath; but the anger of the goddess at last overtook him, and he perished in the waves of the sea.

Aje'ho, a large town in China, territory of Mantchooria, also called A-Shee-Ho, and Alchuku.

Aj'mere, or AJ'MEER, a town of Hindostan, in the centre of the Rajpootana territory, 225 miles S.W. of Delhi. Lat. 26° 31′ N.; Lon. 74° 28 E. It is the cap. of a district of the same name, belonging to the British. (See RAJPOOTANA.) *Pop.* abt. 23,000. — Near the town is the celebrated Hindoo temple of Pooshkur, on the banks of a sacred pool nearly a mile in circuit, visited annually in October by crowds of pilgrims from all parts of India. Ajmere also possesses the tomb of a saint whose miracles are renowned all over India.

Aju'ga, *n.* (*Bot.*) A genus of plants, tribe *Ajugeæ*. The *A. chamæpitys* (ground-pine), known also under the name of *yellow bugle*, is a species rare in the U.S., but common in Europe. Its leaves are somewhat excitant, and exert an influence on the urinary organs.

Aju'geæ, *n. pl.* (*Bot.*) A tribe of plants, ord. *Lamiaceæ*.

Ajuru'oca, a town in the prov. of Minas Geraes, Brazil, 117 m. N. of Rio Janeiro, on the Ajurnoca river. *Pop.* of town and district, abt. 12,000.

Aj'utage, *n.* [Fr.] A kind of tube fitted to the mouth or aperture of a vessel, through which water is to be discharged; — a part of the apparatus of an artificial fountain, or *jet d'eau*.

Ak'abah, (GULF OF,) the *Sinus Elaniticus* of antiquity, so called from the port of Elana or Elath, is a deep narrow inlet, uniting with the N.E. extremity of the Red sea. It extends in N.N.E. direction from 28° to 29° 32′ N. lat.; being, where broadest, 16 or 17 miles across. Being exposed to sudden and heavy squalls, and encumbered in parts with coral reefs, its navigation is not little dangerous. It takes its modern name from the castle of Akabah, where is deposited, under the guard of some Egyptian soldiers, the corn for the supply of the caravans, in their journey from Cairo to Mecca.

Ak'an, a township of *Wisconsin*, situated in Richland county.

Ak'bar, or AKBER, (i. e., *the Great*,) properly JELAL-ED-DIN-MOHAMMED, emperor of Hindostan, was born in 1542, at Amerkota, in the great sandy desert east of the Indus. At the death of his father, the Mogul emperor

Humayun, he succeeded him in the government of Delki, in the 14th year of his age, 1556. Feeling diffident on account of his youth and inexperience, he conferred the temporary dignity of *Khan Caba* (*i. e.*, regent or protector) on his minister Beiram Khan. His great talents were early developed. He fought with distinguished valor against his foreign foes, and was very successful in his wars. Nevertheless, in an attempt to subjugate the Afghan mountain districts which encircle the plain of Peshawur, his army, commanded by Zein Khan Koka, was completely defeated by the Yoosoofzyes or Eusofzies, the most powerful of the Afghan tribes in this direction. A. D. 1591. Though compelled, by continued commotions, to visit the different provinces of his empire at the head of his army, he loved the sciences, especially history, and was indefatigable in his attention to the internal administration of his empire. He instituted inquiries into the population, the nature and productions of each province. The results of his statistical labors were collected by his minister, Abul Fazl, in a work entitled *Ayeen Akberi*, printed in English, at Calcutta, 1783–86, 3 vols., and reprinted in London. *A.* died, after a reign of 49 years, in 1017 (1604, A. D.) His splendid sepulchral monument still exists near Agra, with the simple inscription, *Akbar the Admirable.*

Fig. 64. — YOOSOOFZYE.— KINGDOM OF CABOOL.

Ake', *n.* and *v.* See ACHE.

Akee' Fruit, *n.* The fruit of the Brighia or *Cupania sapida.* Its succulent arillus is used as food.

A'kenside, MARK, an English poet and physician, the son of a butcher, born at New Castle-on-Tyne, 1721. In 1744 he published his *Pleasures of Imagination*, a poem which at once attained celebrity, and proved him a true poet. D. in London, 1770.

A'kerman, (ancient *Tyras,*) a fortified town of Russia in Europe, province of Bessarabia, near the junction of the Dniester with the Black Sea; Lat. 46° 12′ N.; Lon. 30° 22′ E. As the basin of the Dniester has only from 5 to 7 feet of water, the larger class of vessels anchor in the Black Sea, about 16 m. from the town. In 1826 was concluded in *A.*, between Russia and Turkey, a treaty by which Wallachia, Moldavia, and Servia were emancipated from all but a nominal dependence on the Ottoman Porte. *Pop.* (1895) 45,598.

Akhissar', (the anc. *Thyatira,*) a town of Turkey in Asia, Anatolia, 58 miles N.E. of Smyrna, on the direct road between Constantinople and Smyrna. *Exp.*, cotton goods. *Pop.* 6,000.

Akhlat', a town of Turkey in Asia, Kurdistan, on the shore of lake Van, formerly a place of great importance, known under the name *Argish;* but now greatly decayed. Lat. 38° 35′ N.; Lon. 41° 22′ E. *Pop.* 6,000.

A'ki, or AKA, *n.* (*Bot.*) The native name of the tree *Metrosideros scandens*, ord. *Myrtaceæ*. It is also called *Lignum Vitæ* on account of the hardness of its timber, and is used by the New Zealanders for making their war-clubs, paddles, &c.

Akim'bo, *a.* [From *a* and *kimbo.*] Crooked; arched.— An arm is said to be *akimbo* when the hand is on the hip, and the elbow turned outward.

Akin', *a.* [From *a* and *kin.*] Related to; allied to by blood; — used of persons.

"I could wish that being thy sister in nature, I were not so far off *akin* in fortune." — *Sidney*

—Allied to by nature; partaking of the same properties; — used of things.

Akin's, in *Georgia*, a thriving township of Spalding county.

Akiska', or AKHAL'ZIKH, a town of Russia in Asia, Georgia, on an affluent of the Kur; 115 miles W. of Tiflis. Lat. 31° 45′ N.; Lon. 43° 1′ E. It was formerly the cap. of a Turkish pachalic, and the seat of the slave-trade. *Pop.* about 15,000, two-thirds Armenians.

Ak'ka, a town in the Sahara, on the borders of Morocco, and a caravan station between Timbuctoo and Morocco. Lat. 28° 30′ N.; Lon. 0° 10′ W.

Akmetchet, or AKMEDSHID. See SIMFEROPOL.

A-knee', *adv.* On the knee.

Akmolinsk, a province of Siberia, organized in 1867 from part of the Kirghiz territory. *Capital*, Akmolinsk, 200 miles southwest of Omsk. *Pop.* (1897) estimated at 5,200.

Akrab'bim, (*Anc. Geog.*) A pass near the country of the Ammonites, where Judas Maccabeus gained a great victory over the Edomites (1 Mc. v. 3.) It is said to be the line of chalk cliffs, seven or eight miles long, which cross the *Arabah* from N.W. to S.E., six or eight miles from the Dead Sea.

Akrey'ri, a Danish town, on the Eyianfiord, Iceland, has a good harbor, and is, after Reykiavik, the most important place for trade in Iceland. Lat. 65° 40′ N.

Akron', in *New York*, a village of Erie co., 268 m. W. of Albany.

Ak'ron, in *Ohio*, the principal city of Summit co., at the junction of the Ohio and Erie, and Ohio and Pennsylvania canals, 38 m. S. of Cleveland. By a succession of locks, the O. and E. canal rises suddenly at Akron to the Portage Summit. *A.* is a flourishing place; there are several banks, and important manf. of agricultural implements, flour, books, &c. *Pop.* (1890), 27,601

Ak'serai, a town of Turkey in Asia, Karamania, 90 miles N.E. of Koneieh; *pop.* about 10,000.

Ak'-shehr, (*the White City,*) a town of Turkey in Asia, Karamania. Lat. 38° 13′ N.; Lon. 31° 30′ E. It is situated near the S. extremity of a considerable lake, at the foot of a mountain chain, in a rich and well watered country. It is mentioned in Turkish annals as the place where Bajazet was confined by Timour, and where he expired. *Pop.* about 5,000.

Aksoo, AKSOU, or AKSU, a little town in Chinese Turkistan. Lat. 41° 7′ N.; Lon. 79° E.

Ak'su, a district of Little Bukharia, bounded on the N. by the mountains of Allak, with a cap. of the same name. Lat. 41° 9′ N. *Pop.* about 150,000.

Ak'su, (*White River,*) the name of several rivers in Asia, the chief of which runs through Chinese Turkestan.

Ak'tagh, a mountain range of Asiatic Turkey, between the parallels of 39° and 40° N. — Also a mountain of Anatolia, near the sources of the Rhyndacus and the Hermus. Alt. 8,000 ft.

Ak'teboli, or AGOTHAPOLIS, a small port of European Turkey, on the Black sea, 69 m. from the entrance of the Bosphorus. Lat. 42° 4′ N.; Lon. 27° 59′ E.

Ak'wambu, or AGUAMBO, a state of Guinea, on the Rio Volta, to the N. of Aquapim.

Ak'zib, or ACHZIB, a town of Syria, on the coast, 9 m. N. of Acre; supposed to be the *Acdippa* or *Ecdippon* of Pliny and Josephus.

Ak'yab, a maritime town of India, cap. of the prov. Aracan, to the E. of the island of Akyab, beyond the Ganges. Lat. 20° 8′ N.; Lon. 92° 54′ E. Its harbor is safe.

Al-, a form of the Latin prefix *ad*, to, used before *l*, for avoiding the hard sound of the two consonants *dl;* as, *alludere for adludere.*

—The Arabian definite article answering to *the.* It is often applied to a word by way of eminence, as in Greek the letter *o.* The Arabs express the superlative by adding *God* thereto, as *the mountain of God* for the highest mountain; and it is probable that *al* relates to the word *Allah*, God: so, *Alchemy* may be *the Chemistry of God*, or the more exalted perfection of chemical science.

—A Saxon prefix used as a contraction of the word *æthel*, noble, or of the word *alt* or *ald*, old.

A'la, *n.; pl.* ALÆ. [Lat., a wing.] (*Bot.*) A wing, applied to the lateral petals of a papilionaceous flower; — to membranous appendages of the fruit, as in the elm, or of the seed, as in pines.

(*Anat.*) The armpit; so called because it answers to the pit under the wing of a bird.

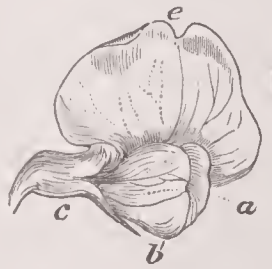


Fig. 65.

FLOWER OF SWEET-PEA.

(*a*, alæ, the *wings; e*, vexillum, the *banner; b*, carina, the keel; *c*, the calyx.)

A'la, a small town of the Tyrol, on the Adige, abt. 8 miles S. of Roveredo; *pop.* 4,820.

Ala'ba, or ALAVA, a district of Spain, cap. Vittoria, in the province of Biscay, and once an indep. kingdom.

Alaba'ma, one of the Southern States of the United States of America, bounded N. by Tennessee, E. by Georgia, S. by Florida and the Gulf of Mexico, W. by Mississippi. It lies between 30° 10′ and 35° N. lat., and between 85° and 88° 30′ W. lon. Its extreme length from N. to S. is 336 m., and its breadth ranges from 148 to 200 m. *Area*, 50,722 sq. m., or 32,462,080 acres — *History.* The name *A.* is derived from the aboriginal language, and signifies, "Here we rest." The first white men that set foot upon the soil of this State were the adventurers under De Soto in their famous march to the Mississippi. They found the aborigines a formidable obstacle, evincing a more intelligent manhood and higher social organization than the other Indian tribes further north. The first settlement was made by the French, under Bienville, who built a fort on Mobile bay in 1702. Nine years afterward the present site of Mobile was occupied. The peace of 1763 transferred to the British crown all the territory N. of the Gulf and E. of the Mississippi. Its agricultural value soon attracted an Anglo-American emigration, in the mass of which the original French element was absorbed. *A.* was incorporated first with Georgia, and afterward with the Mississippi territory in 1802. During the years 1813, 1814, it was harassed by the attacks of the Indians, who were reduced to submission by General Jackson, and have since emigrated West of the Mississippi. In 1819 it was admitted into the Union as a separate State, and since that time its population has rapidly increased. *A.* seceded on the 11th of January, 1861. In 1867 a convention, nominated in pursuance of the Acts of Congress on reconstruction, met at Montgomery, and framed a constitution, which was adopted without opposition of importance. This constitution was revised in 1875.—*Description. A.* would form a rectangle, if Florida did not occupy the largest part of its coast-line, leaving only to it about 60 m. of sea-coast on the Gulf of Mexico. The Alleghany mountains terminate in the N.E. part of the State, subsiding into low hills. From the N. the surface gradually declines toward the coast, which is depressed and level, with hilly country in the centre. The limited sea-coast is broken by Mobile bay, a beautiful sheet of water, 30 m. long, and from 3 to 18 broad, with depth of 25 feet on the extreme bar at low tide. The southward deflection of the general level causes the rivers to run in the same direction. These are numerous, and of very considerable length and volume, the principal being: Alabama, Tombighee, Mobile, Black Warrior, Coosa, Tallapoesa, Tennessee, Chatahoochee, Perdido, Cahawba, and Conecuh, *q. v.* — The soil varies with the geographical locality and elevation. The mountain region of the N. is well suited to grazing and stock-raising, and is interspersed with valleys of excellent soil. The undulating surface in the river bottoms is highly charged with fertilizing elements, resting generally on a soft limestone rock, abounding in shells. The valley of the *A.* river is one of the richest on the continent. The removal of the canebrakes of Marengo and Greene cos. has disclosed soil of unsurpassed quality. Toward the coast the vegetation becomes decidedly tropical. Oaks in great variety, poplars, hickories, chestnuts, and mulberries cover the northern and central parts of the State, while in the S. the pine, cypress, and loblolly are the prevailing species. — *Climate.* Though *A.* reaches not far from 7° of the torrid zone, the thermometer exceeds seldom 90°. The mean temperature, as the result of the observations of ten years taken at Mobile, is, in the spring, 66.87; in the summer, 79.00; in the autumn 66·27; and in the winter 52·43; — which gives for the year an average of 66·14. The fruit-trees blossom between the middle of January and 1st of March, according to the elevation of the place. Snow neither falls deep nor lies long; the rivers are never frozen over. The lowlands are unhealthy near the rivers, but in the elevated country the climate is salubrious and delightful, the heat of the summer being tempered by the breezes from the Gulf. — *Minerals.* The central region is underlaid by vast beds of iron ore, alternating with rich coal measures of great extent. The juxtaposition of these minerals favors mining operations, and the processes of preparing iron for market. Lead, manganese, ochres, and marbles are found in different localities, and even gold is reported. — *Mineral waters.* Salt, sulphur, and chalybeate springs are of frequent occurrence The sulphur waters of *A.* enjoy a high reputation.—*Agriculture.* In agricultural production cotton stands first, the State ranking fourth in the output of this staple. In 1895 its yield was about 1,000,000 bales, in which it was only largely exceeded by Texas. Of cereal crops corn stands much the highest, the other grains being little cultivated. In 1894 the yield of corn was 34,760,311, of wheat 417,274, and of rye 28,529 bushels. The total value of the crops was $23,359,082. Some cane-sugar and molasses are produced and more sorghum syrup. Ramié is grown to some extent. Most of the farms are under 100 acres in size. Of farm animals (1895) there were 123,400 horses, 125,939 mules, 317,978 milch cows, 545,134 oxen and other cattle, 336,640 sheep, and

Fig. 66. — PRICKLY PEAR, (*Opuntia vulg.*)
Very common in parts of the South.

1,680,816 swine, the total valuation being $26,068.057.—*A.* is now the third state in the Union in the production of iron ore. In 1870 her total iron production was 7,000 tons; in 1895 it had reached the large total of 1,493,086 tons, being more than 12 per cent. of the whole United States production. Of this output nearly 80 per cent. was red hematite ore. The coal production had shown the same great increase, there being about 6,000,000 tons mined in 1895. This large iron and coal product has greatly stimulated iron manufacture. In 1891 there were over 34,000 tons of rolled iron produced, and this product has steadily increased. The other manufactures include lumber, machinery, cotton goods, &c. In 1890 the state had 2977 manufacturing establishments, with a capital of $46,122,571. In 1895 *A.* possessed 26 cotton and woolen mills, with a total of 164,896 spindles; 11 others were in process of construction. The railroads of this state in 1895 had a mileage of 3,642, with a capital investment of over $117,750,000. The bonded debt in October 1, 1894, was $9,299,400, with a floating debt of $3,214,356. The total assessed valuation of property subject to taxation was $243,176,677. There were 27 national and 11 state banks. The state appropriation for education was about $500,000, divided between various normal and other colleges.

Counties and Towns.—The State is divided into the 68 following counties:

Autauga,	Conecuh,	Jackson,	Morgan,
Baldwin,	Coosa,	Jefferson,	Perry,
Barbour,	Covington,	Lamar,	Pickens,
Bibb,	Crenshaw,	Lauderdale,	Pike,
Blount,	Dale,	Lawrence,	Randolph,
Bullock,	Dallas,	Lee,	Russell,
Butler,	De Kalb,	Limestone,	Shelby,
Calhoun,	Elmore,	Lowndes,	St. Clair,
Chambers,	Escambia,	Macon,	Sumter,
Cherokee,	Etowah,	Madison,	Talladega,
Chilton,	Fayette,	Marengo,	Tallapoosa,
Choctaw,	Franklin,	Marion,	Tuscaloosa,
Clarke,	Geneva,	Marshall,	Walker,
Clay,	Greene,	Mobile,	Washington,
Cleburne,	Hale,	Monroe,	Wilcox,
Coffee,	Henry,	Montgomery,	Winston,
Colbert,	Cullman,		

The principal towns are Mobile, the chief seat of commerce; Montgomery, the seat of government; Birmingham, Anniston, Huntsville, Selma, Florence, Bessemer, Eufaula, Tuscaloosa, Opelika, Phœnix, New Decatur, &c. In 1890 *A.* had 270,204 pupils enrolled in her public schools, and of a total school population of 522,691 had an average daily attendance of 185,000.—*Religion.* *A.* has, according to the most recent reliable statistics, more than three thousand church edifices, representing almost every denomination of Christians; the most numerous, however, belong to the Baptists, Methodists and Presbyterians. *A.* has various public institutions, for example, the State Lunatic Asylum, at Tuscaloosa, Blind Asylum at Mobile, Deaf and Dumb Asylum and Penitentiary at Wetumpka, &c. Few, if any of the Southern States, have made more progress in the development of the iron interests than *A.* The growth of the city of Birmingham, in Jefferson co., is remarkable. Over 20 large coke furnaces were in operation there in 1890, with a yearly capacity of nearly 1,000,000 tons of iron. Iron, coal, lime and other valuable minerals are found in close proximity. Indeed, it may be assumed that only the recent utilization of natural gas in and around Pittsburg, in Pennsylvania, and most rigid economy in the manufacture of iron and steel, there and elsewhere, have enabled the older iron producing centres of the North to compete with this new Southern rival. These superior advantages are not likely to continue, since natural gas is rapidly giving out, while the lesson of economy in manufacturing processes is being learned in the South, the result being that Alabama is steadily becoming a more formidable rival of the North in iron manufacture. In the recent development of *A.* the progress of its coal-mining industry has been one of the most important features. The coal deposits form the southern extremity of the great Appalachian coal-fields, and embraces an area of 8,660 square miles, underlying all or part of 19 counties, though actual mining operations are conducted in but ten of these. The coals embrace all the bituminous varieties, such as gas, coking, block, splint and cannel, and offer an inexhaustible supply of fuel for domestic and industrial purposes. Coal mining was begun here about 1853, but the production did not reach a total of 100,000 tons till the year 1876. Sometimes the growth has been very rapid. At present the principal output is in Jefferson County, which yields three-fourths of the total product, and in whose mines several thousand people are employed. This industry, in connection with the rapid growth in iron mining and manufacture, is most promising for the industrial future of the State. —*Population.* In 1890, the total population was 1,513,017, of whom 833,718 were white and 679,299 colored. The total population, white and colored, was estimated to be 1,600,000 on January 1, 1897.

Alaba'ma, a river in the above State. It is formed by the junction at Montgomery of the two rivers Coosa and Tallapoosa. It receives the waters of the Cahawba, and, flowing S.S.W., unites with the Tombigbee, 45 m. above Mobile bay, to form the river Mobibe. The *A.* is navigable from above its junction with the Tombigbee, by vessels drawing 6 feet, 60 m. to Claiborne; from Claiborne to the mouth of the Cahawba, 150 m., it has from 4 to 5 feet water; and from Cahawba to its head-branches it has about 3 feet, but it is subject to great alternations of depth according to the season and the rains.

Alaba'ma Claims, (THE.) *(Am. Hist.)* The name given to certain claims of American citizens against Great Britain. The claims in question have derived their name from having arisen, chiefly, though not exclusively, from the depredations of the Confederate privateer "Alabama," built and equipped in England, and suffered, through the laxity of the British govt., to leave her shores for the express object of preying upon American commerce during the Civil War—the sum-total of such claims involving several millions of dollars. For the peaceable adjustment of this question between the two governments, a Joint High Commission of an equal number of American and British Representatives met in Washington, 1871, which, after protracted deliberations extending over several months, concluded a treaty by which the question of the right of the United States to an indemnity, and the amount thereof, was to be decided by the arbitration of commissioners in a convention to be holden at Geneva, of representatives of all parties concerned.

Alaba'ma, in *New York*, a township of Genesee county, on the Tonawanda creek, 263 miles west of the city of Albany.

Al'abaster, *n.* [Gr. *alabastron.*] *(Min.)* A delicate white soft kind of marble, used for ornamental purposes. There are two kinds of alabaster: 1. A *Stalagmite*, or carbonate of lime, so much valued on account of its translucency, and for its variety of colored streakings, red, yellow, gray, &c. 2. A *Gypsum*, or hydrous sulphate of lime. It is easy to ascertain of which of the two kinds a vessel is composed; for *carbonate* of lime is hard, and effervesces if it be touched by a strong acid; but *sulphate* of lime does not effervesce, and is so soft that it may be scratched with the nail. The term alabaster is now generally applied to the softer stone. This last, when pure, is a beautiful semi-transparent snow-white substance, easily worked into vases, lamps, and various other ornaments. Alabaster may be *bronzed* by coating it once or twice with size, and touching it with a bronze powder, of which many different varieties are manufactured. By a judicious use of bronzing, very pleasing effects may be produced in an alabaster statuette. Alabaster may be *cleaned*, by washing with soap and warm water, and rinsing. It may be *polished*, by rubbing it with dried shave-grass, then with a paste of lime and water, and lastly with powdered talc. It may be *hardened*, by coating the surface with a mixture of plaster of Paris and gum-arabic; or by heating, cooling, steeping in water, drying, and polishing. It may be *stained* by the same materials and in the same way as marble. It may be *cemented*, when broken, by a mixture of quicklime and white of egg. And lastly, it may be *etched*, by covering it with an etching-ground composed of white wax, white lead, and oil of turpentine, and proceeding in the customary method of the etching process. The finest sort of *A.* is obtained from Valterra, in Tuscany. — See ALABASTRUM.

Alabas'trian, *a.* Pertaining to, or like, alabaster.

Alabas'trum, *n.*: *pl.* ALABASTRA. [Lat.] An alabaster vase for perfumes; so called from an anc. Egyptian town of that name, where there appears to have been a manufactory of small vessels or pots, made of a stone found in the mountains near the town. These vessels, ordinarily of a tapering shape, and often without handles, were em-

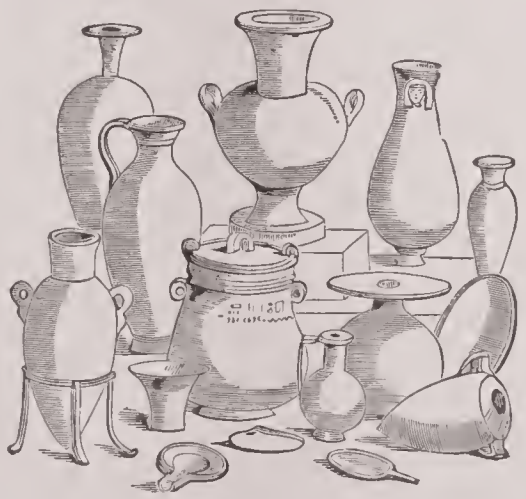


Fig. 67. — ALABASTRA.
(From the British Museum.)

ployed for containing certain kinds of perfumes used by the ancients in their toilets, and with which it was the custom to anoint the heads of their guests, as a mark of distinction, at their feasts. There are in Horace many allusions to this custom. In like manner, Mary, the sister of Lazarus, poured upon the head of our Saviour, as he sat at supper, "very precious ointment" from an *alabaster box.*

Al'abat, one of the lesser Philippines. E. of Luzon; lat. 14° N.; Lon. 122° 13′ E.

Al'abes, *n.* *(Zoöl.)* A gen. of fishes, ord. *Malacopterygii*, fam. *Apodes.* It consists of a single species of small size, a native of the Indian ocean, resembling the common Conger-eel (*Muræna*).

Al'achua, in *Florida*, a N.W. county, so named from a grassy and sandy plain in it. It is bounded on the N. by the Santa Fé river, and on the S. by Suwanee river, and contains some ponds and a part of the lake Orange. The surface is generally level and the soil fertile. *Area* about 1000 sq. m.; cap. Gainesville. There is a marshy plain in this co., nearly 25 m. in breadth and 50 in circumference, known as *A.* Savannah, which is supposed to discharge its waters by an underground passage into lake Orange.

Alack', *interj.* [A corruption of *alas!*] Alas; an exclamation expressing sorrow.

Alack'aday, *interj.* [For *alas the day!*] An exclamation noting sorrow and melancholy.

Al'acoque, MARGUERITE MARIE, a French nun, B. at Lauthecour, diocese of Autun, 1647, D. 1690. It is said that she had the gift of miracles, prophecy, revelation, and direct intercourse with God and the angels. The festival of the Sacred Heart of Jesus owes to her its origin.

Alacra'ue Islands, a cluster in the Gulf of Mexico, the proximity of which is generally avoided by navigators. Lat. 22° 23′ 1″ N.; Lon. 89° 42′ W.

Alac'rify, *v. a.* [Lat. *alacer*, lively, and *facere*, to make.] To rouse to action; to excite; to inspirit.

Alac'rious, *a.* [Lat. *alacris.*] Lively. (O.)

Alac'riously, *adv.* Cheerfully. (O.)

Alac'rity, *n.* [Lat. *alacritas.*] Cheerfulness; quickness; readiness; compliance; willingness. The idea of alacrity is compound, implying both physical and mental or moral activity, and is by usage almost entirely restricted to the ready performance of the wishes or commands of another.

Alac'ta, a river of Guatemala, running S., and nearly on the 86th meridian, into the N. side of the lake of Nicaragua.

Aladagh, a lofty mountain chain in Asiatic Turkey, between lat. 30° and 40° N. and lon. 30° and 44° E. On its N. side Eastern Euphrates takes its rise.

ALADAGH, a mountain range in Anatolia, N.W. of Angora. It extends between the Ischik Dagh on the N.E. and the Sangarius Valley, on the S. and W.

Aladau, a cluster of islands, in the Mergui Archipelago, Bay of Bengal. It is known also as the *Aldine* Islands.

Alad'inist, *n.* A free-thinker among the Mohammedans. The name comes from Aladin, a learned divine under Mahomet II.

Alæ'a. *(Myth.)* A surname of Minerva in Peloponnesus. Her festivals are also called Alæa.

Alæ'i, a number of islands in the Persian gulf, abounding in tortoises.

A la Francaise. [Fr.] After the French manner or fashion.

Al'aghcy, a mountain range and volcano of Armenia, in the plain of Araxes. Loftiest summits, 13,628 feet above the level of the sea.

Ala'goa, a district and town on the south shore of the island St. Michael, one of the Azores. *Pop.* of district, about 8,000.

Alago'as, a province of Brazil, between 9°–10° S. lon. and 36°–38° 30′ W. lat. Area, 9,000 sq. m. Up to 1840, it formed a part of Pernambuco. It is a mountainous country, and well-wooded over two-thirds of its surface. *Prod.*, tobacco, cotton, sugar, rice, maize, plantains, beans, pine-apples, oranges, and cocoanuts. The Mamona-tree is cultivated for its oil, and the timber-trees of *A.* are the best in Brazil. Other trees produce mastic, caoutchouc, copaiba, dragon's-blood, and ipecacuanha. *Pop.* 350,000.

ALAGOAS, former c. of the above province, of the western margin of the lake of Manguaba. It is situated in a fertile district, producing large quantities of sugar and tobacco. Lat. 9° 40′ S.; Lon. 35° 50′ W.

A'lagon, a river in Spain, prov. Estremadura. It descends from the Sierra d'Estrella, flows through the plains of Placencia, and joins the Tagus, above Alcantara, after a course of 70 m.

A la Greque. [Fr.] *(Arch.)* A term applied to one of the varieties of the ornament called the fret, used in cornices, floors, and other works.

A'lain, JOHN, a Danish author, who wrote *On the Origin of the Cimbri*, and other subjects. B. 1569; D. 1630.

Alain Charti'er, a French writer, who produced several pieces, the most esteemed of which is his *Chronicle of Charles VII.*, to whom he was secretary. Flourished at the beginning of the 14th century.

A'lain de l'Isle', surnamed the universal doctor; a divine of great reputation in the university of Paris. D. abt. 1202. His works were printed in 1658, folio.

A'lais, the anc. *Alesia*, a town of France, cap. of arrond., department of the Gard, on the Gardon, at the foot of the Cevennes, 25 m. N.W. of Nîmes. Lat. 47° 7′ 22″ N.; Lon. 3° 4′ 25″ E. — *Manuf.* Ribbons, silk stockings, and gloves. There are mines of iron and coal in the vicinity. During the religious wars of France, the inhabitants were distinguished by their attachment to the Protestant party. *Pop.* 19,676.

Alajue'la, a town of Costa Rica, Central America, situate to the S. of Castago. *Pop.* with environs, 8,000.

Alakanan'da, a river of Hindostan, considered sacred by the Hindoos. It rises in the Himalaya mountains, flows through the province of Gurwal, and at Devapryuga unites with the Bhagirathi, when it receives the name of the Gauges.

Ala'la. *(Myth.)* The goddess of war, sister to Mars.

Ala'lia. *(Anc. Geog.)* A town of Corsica, built by a colony of Phoceans. L. C. Scipio destroyed it in the first Punic war, B. C. 562.

Al'alite, *n.* *(Min.)* A variety of *Pyroxene*, q. v. It occurs in broad, right-angled prisms, of a clear green.

Al'amance, in *N. Carolina*, a northern county, so named from the creek Alamance, which unites there with the river Haw. It was formed in 1848 with a part of Orange co. *Area*, abt. 500 sq. m. Surface undulating; soil fertile. *Cap.* Graham. *Pop.* (1890), 14,613. It is crossed by the Central railroad.

Alama'nia, *n.* *(Bot.)* A genus of plants, ord. *Orchidaceæ.*

SCALE:
Statute Miles, 69.16 = 1 Degree
0 5 10 20 30 40 50 60 70
Rand, McNally & Co.'s 11 x 14 Map of Alabama.
Copyright 1895, by Rand, McNally & Co.
Longitude West from Greenwich.
GULF OF MEXICO
MISSISSIPPI SOUND
MOBILE BAY
Choctawhatchee Bay
TENNESSEE
GEORGIA
MISSISSIPPI
FLORIDA
Tuscumbia
Florence
Sheffield
Russellville
Moulton
Decatur
Athens
Huntsville
Madison
Scottsboro
Trenton
Chattanooga
Red Clay
Dalton
La Fayette
Summerville
Rome
Kingston
Cartersville
Cedartown
Rockmart
Marietta
Aberdeen
Fulton
Tupelo
Corinth
Ripley
Iuka
Jasper
Vernon
Fayette
Jacksonville
Anniston
Talladega
Sylacauga
Wedowee
Carrollton
Columbus
Starkville
West Point
Muldon
Artesia
Macon
Tuscaloosa
Centreville
Eutaw
Livingston
Meridian
Enterprise
Quitman
Butler
Linden
Demopolis
Camden
Greensboro
Marion
Selma
Montgomery
Union Springs
Tuskegee
Opelika
Auburn
Columbus
Waynesboro
Grove Hill
St. Stephen's
Evergreen
Monroeville
Brewton
Atmore
Pensacola
Milton
DeFuniak Springs
Crestview
Marianna
Blakely
Abbeville
Ozark
Elba
Geneva
Newton
Dothan
Eufaula
Clayton
Georgetown
Cuthbert
Fort Gaines
Edwardsville
Jacksonville
Piedmont
Heflin
Talladega
Wedowee
Carrollton
Newnan
La Grange
Greenville
Harris City
Troup
Hamilton
Lumpkin
Columbus
Museogee
Cusseta
Phenix City
Tuskegee
Seale
Opelika
Auburn
Loachapoka
Notasulga
Wetumpka
Prattville
Montgomery
Hayneville
Greenville
Troy
Elba
Ozark
Abbeville
Fort Gaines
Blakely
Dothan
Eufaula
Clayton
Georgetown
Cuthbert
Arlington
Camden
Selma
Marion
Uniontown
Demopolis
Linden
Meridian
Enterprise
Quitman
Butler
Waynesboro
Grove Hill
St. Stephen's
Evergreen
Monroeville
Brewton
Atmore
Pensacola
Milton
DeFuniak Springs
Crestview
Marianna
Blakely
Abbeville
Ozark
Elba
Geneva
Newton
Dothan
Eufaula
Clayton
Georgetown
Cuthbert
Fort Gaines
Edwardsville
Jacksonville
Piedmont
Heflin
Talladega
Wedowee
Carrollton
Newnan
La Grange
Greenville
Harris City
Troup
Hamilton
Lumpkin
Columbus
Museogee
Cusseta
Phenix City
Tuskegee
Seale
Opelika
Auburn
Loachapoka
Notasulga
Wetumpka
Prattville
Montgomery
Hayneville
Greenville
Troy
Elba
Ozark
Abbeville
Fort Gaines
Blakely
Dothan
Eufaula
Clayton
Georgetown
Cuthbert
Arlington
Camden
Selma
Marion
Uniontown
Demopolis
Linden
Meridian
Enterprise
Quitman
Butler
Waynesboro
Grove Hill
St. Stephen's
Evergreen
Monroeville
Brewton
Atmore
Pensacola
Milton
DeFuniak Springs
Crestview
Marianna

ALABAMA

Land area, 51,540 sq. m.
Water area, 710 sq. m.
Pop.....1,513,017
Male 757,456
Female .755,561
Native 1,498,240
Foreign .14,777
White...833,718
African .678,489
Chinese 48
Japanese.....3
Indian.....759

COUNTIES.

Autaugua...J 10
Baldwin ....Q 6
Barbour....M 15
Bibb.....I 8
Blount.....E 10
Bulloek.....L 13
Butler... ...M 10
Calhoun ....F 13
Chambers ...1 15
Cherokee...D 14
Chilton.....I 10
Choctaw ...M 3
Clarke.....N 5
Clay .....H 13
Cleburne ...F 14
Coffee .....O 12
Colbert.....B 5
Conecuh....O 8
Coosa .....I 11
Covington..O 10
Crenshaw ..N 11
Cullman....D 9
Dale .....O 14
Dallas .....K 8
Dekalb.....C 13
Elmore .....J 12
Escambia...P 8
Etowah ....D 12
Fayette.....F 5
Franklin....C 5
Geneva .....P 13
Greene .....I 5
Hale.....I 6
Henry .....O 15
Jackson ....B 12
Jefferson ...F 9
Lamar .....E 4
Lauderdale..A 5
Lawrence ..B 7
Lee .....J 14
Limestone..A 8
Lowndes ...L 10
Macon.....K 14
Madison....A 10
Marengo ...K 6
Marion .....D 5
Marshall....C 11
Mobile.....Q 4
Monroe.....N 7
MontgomeryL 12
Morgan.....C 9
Perry .....J 7
Pickens.....G 4
Pike .....M 13
Randolph...G 14
Russell .....K 15
Shelby.....G 10
St. Clair ....E 11
Sumter .....J 4
Talladega ..G 12
Tallapoosa ..I 13
Tuscaloosa.G 6
Walker .....E 7
WashingtonN 4
Wilcox .....M 7
Winston....D 7

CHIEF CITIES.

Pop.—Thousands.

31 Mobile...R 5
26 Birmingham G 10
22 Montgomery K 12
10 Anniston F 13
8 HuntsvilleB 10
8 Selma ....K 9
6 Florence..A 6
5 Bessemer.G 9
4 Eufaula ..M 16
4 TuscaloosaH 6
4 Opelika ...J 15
4 Phœnix ..K 16
4 New Decatur B 8
3 Troy .....M 12
3 Gadsden..D 13
3 GreenvilleM 10
3 Decatur ..B 9
3 Sheffield ..B 6
3 Fort Payne C 14
2 Tuscumbia B 5
2 Talladega G 12
2 Union Springs L 13
2 Marion....J 7
2 Demopolis K 5
2 Tuskegee.K 14
2 Evergreen.O 8
1 Oxford ...F 13
1 Auburn ...J 15
1 Tallassee..J 13
1 Lafayette .I 15
1 Attalla... D 12
1 Jacksonville E 14
1 Warrior ..E 9
1 Brewton..P 8
1 Eutaw.....I 5

Ala.—cont'd.

Pop.—Thousands.

1 Cullman ..D 9
1 Gainesville I 4
1 Bridgeport A 13
1 Clayton ..M 14
1 Columbia.O 16
1 ScottsboroB 13

Pop.—Hundreds.

9 Athens ...A 9
9 RussellvilleB 5
9 Dadeville I 14
9 UniontownK 6
9 Livingston J 4
8 Coalburg .F 9
8 Girard....K 16
8 Fayette C. H. F 5
8 Jasper....E 8
8 Childersburg G 11
8 Verbena ..J 10
8 Calera ....H 9
8 Shelby....H 10
7 Coaldale.E 10
7 Prattville.K 10
7 Piedmont.E 14
7 Blossburg F 8
7 Alexander City..I 13
7 Columbiana H 10
6 Geneva ...P 13
6 Ashland ..G 13
6 Roanoke .H 15
6 Clanton ...I 10
6 WetumpkaJ 12
6 Midway...L 14
6 Choccoloeco F 14
6 Hartsells .C 9
6 GoodwaterH13
6 StevensonA 14
6 Courtland B 7
6 MontevalloH 9
6 Newbern..J 6
6 Gurley....B 11
6 Carbon HillE 6
6 Ironaton .G 13
6 Oxmoor ..G 9
5 Daphne...R 5
5 Camden ..L 7
5 Newton ..O 14
5 Pine Apple M 8
5 Fort Deposit M 10
5 Helena ...G 9
5 Ragland ..E 12
5 Moulton ..C 8
5 Lowndesboro K 10
5 Redding..G 9
5 Guntersville C 11
5 BrundidgeN 13
5 Abbeville N 16
5 Sylacauga H 12
5 Madison ..B 9
5 Trussville F 10
5 HenryellenF 10
5 GeorgianaN 10
5 Luverne..N 12
4 Edwardsville F 15
4 Bladen Springs N 3
4 HurtsboroL 15
4 Hollins...H 12
4 Cottondale H 7
4 Midland City O 15
4 Headland.O 15
4 KirbycreekB12
4 York.....J 3
4 Northport.H 6
4 Dayton...K 6
4 Womack Hill M 4
4 Blount Springs E 9
4 Magnolia .L 6
4 Pollard ...P 8
4 St. Stephens N 4
4 Heflin ....F 14
4 Brookside F 9
4 Seddon ...F 12
4 Collinsville D 13
4 Camp Hill.I 14
4 Wedowee G 15
4 Hull .....H 6
4 Jemison...I 10
4 FitzpatrickL13
4 Loachapoka J 14
4 HaynevilleL 10
3 Center....D 14
3 Bozeman..J 10
3 Carrollton.H 4
3 Notasulga.J 13
3 Jenifer ...F 13
3 Sulligent .E 4
3 Brierfield.H 9
3 Ashville ..E 12
3 Rutledge .N 11
3 Kennedy..F 5
3 Hillsboro.B 8
3 Hammac..P 7
3 Seale .....K 16
3 Mitchell ..L 13
3 Gurnee...H 9
3 Thomasville M 5
3 Blountsville D 10
3 Louisville M 15
3 Tecumseh D 15
3 Randolph .I 9

Ala.—cont'd.

Pop.—Hundreds.

3 Elba .....O 12
3 Pickensville H 4
3 Stroud....H 15
3 Glenville .L 15
3 PerdueHill O 7
3 Monterey M 9
3 Pleasant Hill L 9
3 Andalusia O 11
3 Clio.....N 14
3 Benton ...K 9
3 Sloss.....G 9
3 Somerville C 10
3 New Market A 11
3 Chunehula Q 3
3 Stewarts ..I 6
3 Leeds.....F 10
2 Boaz.....D 12
2 Dothen ...P 15
2 Woodville B 12
2 Roekford .I 12
2 Centerville.I 7
2 Valley Head B 14
2 Mount Willing..L 10
2 CastleberryO 9
2 Grove Hill N 5
2 Cowarts ..P 15
2 Cuba .....K 3
2 Gordon ...P 16
2 Lincoln...F 12

Alaṃa'nes, a statuary of Athens, and a disciple of Phidias.

Alaman'ni. See ALEMANNI.

A'lamas, REAL DE LOS, a Mexican town in the department of Sonora, 135 m. N. of Sinaloa. *Pop.* abt. 8,000.

Alame'da, in *California*, a county forming the E. shore of San Francisco bay. *Area*, about 800 sq. m., nearly equally divided between mountains, valleys, and plains. The Contra Costa and Monte Diablo ranges cross this county from N. to S. The valleys and plains are covered with a rich loamy soil; 125,000 acres are under cultivation. County seat, Oakland; *pop.* in 1898, 112,100. About 2 miles from the old mission of San Jose, near the banks of the Agua Caliente (hot water) creek, are the Alameda warm springs. The fine climate and pleasant surroundings of the place render it one of the most popular resorts in the neighborhood of San Francisco.—*Alameda* creek, which gives its name to the county, rises in the Monte Diablo range, and empties, near Unionville, into San Francisco bay.

ALAMEDA, a city in the above county, near the San Leandro creek, 7 m. S. of Oakland, on the edge of a fertile and well cultivated plain. *Pop.* (1897) est. 15,100.

Alame'da, in *New Mexico* territory, a town of Bernalillo county, on the Rio Grande, 6 miles north of Albuquerque.

Alami're, *n.* [Formed of the names of notes *a la mi re.*] (*Mus.*) An Italian method to determine the key of *A*, by its dominant and subdominant, *A E D*. In the Gnidonian scale of music, a-la-mi-re is the octave above a-re, or *A* in the first space in the base.

Al'amo, in *California*, a post-village of Contra Costa co., 13 miles S.E. of Martinez.

Al'amo, in *Indiana*, a post-village of Montgomery co., 55 m. W. by N. of Indianapolis.

Al'amo, in *Michigan*, a post-township of Kalamazoo co., 70 m. W.S.W. of Lansing.

Al'amo, in *Texas*. See SAN ANTONIO.

Alamode', *adv.* and *a.* [Fr. *à la mode.*] After the fashion.

(*Cooking.*) *Alamode beef*, a piece of beef, larded and cooked on a slow fire with carrots, onions, and white wine.

—*n.* A thin, black silk, for hoods, &c.

Alamort', *a.* See AMORT.

Al'amos, (Los.) a town of Mexico, prov. of Sonora, 140 m. N.W. of Sinaloa. The district is famous for its silver mines. *Pop.* about 6,000.

Alamutch'a, in *Mississippi*, a post-village of Lauderdale co., 80 m. E. of Jackson.

Al'an, or CAMEL, a river of Cornwall, England, which rises a few miles north of Camelford, and joining the Bristol channel near Bodmin, forms the estuary of the harbor of Padstow.

Aland', *adv.* [From *a* and *land.*] At land; landed; on the dry ground.

"He only, with the prince his cousin, were cast *aland*."—*Sidney.*

A'land, a group of islands lying between the coasts of Finland and Upland, in Sweden. Lat. 60° 15′ N.; Lon. 20° E. Of the group there are about 80 inhabited, although the pop. on the whole is not more than 15,000. They were ceded, in 1809, by Sweden to Russia, and have become the usual station of the Russian fleet in the Baltic.— The chief island, which gives its name to the group, is a place of considerable importance, its length being about 18 m. from N. to S., and 14 from E. to W. *Area*, 28 square miles. It is mountainous, with a deeply indented coast-line with several excellent harbors, that of Yytternais being large enough to give shelter to the whole of the Russian fleet. The island has a vast citadel, with fortifications capable of protecting 60,000 men. *Pop.* 15,000. In the neighborhood of Aland was fought, in 1714, between the Swedes and Peter I., who obtained a complete victory, the first great naval action reported in the annals of the Russian marine.—On Aug. 16, 1854, Bomarsund, on the W. side of the principal island, was captured and its fortifications destroyed by the British fleet.—Steamers plying between Abo, in Finland, and Stockholm, take in wood at these islands.

A l'Anglaise. [Fr.] After the English manner or fashion.

Alan'giaceæ, ALANGIEÆ, ALANGIADS, *n. pl.* (*Bot.*) An order of epigynous exogen plants of the *Myrtales* alliance, including but 3 genera.—*Diagnosis*: 1-celled ovary, pendulous ovules, dotless leaves, albuminous seeds, and flat cotyledons. They are large trees or shrubs common in S. India. The species of the gen. *Nyssa*, q. v., are natives of the U. States.

Alan'gium, *n.* (*Bot.*) A genus of plants, ord. *Alangiaceæ*, common in South India. The *A.* are said to have a purgative hydragogic property, and to afford good wood and edible fruit.

Ala'ni, or ALANS. The name of several distinct tribes, which migrated from Asia at the time of the decline of the Roman empire, and settled in the countries north of the Euxine and the Caspian seas. A part of the tribe (about 375 A. D.) was conquered by the Huns: another part turned their steps toward the west, probably, drove the Vandals and Suevi from their abodes, and passed with them over the Rhine into France and Spain (about 407). The Visigoths drove them from hence or reduced them to subjection; and, since 412, they are lost among the Vandals, q. v.

Ala'nia, *n.* (*Bot.*) A genus of plants, ord. *Liliaceæ*.

Ala'nine, *n.* (*Chem.*) A base, isomeric with Lactamide and Urethane. It crystallizes in groups of colorless prisms, soluble in 4 or 5 parts of cold water. Its aqueous solution has a very sweet taste, and is without action upon test-papers. *Form.* $C_6H_7NO_4$.

Alan'thus Grove, in *Missouri*, a post-office of Gentry co., about 200 miles N.W. of Jefferson City.

Alan'tine, *n.* See INULIN.

Alapaha', in *Georgia*, a river flowing into the Suwanee.—*Also*, a post-village of Lowndes co., 262 miles S. of Milledgeville.

A la Polac'ca. (*Mus.*) See POLACCA.

Al'aqua, in *Florida*, a post-village of Walton co., about 125 m. W. by N. of Tallahassee, on a small river of the same name, which flows into Choctawatchee bay.

A'lar, *a.* [Lat. *alaris*, from *ala*, wing.] Looking like, or having, wings.

Ala'ra, a town in the Island of Majorca, 12 m. from Palma. Near it there are quarries of excellent marble. *Pop.* 4,000.

A'laraf. [Ar.] The name given by Mahometans to the wall which they say divides heaven and hell.

Alar'çon, JUAN RUIZ DE, a Spanish dramatic writer, born in Mexico about 1590: died in Spain, 1639. Though an author of great merit and well-deserved reputation, very little is known of his life. It is by the *Verdad Sospechosa* (suspicious truth) that he is best known to us. Corneille, who translated it into French under the title of *Le Menteur*, speaks of it in the highest terms. Molière in one of his letters to Boileau, says that he is greatly indebted to *La Verdad Sospechosa*. *A.* is undoubtedly one of the best dramatic writers of the genuine Spanish school.

Alarço'nia, *n.* (*Bot.*) A genus of plants, ord. *Asteraceæ* or *Compositeæ*.

Al'ares, the name given by the Romans to a kind of militia; or, according to some, to the cavalry stationed at the two wings, or *alæ*, of the army.

Al'aric I., king of the Visigoths; the least barbarous of all the conquerors who ravaged the Roman empire, and the first of them who gained possession of imperial Rome. Under his guidance, the Visigoths, the division of the Gothic nation to which he belonged, issued from Thrace, where they had been settled, and overran Greece, A. D. 396. Alaric took Athens, but he was soon compelled by Stilicho to evacuate that country, and to return into Epirus. About the year 398, Alaric, on the ground of his high military character, was proclaimed king of the Visigoths; and just about the same time Arcadius, the successor of Theodosius in the Eastern empire, alarmed at his repeated successes, attempted to identify his interests with those of the Empire by declaring him master-general of the eastern Illyrian prefecture. Thus he commanded a large part of the vast country situated between the Danube, the Adriatic, and the Black sea. The Visigoths who obeyed his orders had few claims to the civil character and stability of a nation. They threatened both empires equally at the same time, and sold their alliance to each alternately. Alaric at last determined to make his way into the empire of the West, for the purpose of establishing a kingdom by conquest.—In 403 he appeared before Milan, which was immediately evacuated by the Emperor Honorius. Completely defeated at last by Stilicho, *A.* was compelled to retire from Italy with the remains of his once powerful army. He now submitted to the Emp. Honorius, entered into his service, and for three years seems to have served this prince in Epirus. For this he demanded an extravagant reward, plainly intimating that war would be the consequence of a refusal. The demand was made in the year 408. The majority in the senate were for war, but by Stilicho's advice, it was determined to buy off the enemy by a contribution of $100,000 weight of gold. While the Visigoths were at the foot of the Alps, the cowardly and weak Honorius procured the assassination of Stilicho, the only man who could still have defended the empire. Those Visigoths who were serving in the pay of the empire had left their wives and children in the Roman cities: they were all massacred at the same time. *A.* advanced with his army and invested Rome. An application for terms was made on the part of the Romans, with an intimation that if once they took up arms they would fight desperately. *A.* returned this pithy answer: "The closer hay is pressed, the more easily it is cut." He demanded all the wealth of Rome. The ambassadors asked what he would leave to the inhabitants. "Their lives." He at length, however, consented to retire, on condition of receiving a heavy ransom. Negotiations took place between Honorius and *A.*, in Ravenna, with a view of putting an end to the war; but the parties could not agree, and *A.* besieged Rome a second time, in 409. The imposing name of the Eternal City seemed to inspire the barbarian with involuntary respect. He endeavored to save it from the consequences to which he was otherwise pledged, by erecting a new emperor in the person of Attalus, præfect of the city; but the weakness of Attalus rendered it necessary for the Visigoth conqueror to undo the work of his own hands; and Honorius was reinstated on a powerless throne. A treacherous attack on the Goths at Ravenna, while the conferences were still open, exhausted the patience of *A.* The city was a third time besieged, and *A.* entered Rome at midnight on the 24th August, 410, when he gave the town up to be pillaged for six days, but with orders to his soldiers to be sparing of blood, to respect the honor of the women, and not to burn buildings dedicated to religion. After the limited period of plunder and vengeance, he hastened to withdraw his troops, and to lead them into the southern provinces of Italy. But he died in the course of a few months, after a very short illness, while besieging Cosenza in Calabria, A. D. 410. His death produced a temporary reconciliation between the Visigoths and the emperor.

ALARIC II., king of the Visigoths, slain in the famous battle which he fought with Clovis, king of France, near Poitiers, in 507. He left behind him a regularly drawn up system of legislation, which is known as the Breviarium Alariciauum.

Alar'ka, in *N. Carolina*, a post-office of Macon co.

Alarm', *n.* [Fr. *alarme*, from It. *all'arme*, a cry "to arms."] A sudden surprise occasioning fear or terror;—an outcry intimating the approach of danger;—a mechanical contrivance for rousing persons from sleep; a reveille.

(*Mil.*) The apprehension of being attacked, or the notice given of a sudden attack, as by firing a rifle, &c. a war-cry,

Alarm', *v. a.* [Fr. *alarmer.*] To call to arms at the approach of a sudden danger.—To frighten with the apprehension of any danger.

Alarm'-bell, *n.* A bell which is rung for giving notice of any danger, fire, &c.

Alarm'-clock, *n.* A clock which has a particular ringing at a given hour.

Alarm' Fork, in *Missouri*, a village of Oregon co., 15 m. S. of Thomasville.

Alarm'-gun, *n.* A gun fired to give notice of a sudden attack.

Alarm'ing, *p. a.* [From *alarm.*] Terrifying; awakening; as, an *alarming* message.

Alarm'ingly, *adv.* In an alarming manner.

Alarm'ist, *n.* [Fr. *alarmiste.*] One who is easily alarmed at the first whisper of bad news, who industriously circulates it, and exaggerates its probable consequences.

(*Polit.*) One who fears any change of policy, or alteration of received forms.

Alarm'-post, *n.* (*Mil.*) A place where a body of men are ordered to appear at the first alarm.

Alarm'-watch, *n.* A watch made so as to call attention at any given time by rapid strokes.

Ala'rum, *v. a.* and *n.* [Corrupted from *alarm.*] The same as *alarm*, but only in the sense of awakening attention in case of danger. (o.)

Al'ary, *n.* [From Lat. *ala*, a wing.] Of the nature of a wing.

Alas', *interj.* [A.S. *eala*; Fr. *helas.*] An exclamation expressing lamentation, pity, sorrow, or concern.

"*Alas!* how little from the grave we claim."—*Pope.*

Alas the day! Ah, unhappy day!—*Alas the while!* Ah, unhappy time! (*Obs.*)

Al' Ashari, ABUL HASSAN ALI-EBN-ISMAEL, B. at Bassorah, A. D. 860, D. abt. 935. He was the founder of the sect of Asharites, whose distinguishing doctrines were: 1, that the attributes of God do not admit of a comparison between the Creator and his creatures; 2, that a believer, who has committed a sin, and dies without repentance, does not necessarily go to hell, but may still be the object of divine clemency.

A'la-Shehr, (the anc. *Philadelphia,*) a town of Turkey in Asia, prov. Anatolia; the seat of one of the Apocalyptic churches. It is held so sacred, even by the Turks, that they occasionally convey their dead thither for interment, from Constantinople, and apply to it the epithet of *Ala*, or the exalted. (Ala-Shehr, *the exalted city.*) Philadelphia derived its name from Attalus Philadelphus, by whom it was founded in the 2d century B. C. It was the last city that submitted to the Turks in 1390.—It is situated 83 m. E. of Smyrna, partly in the plain, and partly on one of the roots of Tmolus. Above the town and at a considerable elevation, stand the ruins of the old Acropolis. Ala-Shehr is the seat of a Greek archbishop, and divine service is regularly performed in 5 Christian churches.—*Pop.* 15,000.

Alas'ka, a territory of the United States, is the most northern part of the American continent. It is bounded on the north by the Arctic Ocean, east by British Columbia and the Northwest Territories, south by the Pacific Ocean, and west by Behring's Strait and the North Pacific. Its extreme east and west points are in Lon. 141° W. and Lon. 187° 34′ W.; extreme north and south points, Lat. 71° 27′ N. and Lat. 51° 19′ N. Its area is estimated at 577,000 sq. m. This vast region is naturally divided into Southeastern *A.* and Western *A.*, the dividing line being the 141st meridian from Mt. St. Elias to the Arctic Ocean. Southwestern *A.* consists largely of islands lying near a narrow strip of mainland, both being deeply indented by numerous fiords. The most important islands are Prince of Wales, Baranof, Admiralty, Douglas, Chichagof, Kupreanof, and Kuin. From the southern part of Western *A.* projects the Alaska peninsula, east of which lie the important islands of Kadiak and Afognak. The Aleutian Islands stretch far out into the Pacific like a continuation of this peninsula. To the north of the Aleutian islands lie the noted Pribyloff or Seal Islands. All of these islands are mountainous and show signs of volcanic action. The principal Aleutian islands are Unimak, Unalaska and Attu (most western point of United States). St. Lawrence, west of the entrance to Norton Sound, and St. Matthews, north of Pribyloff Islands, are also large islands. The coast line of *A.*, over 11,000 miles in extent, is broken by numerous inlets and the large bays of Prince William's Sound, Cook's Inlet, Bristol Bay, Kuskokwim Bay, Norton Sound and Bay, and Kotzebue Sound. The surface of the *A.* mainland consists of a narrow coast plain, bordered by mountains beyond which are great river valleys and vast plains. The northern half is low, with morasses along streams, running back into low rolling hills. Mt. Wrangel, the highest Alaskian peak, is estimated from 19,000 to 20,500 ft.; Mt. Fairweather, 15,500 ft.; Mt. Crillon, 15,000 ft.; Mt. Perouse, 14,300 ft. There are thirty or more volcanoes, six or eight now active, the chief among them being Mt. Shishaldin and Mt. Pogrumnoi on Unimak Island, Mt. Makushin on Unalaska Island, and Mt. Pavlof. Many great glaciers also diversify the landscape. Muir glacier, flowing into Glacier Bay, has a front three miles wide. The Yukon,

the longest river of *A.*, and one of the largest in the world, is 1,650 miles from the confluence of its two branches, the Lewis and the Pelly, to its mouth in Norton Sound; its mouth is sixty miles wide. Its chief tributary from the south is the Tanana, from the north the Koyukuk. (For description of this river system see YUKON.) Other large rivers are the Stickeen, the Alsek, the Copper, the Sushutna, the Nushagak and the Kuskokwin. The settlements are principally in two groups; one on the southwestern islands, the other on Kodiak Island and around Cook's Inlet. Juneau, on the coast, 100 m. N. E. of Sitka, is the metropolis and the outfitting station for miners, and has (1898) a population of some 2,500. Karluk, situated on Kodiak Island, has a population of nearly 2,000. Sitka, the territorial capital, on Baranof Island, *pop.* (1898) 1,650; Kodiak, on Kodiak Island, was the capital of Russian America, *pop.* (1898) 500. Douglas, on Douglas Island, in a valuable mining district, *pop.* (1898) 500.—*Climate.* The coast of *A.* is washed by the warm Japanese current and has, in consequence, a milder climate than the same latitude on America's east coast. The average temperature at Sitka is 46°, and its harbor is never closed by ice. The rainfall, however, is excessive, being 90 inches or more yearly, and heavy fogs prevail along the coast. In the interior the air is drier and colder, with great extremes of temperature, the heat in the short summer being intense.—*Products.* Any of the agricultural products of northern Scotland may be raised in *A.* There are vast forests of valuable timber, spruce, hemlock, red and yellow cedar being most abundant. The Aleutian Islands are destitute of trees, but are covered with a luxuriant growth of grass. Of vegetables, potatoes are most cultivated, but radishes, lettuce, carrots, onions, cauliflower, peas, turnips, beets and celery give good crops. Cranberries, strawberries, raspberries and blueberries grow wild. Oats, barley and wheat have been raised on Stikeen river, but cereals do not mature on the coast. Hay will probably be the most valuable crop, and stock raising may yet prove profitable, the grassy plains being utilized for sheep and cattle, and the tundra region for grazing reindeer. The fisheries are very important. Nowhere else is salmon as abundant. In 1895 there were 36 canneries, some of them with an output of from 40,000 to 60,000 cases of four dozen 1-lb. cans a year. Cod, halibut, herring, oohkon, or candle fish, clams, mussels, and crabs are plentiful.—*Fauna.* Both land and sea animals are numerous. The hair seal is found in great numbers and constitutes the chief food supply of the natives. There are also whales, walrus, sea-otters, beavers, bears, deer, mink, foxes, wolverines, &c. The fur seal industry, which, until the recent gold finds, was the most important in *A.* has been greatly injured by the indiscriminate slaughter carried on by poachers. At the present rate of destruction the seal will soon be exterminated. Various but ineffectual measures have been adopted to prevent this result. At the Paris Tribunal, 1893, it was made illegal to use firearms or explosives in Bering Sea or to kill the seal within sixty miles of Pribyloff Islands, their breeding place. A close season for May, June, and July was also decreed. The recent legislation (January, 1898) against the importation of sealskins has received much unfavorable criticism. *Minerals.* Gold was discovered in *A.* at an early date; it was mined near Sitka, in 1873, and the Alaskan Mill and Mining Company's 120-stamp mill and chlorination works, on Douglas Island, across the bay from Juneau, have been running night and day for five years. They ship $100,000 monthly in gold bricks. But no earlier discoveries of the precious metal produced anything like the interest excited in the Klondike gold field. (See KLONDIKE and YUKON RIVER.) *A.* has other valuable minerals; large coal beds, rich deposits of copper, also silver, iron, galena, petroleum, pure white statuary marble, and a quicksilver mine.—*History.* Vitus Bering, a Dane, in the employ of the Russian government, discovered the strait between the two continents, 1728. Cook and Vancouver explored its shores. It remained in Russian possession—a vast preserve for fur-bearing animals—until 1867, when it passed into the hands of the United States. The name *A.*, (in the aboriginal *al-ak-skak*, a great country) was suggested by Charles Sumner and adopted by Secretary Seward who was the active agent in the purchase of the country for $7,200,000. From 1867 to 1884 *A.* had little regular government. The only officials stationed in the country were custom officers who had authority to call on the military and naval forces for assistance when necessary. In 1881 an effort was made to secure civil government. A delegate was selected to represent *A.* in Congress, but he was not allowed to take his seat. In 1884, the act called "The Organic Act of Alaska" became a law. This provided for the appointment of a governor, a district judge, clerk of the court, marshal, collector, and four United States commissioners, one of whom is to reside in each of the principal towns of the territory, the other officers to reside at Sitka, which was made the capital. All officers to be appointed by the President. The districts into which *A.* is divided with their populations, from the census of 1890, are as follows:

District 1, or Southeastern, ...	8,038
District 2, or Kadiak	6,112
District 3, or Unalaska	2,361
District 4, or Nushagak	2,726
District 5, or Kuskokwim	5,424
District 6, or Yukon	3,912
District 7, or Arctic	3,222
TOTAL,	31,795

Whites, 4,303; mixed (Russian and native), 1,819; Indians, 23,274; Mongolians, 2,287; others, 112.

The natives are divided into many subtribes, as Hoonahs, Tongas, Sitkas, Chinooks, Chilcats, &c., and the subtribes again have been classified as belonging to three groups:

I.—Innuit, or Eskimo race, along the margin of all *A.* from the British boundary on the Arctic to Norton Sound, the Lower Yukon, and Kuskoquin, Bristol Bay, the Alaska Peninsula, and Kodiak Island.

II. The Indians proper, spread over the vast interior in the north, reaching down to the seaboard at Cook's Inlet and the mouth of the Copper river, and lining the coast from Mount St. Elias southward to the boundary, and peopling the Alexander Archipelago.

III.—The Aleutian race, extending from the Shumagin islands westward to Attu.

Alasma'don, *n.* (*Zoöl.*) A name of some bivalve mollusca, as the fresh-water Pearl Mussel, *Myamargaritifera.*

Alas'sio, a seaport of N. Italy, prov. Genoa, 5 m. S. of Albenga. Fine coral is fished on the coast. *Pop.* 4,644.

A'latæ, *n. pl.* (*Zoöl.*) A family of mollusca, belonging to the secoud section of the ord. Trachelipoda, containing the genera *Rostellaria, Pterocera, Strombus,* &c. The shells of this family are distinguished by the spreading of the outer lip.

Ala'-Tagh, a mountain-chain of Asiatic Turkey, dividing the two heads of the Enphrates as it runs westward from Mount Ararat. Lat. between 39° and 40° N.; lon. betweeu 39° and 44° E.

Alatamaha', or ALTAMAHA, in *Georgia*, a river formed by the junction of the Ocmulgee and Oconee, both of which rise in the spurs of the Alleghany mountains. After the junction, the *A.* becomes a large river, flowing with a gentle current through forests and plains, 120 miles, and runs into the St. Simon Sound by several mouths, 60 miles S.W. of Savannah. Large steamboats ascend the Oconee brauch to Milledgeville, and the Ocmulgee to Macon, about 300 miles from the ocean by the windings of the rivers.

A'late, ALATED, *a.* [Lat. *alatus*, from *ala*, a wing.] (*Bot.*) Winged. Applied to stems and leaf-stalks, when the edges or angles are longitudinally expanded into leaf-like borders; as in *Œnopordium acanthium; Lathyrus latifolius,* &c., and the leaf-stalk of the orange tribe, citrus, &c.

(*Anat.*) Having prominent shoulder-blades, like the wings of birds.

A latere. [Lat., *from the side.*] Applied to the highest class of envoys from the Pope, who are sent, as it were, directly from his *side.*

Alater'nus, *n.* [Lat. *ala*, a wing, *terni*, three.] (*Bot.*) A name of the gen. *Rhamnus*, ord. *Rhamnaceæ;* q. v.

Ala'tri, a town of Central Italy, prov. Frosinone, 6 m. N.E. of the town of Frosinone. The country abounds in vines and olives. *Pop.* 11,370.

Ala'tyr, a town of Russia in Europe, gov. of Simbirsk, at the confluence of the Alatyr with the Sura, 90 m. N.N.W. of Simbirsk. *Pop.* about 15,000.

Alau'da, *n.*, or ALAUDI'NÆ, *n. pl.* [Lat., a lark.] (*Zoöl.*) The larks, a genus of granivorous singing-birds, ord. *Incessores*, fam. *Icteridæ*, of which there are many species, found in all parts of the globe. They are characterized by a long and straight hind claw, a strong

Fig. 69.—SKY-LARK (*Alauda arvensis.*)

straight bill, and by being able to raise the feathers on the back part of the head into the form of a crest. The greater part of them are migratory; they always build their nests on the ground, and may be considered as peculiarly birds of the fields and meadows.

Alau'sa, *n.* (*Zoöl.*) A genus of malacopterygious fishes, of the *Clupeidæ* or *Herring* family. The *American Shad*, which ascends the rivers of S. Carolina in winter and those of the Middle States in March, and the *Saury* of the Atlantic, are members of this genus.

Ala'va, *n.* One of the three Basque provinces of Spain, included in the new province of Vascongadas, mountainous and rich in iron-mines. Lat. between 42° 20′ and 43° N.

Alb, AL'BA, or AL'BE, *n.* [From Lat. *albus*, white.] A vestment of white linen, hanging down to the feet, worn by the Roman Catholic ecclesiastics, and answering to the surplice of the Episcopal clergy. In the ancient church, it was worn for eight days by the newly baptized, who for this reason were called *albati;* and the Sunday after Easter being that on which the Catechumens usually received baptism, was called *dominica in albis*, or Whitsunday.

Al'ba, in *Illinois*, a township of Henry co.

Al'ba, in *Minnesota*, a post-village of Fillmore co., about 20 m. W.S.W. of Preston.

Al'ba, in *Missouri*, a post-village of Jasper co., about 11 m. N.W. of Carthage.

Al'ba, in *Pennsylvania*, a post-village of Bradford co., 143 m. N. by E. of Harrisburg.

Al'ba, DUKE OF. See ALVA.

Al'ba Longa. (*Anc. Geog.*) A considerable city of Latium, founded by Ascanius, son of Æneas, B. C. 1152. It was the birthplace of Romulus, under whose dominion it fell, in consequence of the victory of the Romans in the contest between the Horatii and the Curiatii. It was situated on the opposite side of the lake Albano where the new town of Albano stands.—There was also a city of Alba near the Lacus Fucinus; an *A. Pompeia* in Liguria; and an *A. Julia*, now Weissenburg, in Transylvania.

Al'ba, SYLVIUS, son of Latinus Sylvius, succeeded his father in the kingdom of Latium, and reigned 36 years.

Al'ba de Tormes, a town of Spain, on the Tormes, 14 m. from Salamanca. *Pop.* 2,300.

Al'bacete, a town of Spain, cap. of prov. of *A. area* of prov. 5,972 Sq. M. *Pop.* 222,028.

Al'bacore, or ALBICORE, *n.* (*Zoöl.*) See BONITO.

Al'ban, (St.,) the first Christian martyr in Great Britain, lived in the 3d century. After having served seven years as a soldier under the Emperor Diocletian, he returned to Britain, embraced Christianity, and suffered martyrdom in the great persecution of Diocletian. Numerous miracles are attributed to this saint.

Alban's, (St.,) a small and ancient borough of England, Hertford co., 20 miles N.N.W. of London, by the London and North Western railway. It is the ancient Roman *Verulamium. Pop.* of parish, 3,679. The abbey church is the most imposing object in the place. It was built in 796, in honor of St. Alban, by the king Offa. Of this first abbey there remains but a gateway. The present abbey is an object worthy the attention of the antiquarian and the student of architecture. It is built in the form of a cross, running 547 feet from east to west, and having a breadth of 206 feet, at the intersection of the transept. Its tower has an elevation of 146 feet, crowned with battlements, and is one of the most perfect parts of the building. Every style of architecture, from the time of the Romans to that of Henry VII., may be traced in it. The abbot of St. Alban's was mitred, and as a peer of the realm had a seat in Parliament. He took precedence of all other English abbots from the time of Pope Adrian IV., *q. v.*—Near the town of St. Alban's, two battles were fought between the houses of York and Lancaster. In the first, May 22, 1455, Richard, Duke of York, obtained a victory over Henry VI. In the second, Feb. 2, 1461, Margaret, of Anjou, defeated the army of the Yorkists, commanded by Warwick.

Al'ban's Head, (St.,) a cape of England, on the coast of the county of Dorset, 441 feet above the level of the sea. Lat. 50° 4′ N.; Lon. 2° 10′ W.

Alba'nese, an Italian musician of high reputation. D. at Paris, 1800.

Alba'ni, a powerful family of Rome, which has supplied the Catholic church with several cardinals. Two of them are well-known as patrons of the fine arts.—1. *A.*, ALESSANDRO, B. 1692; D. 1779; he was a great virtuoso, and possessed a collection of drawings and engravings which, at his death, was purchased by George III. for 14,000 crowns.—2. *A.*, GIOVANNI FRANCESCO, nephew of the former, B. 1720, a great friend to the Jesuits, but in other respects liberal and enlightened. His palace was plundered by the French in 1798, when he made his escape to Naples, stripped of all his possessions. D. 1803.

Alba'ni, FRANCESCO, a famous Italian painter, B. at Bologna, 1578, was a scholar of Guido. He was fond of representing the fair sex, and his compositions, in love subjects, are held in high esteem. The most celebrated of his productions are: *The Sleeping Venus; Diana in the Bath; Danaë reclining; Galathea on the Sea; Europa on the Bull.* He has been called the *Anacreon* of painters. It is said that his second wife, who was very beautiful, and his children, served as models for his Venuses and Cupids. D. 1660.—His brother and disciple, Giovanni Battista, was a distinguished historical and landscape-painter. D. 1668.

Alba'nia, a country of European Turkey, stretching along the coast of the Adriatic and Mediterranean seas, between 38° and 43° N. Lat. and 10° 49′ to 21° 50′ E. Lon. Its area is estimated at about 13,800 sq. m. It is a country extremely mountainous, cut up into deep ravines, and presenting all the characteristics of sublimity, in a scenic point of view. The mountains of the Khimára—the former Acroceraunian—running in a N.W. direction parallel to the coast, and the S. chain of the Tzumerka, attain an elevation of 4,000 feet above the level of the sea.—*Rivers.* Although there are many streams in *A.*, they are neither so large nor important as to require particular notice.—*Lakes.* The Okhrida, the Scutari, the Butrinto, and the Joannia, which last is estimated at 3 miles wide and 12 long.—*Climate.* Variable, but on the whole healthy. Spring cannot be said to commence before the middle of March; but the heat of the months of July and August is excessive. September is the vintage season, and the December rains are succeeded by sharp frosts in January.—*Wild Animals.* The wolf, the bear, and the jackal. *Dom. Animals.* Horses, asses, sheep, oxen, and goats. The horses are small, but active and spirited.—*Prod.* Barley, maize, oats, cotton, and tobacco. In fruits, the grape, orange, lemon, fig, pomegranate, and mulberry are grown.—*Manuf.* Carpets, embroidered velvets, cloths, and stuffs. The wild

NEW OFFICIAL MAP

OF

ALASKA

SHOWING ALSO

BRITISH COLUMBIA

WITH PORTIONS OF NORTHWEST TERRITORIES, ATHABASCA, AND ALBERTA,

WITH ROUTES TO THE KLONDIKE DISTRICT IN RED.

Gold

Coal

FROM SEATTLE AND SAN FRANCISCO

TO DUTCH HARBOR

Scale of Miles.

20 10 0 20 40 60 80 100 120 140 160 180 200

Rand-McNally New 18 x 24 Map of Alaska.

Longitude West from Greenwich.

Copyright, 1897, by Rand, McNally & Co.

character of their country, and the imperfect state of their civilization, however, render the Albanians foes to the arts of peace generally. Their trade principally consists of exchanging the natural productions of their own for the manufactured goods of other countries.—*Inhabitants.* The Albanians, or Arnauts, are supposed to have sprung from the Illyrians. They are an active, muscular race, seldom exceeding five feet six inches in height, and capable of undergoing great fatigue. Their faces are long and oval, their noses sharp, thin, and straight; their mouths small, their eyes a lively blue or hazel, but rarely a black. Their attachment to their mountains is great, and, as they alt carry arms, it is difficult to distinguish the peasant from the soldier. They are mostly robbers, a profession among themselves not considered disgraceful. Their women are tall and strong; but as they are kept in great subjection, and viewed in the light of cattle, they are made to labor as much, and are often unmercifully used.—*Hist. A.* was formerly an independent kingdom, governed by its own princes, the last of whom was the celebrated Georges Kastriote or Castriot, better known by the name of Scanderbeg, who died in 1466 or 1467. *A.* was conquered by the Turks in 1467. By the treaty of Berlin (1878) several districts of *A.*, measuring 661 sq. m., have been annexed to Montenegro.—*Rel.* The inhabitants are, generally, Christians, of the Greek church, but many are Mohammedans. *Pop.* 1,300,000.

Alba'nian, *n.* A native of Albania.

—*a.* Belonging or relating to Albania.

Alba'no, a town of Italy, in the Campagna di Roma, 14 m. S.S.E. of Rome. *Pop.* 6,000. It was built on the site of the villa of Pompey. It stands at a short distance from the lake.

Lake of Albano, situated to the N.E. of the above town; it has the form of an irregular ellipse, and occupies probably the crater of an extinct volcano. Eels of immense size, and highly esteemed, are found in it. On the banks of the lake is Castel Gandolfo, the country residence of the Popes. The *A.* Lake is 7 m. in circumference; its surface is 915 feet above the level of the sea, and its depth about 1,000 feet. An emissary, designed to prevent the sudden overflowings of the lake which threatened the plain below, was constructed by the Romans B. C. 397; and it remains unimpaired to this day,—a striking monument of the genius and perseverance of that extraordinary people. They bored the mountain for the space of more than a mile, mostly through the solid rock; the tunnel is six feet high and about four feet in breadth. It was completed in less than one year. The water of this emissary flows into the Tiber below Rome.

Albano Mountain, or *Alban Mount,* to the E. of the above lake. It is about 3,176 feet in height. The view from its summit, extending over Latium, is one of the most magnificent that can be imagined. It is the *Mons Albanus,* now *Monte Cavo.* It was crowned by a temple in honor of Jupiter Latialis, where sacrifices annually were offered up by deputies from the various Latin States, to their common father and protector.

Al'bany, Louisa, Countess of, daughter of Prince Stolberg, of Gedern, in Germany, b. 1753, married in 1772, the adventurous Charles Edward Stuart, *q. v.* The countess being much younger, the match was ill assorted, and she retired to a convent. Subsequently she went to France, but on the death of her husband, in 1788, she settled in Florence. Here she secretly allied herself by marriage to Count Alfieri, the poet, taking the title of Countess of Albany, as the relict of the last of the Stuarts. Alfieri died in her house, and in 1810 she erected to his memory, in the church of Santa Croce, a monument executed by Canova. She was possessed of a refined mind, loved literature and the arts, and while in Florence, her house was the resort of the most cultivated and distinguished persons. D. 1824.

Al'bany, Albainn, or Albinn, a name anciently given to the Highlands of Scotland. See Albion.— The title of Duke of Albany was conferred, in 1398, on the brother of King Robert III.; and subsequently on Alexander, second son of King James II.; on Henry, Lord Darnley; on Charles I. and James II., when infants; and on Frederick, second son of George III. Prince Charles Edward Stuart assumed the appellation of Count Albany as an incognito title.

Al'bany, in *New York,* a N.E. county, bounded on the E. by the Hudson, and on the N. by the Mohawk, but principally drained by the Norman-kill and Catskill creeks. *Area,* about 483 square miles. The surface is level or slightly undulating along the rivers, but rough and mountainous in the W. and N. The soil, fertile along the Hudson, is generally sandy in the interior. Organized in 1683; *Cap.,* Albany; *Pop.* (1890), 164,155.

Albany, the cap. of the above county, on the W. bank of the Hudson river, at the head of sloop navigation, and near the head of tide-water. Lat. 42° 39′ 49″ N.; lon. 73° 44′ 23″ W; 141 miles N. of New York, 164 W. of Boston, 370 N.E. of Washington, and 230 S. of Montreal. *A.* is the legislative capital of New York, and in population, wealth, and commerce, the fourth city in that State. The old parts of the town were not laid out with much regularity, but the recent streets are spacious and regular. Among the public buildings are the new State capitol (*see Fig.* 1946), which, if not the finest, is certainly among the most costly structures of its kind in the world; the old State hall, a fine structure of white marble, the new post-office, the city buildings, &c. Albany is celebrated among the American cities for its educational and literary institutions. The principal are: the University, an institution of a high character, embracing all departments of science, and connected with the splendid Dudley Observatory; the Institute for the Collection and Diffusing of Scientific Information; the State Normal School; the Young Men's Association, etc. Besides the valuable libraries pertaining to these institutions,

Fig. 70. — DUDLEY OBSERVATORY.

there is the State Library, connected with the Capitol, and numbering 100,000 volumes.—About twenty daily or weekly papers are published in *A.*—There are 80 churches, the most imposing and prominent being the Catholic and Protestant Episcopal Cathedrals, each situated on a commanding eminence.—*Commerce. A.* is favorably situated as a commercial town. It is connected by railroad with the principal places in the Union, and an immense amount of freight arriving by the Erie and Champlain canals, here enters the Hudson river. The principal articles of commerce are grain, cattle, and lumber, enormous quantities of which pass through the city annually. Besides its transit trade, *A.* has numerous and extensive iron-foundries, 2 large blast-furnaces, several large boot-and-shoe factories, 15 breweries and as many malt-houses, and large manufactories of pianos, card-board, metallic wares, glazed and colored papers, &c. —*Hotels.* There are a number of popular hotels, several of which are classed with the best of the country.—The Indian name of *A.* was *Scho-negh-ta-da,* signifying "over the plains." In 1613, the first European vessel—the *Half Moon,* Capt. Hendrick Hudson—ascended the Hudson as far as *A.* In 1614 the first settlement was made by the Dutch, who established on Boyd's Island a trading-post and fort, which was successively named Fort Orange, Beaverwyck, Williamstadt, and the Fuyck. In 1664 it came into the possession of the English, who gave it its present name, after James II., at that time Duke of York and Albany. In 1686, *A.* was organized under a charter as a city. In 1797, *A.* became the capital of the State; but the introduction of steamboats on the Hudson, and the completion of the Erie Canal, have been the true sources of its prosperity. Albany is the seat of a Catholic and of a Protestant Episcopal bishop. It is governed by a mayor and nineteen aldermen, and is divided into 17 wards. *Population* in 1800, 5,289; in 1850, 50,763; in 1870, 69,422; and in 1890, 94,923; now (1897) estimated at over 100,000.

Al'bany, in *Georgia,* a town of Dougherty county, on Flint River, and at the mouth of Kinchafoonee Creek, 120 miles S.W. of Milledgeville. Steamboats ascend the river from the Gulf of Mexico to this place. There are shipped annually from this place about 12,000 bales of cotton.

Al'bany, in *Illinois,* a township of Whitesides co., on the Mississippi river, 178 miles north by west of Springfield.

Al'bany, in *Indiana,* a post-village of Delaware co., about 10 miles N.E. of Muncie.

Al'bany, in *Iowa,* a post-village of Davis co., about 16 miles S.W. of Ottumwa.—*Also,* a village of Fayette co., on the Volga river, about 9 miles S. by E. of West Union.

Al'bany, in *Kansas,* a post-village of Nemaha co., 75 m. N.W. of Leavenworth.

Al'bany, in *Kentucky,* a township, cap. of Clinton co., 126 m. S. of Frankfort.

Al'bany, in *Louisiana,* a village of Caddo parish.

Al'bany, in *Maine,* a post-township of Oxford co., 25 miles W. by N. of Paris.

Al'bany, in *Missouri,* a town, capital of Gentry co., on the W. fork of Grand river, 45 miles N.E. of St Joseph.

Al'bany, in *New Hampshire,* a post-township of Carroll co., 60 miles N. by E. of Concord.

Al'bany, in *Ohio,* a village of Athens co., about 44 miles E. by S. of Chillicothe.—A post-village of Tuscarawas co.

Al'bany, in *Oregon,* a city, and the capital of Linn co., at the junction of the rivers Willamette and Callapooya, about 25 miles S. of Salem.

Al'bany, in *Pennsylvania,* a post-township of Berks co. —*Also,* a township of Bradford co.

Al'bany, in *Tennessee,* a post-village of Greene co., 106 miles W. of Nashville.

Al'bany, in *Vermont,* a post-township of Orleans co., 6 m. S. of Irasburg.

Al'bany, in *Wisconsin,* a post-village and township of Greene county, on Sugar river, 16 miles from Monroe. —A township of Marquette county.—A township of Pepin co.

Al'bany, a district situated at the eastern extremity of the English colony of the Cape of Good Hope, in South Africa; bounded on the N. and N.E. by the Great Fish river; on the S. by Alexandria and Bathurst; on the E. by Bathurst and Peddie; on the W. by Alexandria. *Area,* 1,792 sq. m. Lat. between 33°–33° N., Lon. 27° E.

Al'bany, in the Northwest Territory, a river connected through other lakes with Lake Winnipeg. It flows E.N.E., and enters James's Bay, near Fort Albany. Its length embraces about 8° of Long.—Also, the former name of a district, with a fort of the same name.

Al'bany, a seaport and town of W. Australia, on King George Sound. Lat. 35° 3′ S.; Lon. 117° 52′ 40″ E. It is the cap. of Plantagenet co.

Al'bany, the name of six islands on the N.E. coast of Australia. Only one is of considerable size, and has a good harbor for large vessels.

Al'barium, *n.* [Lat.] According to Pliny and Vitruvius, a white stucco, or plaster, made of a pure kind of lime, burned from marble, and used to spread over the roofs of houses.

Alba'ta, *n.* [From Lat. *albare,* to make white.] The name given in England to German silver.

Albat'egni, an Arabian astronomer, who flourished in the 10th century in Mesopotamia. He was the first who substituted sines for chords, and who may be said to have determined the length of the tropical year. He wrote a book on the knowledge of stars and the obliquity of the zodiac, printed at Nuremberg, 1537.

Al'batross, *n.; pl.* Albatrosses. (*Zoöl.*) A gen. of birds, fam. *Procellaridæ.* The species are the largest of all aquatic birds, the wings, when extended, measuring sometimes 15 feet, and the weight often exceeding 20 pounds. Its plumage is white, with some black bands on the wings and back. It has a strong, hard, long beak, of a pale-yellow color; the feet, flesh-colored, are short and webbed, and the wings are long, strong, and narrow. It preys on the wing, and is very voracious. They are continually met with in the Southern ocean, and are also seen

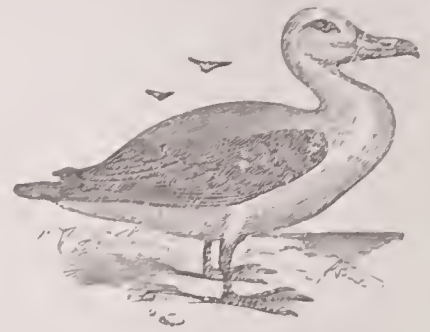


Fig. 71. — WANDERING ALBATROSS.
(*Diomedea exulans.*)

in immense flocks about Behring's Straits in the early part of summer, attracted thither by the vast shoals of fish, whose migrations they follow. Its powers of flight are prodigious. One of its eggs weighs about one pound. When sailors accidentally fall overboard in lat. where the *A.* abounds, they find it a most formidable enemy, even should only a few minutes elapse before they can be rescued by their comrades.

Al'baville, in *Nebraska,* a village of Hall co.

Albe'it, *adv.* [A coalition of the words *all be it so.*] Although; notwithstanding: though it should be

> "of one, whose eyes,
> *Albeit* unused to the melting mood,
> Drop tears, as fast as the Arabian trees
> Their medicinal gum."—*Shak.*

Albemarle', Duke of. See Monk.

Albemarle, in *North Carolina,* a township, cap. of Stanley co., 120 m. W.S.W. of Raleigh.

Al'bemarle, in *Mississippi,* a village of Carroll co.

Albemarle', in *Virginia,* a very picturesque and fertile county, situated in the E. central part of the State. *Area,* about 700 square miles.—*Mount.* The Southwest Mountain ridge, called also Carter's Mountains, crosses the county in the N.E. and S.W. direction. The Blue Ridge forms its N.W. boundary.—*Rivers.* The Rivanna, Hardware, and James.—*Prod.,* principally tobacco and corn. *Cap.* Charlottesville. *Pop.* (1890), 32,379. This county is intersected by the Central Railroad of Virginia. It gave birth to Thomas Jefferson, 3d President of the United States.

Albemarle Sound, on the coast of North Carolina, in the N.E. part of the State, being 60 m. long from E. to W., and from 4 to 25 wide. It communicates with Pamlico Sound and the ocean by several narrow inlets, and with Chesapeake Bay by a canal cut through the Dismal Swamp.

Alben'ga, a seaport town of Northern Italy, prov. Genoa, 44 m. S.W. of Genoa, on the Ceuta; *pop.* 4,189. It is the anc. *Albium Ingaunum.*

Alberga'ti Capacel'li, Marquis Francesco, an Italian senator who was not only a powerful dramatist, but such an excellent performer, as to merit the title of the *Garrick of the Italian nobility.* His works have been pronounced unrivalled for wit, humor, facetious sallies, and knowledge of the world. B. at Bologna, 1720; D. 1803.

Al'beric, a French historian, who lived in the 13th century. He wrote the story of the first crusades, from the year 1095 to 1120.

Albero'ni, Guido, cardinal, and minister of the king of Spain, was the son of a gardener. B. in 1664, at Firenzuola, a village of Parma, and educated for the Church, his first office was that of bell-ringer in the cathedral of Piacenza. Possessed of uncommon talents, he soon became canon, chaplain, and favorite of the Count Roncovieri, and bishop of St. Donnin. The Duke of Parma sent him as his minister to Madrid, where he gained

the favor of the Princess of Ursins, the favorite of Philip V. By cunning and intrigue, he rose to the station of privy councillor, then was created prime minister, and finally had a cardinalship conferred on him. Having thus obtained the highest honors, he engaged himself with schemes for the benefit of the Spanish nation; but being undermined by foreign influence, he was deprived of his posts and banished to Rome. D. at Placentia, 1752.

Al'bert I., Duke of Austria, and afterward Emperor of Germany, was son of Rudolph of Hapsburg, who founded the Austrian imperial dynasty. He was crowned in 1298, after defeating and slaying his competitor, Adolphus of Nassau, and was assassinated in 1308 by his nephew John, son of the Duke of Suabia, whose paternal estates he had seized. Agnes, Albert's daughter and Queen of Hungary, carried her vengeance for her father's death to a most dreadful extent. Nearly one hundred noble families, and one thousand persons not noble, of every age and sex, were involved in this inhuman proscription. After this butchery, Agnes built a monastery on the spot where Albert had been murdered, which was called *Königsfelden*, and here she shut herself up for the rest of her days.

Al'bert II., King of Hungary and Bohemia, and Duke of Austria, succeeded Sigismund as Emperor of Germany in 1438. He held a great diet at Nuremberg, in which the *Vehmic* or secret courts were suppressed. He died the following year, as he was preparing to take the field against the Turks, who were ravaging Hungary.

Al'bert, Archduke of Austria, son of the Emperor Maximilian II., was made a Cardinal and Archbishop of Toledo. He was appointed by Philip II., in 1596, governor of the Low Countries, and succeeded the Duke of Parma in the difficult task of carrying on the war against the Dutch, who had revolted from Spain. He resigned the cardinalship and married Elizabeth of Austria, daughter of Philip II., who brought him Flanders and Franche Comté as her dowry. In July, 1600, he fought the battle of Nieuport against the Dutch under Maurice of Nassau. This engagement, in which Albert was defeated, decided the independence of Holland. Albert next besieged Ostend, which he took after a long and murderous siege, in which 100,000 men are said to have lost their lives on both sides. In 1609 Albert concluded a truce with the Dutch for twelve years, before the expiration of which he died, in 1621. He left no children, and the dominion of Flanders reverted to Spain.

Al'bert, Prince of Mecklenburg, was called to the throne of Sweden 1364, by the nobility, who had deposed king Magnus. The Swedes being dissatisfied with *A.*, who favored his German countrymen at their expense, offered the crown to Margaret, queen of Denmark and Norway. After several years of war, *A.* lost the decisive battle of Falkioping, 1388, and was made a prisoner. Peace, however, was not re-established in Sweden till 1395, when *A.* consented to give up his claims to the crown. He then retired to Mecklenburg, where he died. Margaret of Waldemar thus united the three northern kingdoms under one sceptre.

Al'bert, Margrave of Baandenburg, and first duke of Prussia, b. 1490. He was elected, in 1511, Grand Master of the Teutonic order, which held dominion over Prussia proper, that part of the present kingdom of Prussia which borders on the Baltic sea. He fought against Sigismund, king of Poland, for the defence of his order, which had been for ages at war with the Poles. Peace was made in 1525, at Cracow, in which Albert managed to have the duchy of Prussia secured to himself and his descendants as a fief of the crown of Poland, thus laying aside the rights of the order. Albert, some time after, embraced the Protestant faith, and married a princess of Denmark. One of his descendants, Frederick William, elector of Brandenburg, threw off the allegiance of Poland, and his son, Frederic I., changed the title of duke into that of King of Prussia in 1701.

Al'bert, Margrave of Brandenburg, son of Casimir, Margrave of Culenbach, b. 1522. He entered into the confederacy formed by Maurice, elector of Saxony, and other princes, against Charles V., and committed many excesses in that war, burning towns, and levying heavy contributions wherever he marched. Subsequently a league headed by Maurice himself was formed against him, and, in 1553, a great battle was fought at Siverhus, in which Maurice was slain and *A.* wounded. He was afterwards put under the ban of the empire, and deprived of his possessions. D. 1558.

Al'bert, Charles d', Duke de Luynes. See Luynes.

Al'bert Du'rer. See Dürer.

Al'bert Edward, Prince of Wales, the eldest son of Victoria, queen of England, and of her consort Albert, prince of Saxe-Coburg Gotha, b. Nov. 9, 1841. The principality of Wales gives the hereditary title to the eldest son of British sovereigns.

Al'bert, Erasmus, a German divine, who wrote against the Franciscans a book entitled "Koran of the Cordeliers," printed in 1531, with a preface by Luther. D. 1551.

Al'bert, Kaantz, a German professor of Divinity, b. at Hamburg; d. 1517; author of a "History of Saxony, and of the Vaudals."

Al'bert, Prince of Saxe-Coburg Gotha, and consort of Victoria, queen of Great Britain; 2d son of Duke Ernest I., born at Rosenau, 1819. He married Queen Victoria, Feb. 10, 1840, and by act of Parliament it was provided that he should assume the responsibility of regent should the queen die before the next lineal heir to the throne should have attained the age of eighteen. Besides assisting in many other noble undertakings, he took an active part in the great exhibition of 1851, and contributed not a little to its success. A man of refined taste his tendencies were entirely of a pacific character, and all his pursuits aimed at exalting and refining the sentiments, whilst ameliorating the condition, of the people. D. in London, Dec. 14, 1861.

Al'bert N'Yan'za, a large lake of S. Central Africa, with its N. extremity in lat. 2° 45′ N. Length, 150 m. or upwards; breadth, 50 m.; height above sea-level, 2720 ft. This lake is one of the sources of the White Nile, and was discovered by Sir S. W. Baker, in 1864.

Al'berti, Aristotile, an Italian mechanic, lived in the 16th century. He is said to have removed the entire tower of Maria del Tempio, at Bologna, to a distance of 35 paces.

Al'berti, Cherubino, an eminent historical painter and engraver of Italy. B. 1552; d. 1625.

Al'berti, John, a German lawyer, author of a Syriac grammar and other works. D. 1559.

Al'berti, Leoni Battista, a distinguished mathematician, but more celebrated as an architect, and hardly less as a philosopher, poet, painter, and sculptor. B. at Florence, about 1400. He was employed by Pope Nicholas V., and was the architect of several excellent works in Florence.

Albertinel'li, Mariot'to, one of the finest of the early Florentine painters. B. at Florence, 1475; d. at the early age of 45, a victim of his dissipated habits. His best work is in the Imperial Gallery of Florence, and is known as *The Visitation of Elizabeth to the Virgin.*

Al'bertite, *n.* (*Min.*) A variety of *Asphaltum.* It occurs in rocks of the sub-carbouiferous age in Nova Scotia, and is regarded as an inspissated and oxygenated petroleum. It has a jet-black color.

Al'bert Lea, in *Minnesota*, a city and R.R. center, capital of Freeborn co., near a small lake of the same name, 100 miles S. by W. of St. Paul. *Pop.* (1890), 3,305.

Al'berton, in *Maryland*, a post-office of Howard co.

Al'bert's, or *Pennsylvania*, a post-office of Luzerne co.

Al'bertson, in *Mississippi*, a village of Tippah co., 16 m. S. of Ripley.

Al'bertson's, in *North Carolina*, a post-office of Duplin co., about 80 miles S.E of Raleigh.

Alber'tus Magnus, a learned Dominican. B. in Suabia, 1205. Pope Alexander III. invited him to Rome, and bestowed on him several dignities, which he afterwards abdicated, and returned to live at his convent at Cologne as a plain monk. He there gave public lectures which were much frequented. Thomas Aquinas was among his disciples. *A.* died at Cologne, in 1282, aged 77. His knowledge of nature and science was so great that he was accounted a magician. He was the first to write an Encyclopedia of Knowledge, for which, with his other performances, he has been styled "the Great." Others say that he was so called because his family-name was *Groot*, which, in Dutch, means *great*; the admiration of an ignorant age having transformed into a laudatory epithet the surname, which had been Latinized in conformity to the then prevailing fashion. There are collections of supposed *Secrets*, which have erroneously been published under his name. His Works, in 21 vols. folio, were printed at Lyons, in 1615.

Albes cent, *a.* [Lat. *albescens*, from *albus*, white.] Becoming white or whitish; moderately white.

Al'bi. See Alby.

Al'bia, in *Iowa*, a town of Monroe co., situated in a fertile farming district, 60 miles S.E. of Des Moines. It is the cap. of the county.

Al'bicore, *n.* [Fr.] (*Zoöl.*) A large species of fish of the mackerel family, common in the Mediterranean; the Bonito, or Horse-mackerel.

Albifica'tion, *n.* [Fr. from Lat. *albus*, white.] The act of making white. (o.)

Albigen'ses, *n. pl.* (*Eccl. Hist.*) The general name of several religious sects which appeared in the south of France, in the 12th century, and were the object of long and cruel persecutions and wars. The two principal branches of *A.* were the *Cathari* and the Vallenses, or Waldenses, who agreed in opposing the dominion of the Roman hierarchy, and endeavoring to restore the simplicity of primitive Christianity. They were denominated *A.*, from the district *Albigeois*, (territory of Alby, *q. v.*,) where the army of the Cross, called together by Pope Innocent III., attacked them in 1209. This war, the first which the Roman Church waged against heretics within her own dominions, was carried on with much cruelty by the legates Arnold and Milo, and by the military leader Simon de Montfort, who at last was killed at the siege of Toulouse, in 1218. The war, nevertheless, lasted till the year 1229, when the Count of Toulouse, Raymond VII., the principal sustainer of the *A.*, pressed on all sides, made peace with Louis VIII., king of France, who had been induced by Pope Honorius III. to take the field in person. *Ref.* Fauriel, *Croisade contre les Albigeois.* (Par., 1838); Faber, *Inquiry into the History and Theology of the Vallenses and Albigenses*, (Lon., 1838.)—See Cathari, Waldenses.

Al'binism, and **Albin'oism,** *n.* [From Lat. *albus*, white.] The state or condition of an Albino.

Albi'nos, *n. pl.* (*Physiol.*) A word by which the Portuguese denominated the white negroes whom they found on the coast of Africa. These negroes were also termed *Leucæthiopes*, white negroes. Both names are now used to designate individuals who exhibit characteristics similar to those observed in the white negroes, among whatever race or in whatever country the variety may arise. The skin of these singular beings is of a pearly whiteness, without any mixture whatever of a pink or brown tint. The whiteness of the hair always corresponds to the whiteness of the skin; and with this whiteness of skin and hair is connected a disagreeable redness of the eyes, which are exactly similar to those of the white rabbit and the ferret. The *A.* cannot bear a strong light, and even the full glare of day appears to excite in them some degree of uneasiness. They are more common among the African and the Indian tribes than among the European people; nevertheless, they are found in all parts of the world. All accounts agree in representing their physical strength as inferior to that of persons of the ordinary conformation. But in what degree their intellectual powers are confined, we have at present no means of forming an accurate judgment. Some writers represent the Albinism as the result of disease, but as far as can be judged from external appearances, and from their accounts of their own feelings, they exhibit not a single mark of any disease whatever. It is also certain that domestic animals which exhibit varieties perfectly analogous to those of the human *A.*, are free from disease, as is familiarly known with respect to the sheep, pig, horse, cow, dog, cat, rabbit, &c. In animals, the pure whiteness of the skin and other integuments, and the redness of the iris and pupil, mark the same deficiency of coloring-matter.

Albi'nus, a Roman general, who was made governor of Britain by Commodus. After the murder of Pertinax, he was elected emperor by the soldiers in Britain. Severus had also been invested with the imperial dignity by his own army; and these two rivals, with about 50,000 men each, came into Gaul to decide the fate of the Empire. Severus was victorious, and he ordered the head of *A.* to be cut off, A. D. 198.

Albinus, Bernard Siegfried, whose true name was Weiss, (White,) b. at Frankfort-on-the-Oder, 1696. Instructed by his father, Bernard, who enjoyed a good reputation as professor of medicine, he was himself for 50 years a professor of anatomy at Leyden. His anatomical plates, in 3 vols. folio, 1744, 1749, and 1753, prove him to have been one of the greatest anatomists that ever lived.

Al'bion, the oldest name by which the island of Great Britain was known to the Greeks and Romans. Great Britain and Ireland were known by the general appellation of the Britanuic Islands, while the former was designated by the particular name of Albion or Alwion, and the latter by that of Ierne, Ionernia, or Erin. Cæsar does not use the word Albion; his name for England is Britannia. Pliny says (iv. 16), "The name of the island *was* Albion, the whole set of islands being called Britannic." The word *Albinn* is still the *only* name by which the Gaels of Scotland designate that country; and the word signifies in the Gaelic language, *white* or *fair* island. The word *alb* itself is not now in use in the Gaelic, but is probably the same root that we find in the Latin adjective *alb-us*, and in the word "Alps." The termination *inn* signifies island. The name of Albion was probably given to England by the Gaels of the opposite coast, who could not fail to be struck with the chalky cliffs that characterize the nearest part of Kent. Some authors derive it from Albion, son of Neptune by Amphitrite, who, according to his fabulous history, came into Britain, established a kingdom, and first introduced astrology and the art of building ships. He was killed at the mouth of the Rhone, with stones thrown by Jupiter, because he opposed the passage of Hercules. In poetry, *A.* is still used for *Great Britain.*

Al'bion, in *California*, a post-village of Mendocino co., 43 m. W.N.W. of Ukiah.

Al'bion, in *S. Carolina*, a village of Fairfield district about 35 m. N. of Columbia.

Al'bion, in *Illinois*, a town, cap. of Edwards co., 170 m. S E. of Springfield. It has a high and salubrious situation, and possesses several imposing public buildings.

Al'bion, in *Indiana*, a town, cap. of Noble co., 26 m. N.W. of Fort Wayne.

Al'bion, in *Iowa*, a township of Butler co.

—a township of Howard co.

—a post-village of Marshall co., about 52 miles N.E. of Des Moines.

Al'bion, in *Maine*, a township of Kennebec county, 26 m. N.E. of Augusta.

Al'bion, in *Michigan*, a city of Calhoun co., on the Mich. Cent. & Lake Shore and M. S. R.Rs., 96 m. W. of Detroit. Has extensive plow factory and other industries. *Pop.* (1898) 5,120.

Al'bion, in *Minnesota*, a township of Wright co.

Al'bion, in *Nebraska*, a post-village, cap. of Boone co., 41 m. N.W. of Columbus, on U. P. R.R. *Pop.* (1895) 926.

Al'bion, in *New York*, a post-village in Barre township, cap. of Orleans county, about 40 miles N.E. of Buffalo.

—a township of Oswego county, 30 miles from Watertown.

Al'bion, in *Ohio*, a post-village of Ashland co., about 87 m. N.N.E. of Columbus.

Al'bion, in *Pennsylvania*, a post-village of Erie county, 26 m. S. W. of Erie, on the Beaver and Erie Canal.

Al'bion, in *Rhode Island*, a post-village of Providence co., 11 m. from Providence.

Al'bion, in *Wisconsin*, a village and post-township of Dane co., about 25 m. S.E. of Madison.

—a village of Iowa co., about 56 m. W. of Madison.

—a township of Jackson county, about 44 m. N.E. of La Crosse.

Al'bion, (New,) the name given to California by Sir Francis Drake; limited by Humboldt to that part of the N.W. coast of America which extends from Lat. 43° to 48° N., which was subsequently divided into Oregon and Washington.

Al'bions, *n. pl.* (*Zoöl.*) A genus of the order *Abranchians*, distinguished by having the body bristled with tubercles.

Al'bite, *n.* [From Lat. *albus*, white] (*Min.*) An unsilicate, tricliuic white crystal of the *Feldspar* group. *Comp.* silica 68·6 alumiua 19·6, soda 11·8. It is a constituent of several rocks. Different varieties are fonud in the United States.

Al'boin, a king of Lombardy, who, after having slain Cuuimund, King of the Gepidæ, married his daughter Rosamond. He was slain iu 574, by an assassin instigated by his wife. He had incurred her hatred by seuding hor, during one of his fits of intoxication, a cup, wrought from the skull of her father, filled with wine, and forcing her, according to his own words, to drink with her father. This incident has been introduced by Alfieri, in a very pathetic manner, in his tragedy called *Rosmunda*.

Al'bon, Jacques d' See André, Sr.

Al'bora, *n.* (*Med.*) A sort of itch; or rather of complicated leprosy. It terminates without ulceration, but by fœtid evacuations in the mouth aud uostrils; it is also seated iu the root of the tongue.

Al'borak, *n.* The white mule on which Mohammed is said to have journeyed from the temple of Jerusalem to heaven.

Al'boran, a small islaud belonging to Spain, off the Mediterranean coast, the resort of smugglers, pirates, aud fishing-vessels. It is not more thau 2 m. long and 1 broad. Lat. 35° 58′ N.; Lon. 31° 1′ W.

Al'bret, Jeanne d,' daughter of Margaret, Queen of Navarre,. b. 1528. She married Antoine de Bourbon in 1548; gave birth in 1553 to a son, who was afterwards Henri IV. of France; aud on the death of her father, in 1555, became queen of Navarre. She lost her husband in 1562, and eagerly begau to establish the Reformation in her kingdom. Being invited to the Freuch court to assist at the nuptials of her son with Margaret of Valois, she suddenly expired, not without suspicion of having been poisoned. D. 1572.

Al'bright, in *Minnesota*, a village of Scott co., on the Minnesota river, 21 m. S.W. of Shakopee.

Al'bright's, in *Iowa*, a post-village of Des Moines co., about 3 m. N.W. of the Mississippi river.

Al'brightsville, in *Pennsylvania*, a post-village of Carbon co.

Albuca'sa, or Albucasis, an Arabian physician, who composed many excellent works, excelled in surgery, and has described many instruments and operations. Lived in the 11th century.

Albuci'lla, an immodest woman, mentioned by Tacitus.

Albue'ra, or Albuhera, a town in Spain, Estremadura, 13 m. S.S.E. of Badajoz, on the river and near the mountains of the same name. Here, on the 16th May, 1811, a sanguinary conflict took place between the allied British, Spanish, and Portuguese troops under Marshal Beresford, aud a French force under Marshal Soult. Each army lost about 7,000 men in killed and wounded. In the end Soult, who commenced the attack, retreated.

Albufei'ra, a seaport towu of Portugal, S. coast Algarve, 28 m. E. of Lagos, Lat. 37° 7′ 30″ N.; Lon. 7° 19′ 12″ W. Large vessels may anchor in the port. *Pop.* 2,800.

Albufe'ra, a lake near Valentia, in Spain, from which the title of Duke was given to Marshal Suchet. It is connected with the town by a canal, and is 10 miles in length and the same in breadth, being divided from the sea by a narrow tongue of land.

Albugi'nea, *n.* [Lat., from *albus*, white.] (*Anat.*) 1. A membrane of the eye: See Adnata Tunica.—2. A strong, white, and dense membrane immediately covering the body or substance of the testicle.

Albugin'eous, *a.* [Fr. *albugineux.*] Resembling the white of the eye, or of an egg;—a term applied to textures, humors, &c., which are perfectly white.

Albu'go, *n.* [Lat. *albugo*: Gr. *leucoma.*] (*Med.*) A white opacity of the cornea of the eye.

Albu'la, a mountain-pass iu Switzerland, Grisons. It crosses Mount Albula from the valley of Bergum. Highest point 7,713 feet above the lovel of the sea.

Albu'la. (*Anc. Geog.*) The river Tiber.

Al'bum, *n.* [Lat., from *albus*, white.] A tablet on which the Romau prætor's edicts were written; it was put up in a public place. It was probably called album because the tablet was white. The word was also used to signify a list of any body of persous, as of the senators and of the judices.—In our day, a book which is intended to contain the signatures, or short verses, or other contributions of persons of note or supposed note, is called an albnm. The name is also giveu to a book which is merely intended as a repository for drawings, prints, verses, aud such matters. Trifling as it may appear, an albnm, in the hands of a person possessing good taste, may be made a very graceful article of artistic decoration.—*Photograph A.*: a book whose leaves have open spaces to contain and display photographs.

Albu'men, Albu'min, *n.* [Lat., the *white of eggs.*] A substance which forms a constituent principle of organized bodies. It is common to plants and animals. It is found in the greeu feculæ of plants in geueral, but it exists much more abundantly iu animals than in plants. Of the aniual fluids, it forms an essential part of the serum of the blood. In the animal solids it forms the principal part of all membraues; of the skin, of fibrin, the basis of muscle or flesh, and of the glands. *A.* then exists in the animal body in the fluid and in the solid form. The best example of finid *A.* is the white of eggs, which is nearly pure albumen, held in solution in water, and combined with a small quantity of saline matter. In this state it is a tasteless, somewhat glairy, colorless liquid, soluble in cold water. If exposed to a heat of 160° F., it is readily coagulated, and becomes then insoluble. *A.*, like most other animal substances, is composed of carbon, hydrogen, oxygen, and uitrogen in the proportions of: C. 52·89; H. 7·54; O. 23·57; N. 15·70 =100. From its property of coagulating by heat, *A.* is of great use in the clarification of liquids. Being rendered solid by the application of heat, it entangles all the substances not held in solution by the fluid, and carries them with it to the surface in the form of scum.—It is a sure and effectual antidote against the *corrosive sublimate*, or bichloride of mercury, which is one of the most virulent of the mineral poisons.

(*Bot.*) The substance which in some seeds is interposed between the embryo and their coat. It varies very much in density, and other characters and is often, the most valnable part of a plant. In the cocoanut, it is the meat, the milk being a fluid, uncondensed portion of it; in the coffee-seed, it is the part that is roasted; and in corn, it is that which is ground into flour. The oil of the castor-oil plant, and of the poppy, the aroma of the nutmeg, and the greasy, nutritious substance that forms chocolate, are all the produce of albumen. This substance in the beginning is of a pulpy nature, and is the matter in which the young embryo first makes its appearance; in this state it is present in all plants; but as the embryo, for the nutriment of which it is destined, increases in size, the albumen is gradually absorbed by it, either wholly, as in the turnip, the pea, the bean, and the like; or in part only, the residue being of a consistence varying between softness, as in the poppy, and extreme hardness, as in the date-palm. The composition and essential properties of the vegetable *A.* are the same as those of the animal albumen.

Albu'menize, *v. a.* (*Photog.*) To impregnate with albumen.

Album Græ'cum, the white fæces of dogs, formerly used in medicine, and now by tanners for some secondary purposes.

Albu'minoid, *a.* [Lat. *albumen*, and Gr. *eidos*, form.] Resembling albumeu.

Albuminoid Group. (*Chem.*) A group of compounds of organic origin, comprising *albumen*, *fibrin*, *casein*, and *legumin*. It owes its name of albnminoid to the general resemblance of its members to albumen, or white of eggs; the proportion of carbon to nitrogen being in all that of 8 equivalents of the former to 1 of the latter

Albu'minose, *n.* (*Physiol.*) Albumiuoid matter prepared for absorption by the process of digestion.—*Webster.*

Albu'minous, Albuminose, *a.* [Fr. *albumineux.*] Having the properties of albumen.

Albu'minousness, *n.* The state of being albuminous.

Albuminu'ria. See Bright's Disease.

Albuquer'que, Alfonso d', viceroy of India, surnamed the *Great*, and called the *Portuguese Mars*. Sent with a squadron to India, by king Emanuel, he arrived Sept. 26, 1503, on the coast of Malabar; took possession of Goa; subdued the whole of Malabar, Ceylon, the Sunda islands, and the peninsula of Malacca. In 1507 he made himself master of the island of Ormus, at the entrance of the Persian gulf. Notwithstauding his great merits, he did not escape the envy of the courtiers, and the suspicions of king Emanuel, who sent Lopez Soarez, the personal enemy of *A.*, to fill his place. He died a few days after receiving the intelligence, at Goa, in 1515. *A.* was the first to lead a European fleet into the waters of the Red sea. That he was a great and enlightened man there can be no question; and this is testified in the rare fact of both Moors and Indians, after his death, repairing to his tomb as to that of a father, to implore redress from the cruelty and wrong which they were doomed to suffer from his successors. Fifty years after his death, his remains were conveyed to Portugal. Emanuel ennobled the son of *A.*, who wrote a history of his father's enterprises.

Albuquer'que, in *New Mexico* territory, a post-town of Bernalillo co., on the Rio Grande, abt. 60 m. S.W. of Santa Fé. *A.* has an elevation of abt. 5,000 ft. above the sea.

Albuquer'que, a town of Spain, prov. of Estremadura, on the frontier of Portugal, 22 m. N.N.W. of Badajoz. *Pop.* 5,470.

Al'burg, in *Vermont*, a township of Grand Isle co., on a peninsula between the Canada line, Missisque Bay, and Richelieu river, in communication with Lake Champlain.

Al'burg Springs, in *Vermont*, a post-village in the above township, 87 miles N.W. of Montpelier.

Albur'nous, *a.* Belonging or relatiug to alburnum.

Albur'num, *n.* [From Lat. *albus*, white.] (*Bot.*) That part of the stem of trees which timber-merchants call *sapwood*. It is the newly formed, unchanged wood lying immediately below the bark, aud is always of a very light color. It is the principal channel through which the crude sap is conveyed from the roots into the leaves, and is, therefore, an indispensable part in all exogenous trees. (See Age of Trees.) It consists of little besides vegetable tissue; in which respect it differs from *heartwood* or *duramen*, which is vegetable tissue combined with solid secretions, the nature of which varies with species. It is probably on the latter account that heartwood is so much more durable than sapwood; for all vegetable tissue is in itself equally perishable, and it only ceases to be so in consequence of the presence of secretious of a less destructible character. While many plants have the alburnum and heartwood distinctly separated, there are others, technically called whitewooded trees, which consist of nothing but alburnum. This arises from their not forming any solid secretions which can give durability to the central parts; hence all such trees are quickly perishable, and are generally unfit for any but temporary purposes.

Albur'nus, *n.* (*Zoöl.*) See Bleak.

Al'bus Pagus. (*Anc. Geog.*) A place near Sidon, in Syria, where Antony waited for the arrival of Cleopatra.

Al'by, a town of *France*, cap. of the dep. of Tarn, on the Tarn. It is situated on a hill, and has a fine Gothic cathedral, which was begun in 1277, and finished in 1480. *Pop.* 25,493. Alby, formerly *Albiga*, has suffered much at different periods for its attachment to Protestantism.

Alca, *n.* (*Zoöl.*) See Auk.

Alcade', *n.* See Alcaid, and Alcalde.

Alcæ'us, a celebrated lyric poet of Mitylene in Lesbos, a coutemporary of Sappho, to whom he paid his addresses. Flourished about 600 B. C. His lyric muse was versed in all the forms and subjects of poetry, and antiquity attrib es to him hymns, odes, and songs. Of all his works nothing but a few fragments remain; they are found in Athenæus.—See Alcaic.

Al'cahest, *n.* See Alkahest.

Alcaïc, *n.* [Lat. *alcaïcus.*] (*Anc. Pros.*) A kind of verse consisting of five feet, a spondee or iambic, an iambic, a long syllable, and two dactyls. It is one of the most beautiful and melodious of all the lyric metres. Horace has employed it in many of his odes. German poets, too, have imitated it, as Klopstock. It was inveuted by Alcæus.

—*a.* Relatiug to the kind of verse invented by Alcæus.

"And take the *Alcaic* lute,
Or thine own Horace, or Anacreon's lyre."—*B. Jonson.*

Alcaid', *n.* [Sp. *alcaide*; Port. *alcayde.*] The same as Alcalde, *q. v.*

Alcal'a, *n.* [Ar. *el-calaat*, a castle.] A very common name in the southern parts of Spain, where the empire of the Arabs was of the longest duration.

Alcal'a de Gisvert, a towu of Spain, prov. Valencia; *pop.* 4,954.

Alcal'a de Henares, a beautiful town of Spain, in New Castile, on the river Henares, 17 m. E.N.E. of Madrid. *Pop.* 5,000. It is the birthplace of Cervantes. The polyglot bible of Alcala, by Cardinal Ximenes, was printed here. It took 12 years to complete it, namely, from 1502–1517, and the cost exceeded $275,000. It was the first polyglot Bible ever printed. 600 copies were struck off, 3 on vellum. One of these three was deposited in the royal library at Madrid, a 2d in the royal library at Turin, the 3d, supposed to have belonged to the cardinal himself, after passing through various hands, was purchased at auction, Paris, 1817, for $17,900

Alcal'a de los Gazules, a town of Spain, prov Cadiz, 38 m. E. of Cadiz, aud 48 m. S. of Seville. *Pop* 5,516.

Alcal'a la Real, a town of Spain, prov. Jaen, on the Gualcoton, 2,700 feet above the level of the sea, 30 m W.S.W. of Jaen. *Pop.* 6,738. On the 28th Jan., 1810, the French defeated the Spaniards in the vicinity of this town.

Alcal'atraz, or Al'catraz [Sp.], in *California*, a small fortified island, commanding the entrance of the Golden Gate, in the bay of San Francisco, 2½ miles N. of the town. Called also Pelican Island.

Alcal'de, *n.* [Sp., from Ar. *al-kadi*, judge.] A Spanish or Portug. magistrate, answering to our justice of the peace.

Alcame'nes, a Greek sculptor, the disciple and rival of Phidias. He was one of the three greatest statuaries of ancient Greece, the others being Phidias and Polycletus. Fifth century B. C.

Alcamenes, one of the Agidæ, king of Sparta, succeeded his father, and reigned 37 years. Lived B. C. 900 aud is known by his apothegms.

Alca'mo, a town of Italy, in the Island of Sicily, 24 m. W.S.W. of Palermo. It is situated on high ground, in a fine, open, cultivated country, and is well sheltered by large woods of olive-trees. *Pop.* 19,518. Not far from the town are the ruins of *Segesta*, *q. v.*

Al'caniz, a town of Spain, prov. of Ternel, in Aragon, on the Guadalonpe. There are in this viciuity rich mines of alum. *Pop.* 6,400.

Alcan'na, *n.* (*Bot.*) See Henna.

Alcan'tara, a seaport town of Brazil, prov. of Maranhão, on a hill, 25 m. N.W. of San Luis de Maranhão. The surrounding territory is productive of excellent cotton and rice; and the salt lakes, a little to the N. of the town, might yield the largest supplies, if they were properly managed.

Alcantara, a fortified town of Spain, cap. of a district of the same name, prov. of Estremadura;—the *Nova Cæsarea* of the Romans. *Pop.* 4,273.

A. (*Order of.*) At the expulsion of the Moors in 1213, which was aided by the Knights of San Julian del Pereyro, the defence of the town was intrusted to them, and they thenceforward assumed the title of Knights of Alcantara. In 1492, Ferdinaud the Catholic united the office of Grand Master with the crown. The order has been since abolished. At their nominations, the knights might prove four generations of nobility. The crest of the order was a pear-tree.

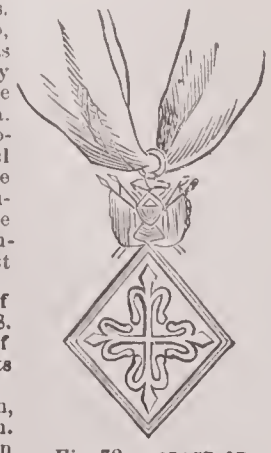


Fig. 72.—Order of Alcantara.

Alcan'tarilla, a towu of Spain, prov. of Murcia, 5 m S. W. of Murcia, in a district of the same name, famous for its wines. *Pop.* 4,083.

Alcar'az, a town of Spain, prov. of New Castile, 34 m. from Albaceto. There are in the neighborhood mines of zinc and copper.

Alcarra'za, *n.* [Sp., from Ar. *al-kurrâz.*] A vessel of porous earthenware, used for cooling liquors.—See Cooler.

Alcasal'ica, in *Georgia*, a creek entering the Ocmulgee in Irwin co.

Alca'zar de San Juan, a town of Spain, prov. of La Mancha, 55 m. S.E. of Toledo. *Pop.* 7,800.

Alce'a, *n.* (*Bot.*) See ALTHÆA.

Alcedin'idæ, *n. pl.* (*Zoöl.*) The Kingfishers, a family of birds, order *Insessores*. Their principal characteristics are, a long, straight, quadrangular bill, thick and pointed; the nostrils at the side of the base of the bill running obliquely; the tail and legs short; very short tarsi, and the outer and middle toes united half their length. Ponds and slow waters are their favorite resorts; they live principally on fish, and are of solitary habits. Their plumage is of a brilliant blue or green color. The genus *Alcedo* forms the type of this group.

Alce'do, ANTONIO DE, a native of Spanish America. He spent 20 years of his life in compiling a "Dictionary of American History and Geography," published in Madrid, 1786.

Alce'do, or **Ceryle,** *n.* (*Zoöl.*) A genus of birds, family *Alcedinidæ*. Two species are found in the U. S.; the common kingfisher or *Ceryle Halcyon*, about 13 inches long; and the Texas kingfisher, *Ceryle Americana*, only 8 inches long. When watching for its prey, the kingfisher perches itself upon some overhanging branch, with its long dagger-like bill pointed downward, and its eye intent upon the water beneath. Suddenly, it darts downward, plunges headlong into the water,

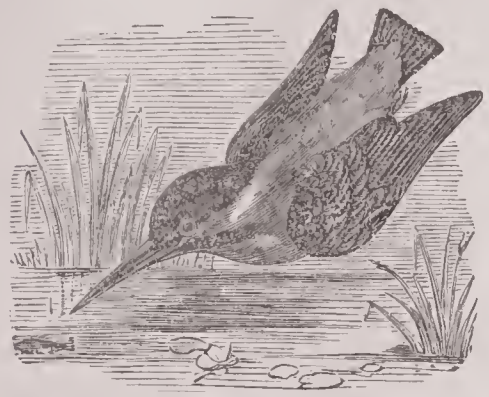


Fig. 73.—KINGFISHER, (*Ceryle Halcyon.*)

and speedily reappears with a minnow or other small fish between its mandibles. Without losing its hold, it passes the fish through its bill until it has fairly grasped it by the tail, and then destroys its life by smartly striking its head three or four times against the branch, after which it gulps its prey at one mouthful, except when it bears it away to the nest for the supply of the young. The fishbones, scales, and other indigestible parts are afterward disgorged by the mouth.

Alces'te, or ALCESTIS. (*Myth.*) Daughter of Peleas, and wife of Admetus, king of Thessaly. Her husband was sick, and, according to an oracle, would die, unless some one else made a vow to meet death in his stead. This was secretly done by *A.* She became sick, and Admetus recovered. After her decease, Hercules visited Admetus, with whom he was connected by the ties of hospitality, and promised his friend to bring back his wife from the infernal regions. He made good his word, compelling Pluto to restore *A.* to her husband. Euripides has made this story the subject of a tragedy.

Al'cester, a parish and town of England, co. of Warwick, 16 m. W.S.W. of Warwick. *Pop.* of parish, 2,128.

Alchem'ic, Alchem'ical, *a.* Relating to alchemy or produced by it.

Alchem'ically, *adv.* In an alchemical manner.

Al'chemilla, *n.* (*Bot.*) A genus of plants, ord. *Sanguisorbaceæ. q. v.*

Al'chemist, *n.* One who practises, or is versed in, alchemy.

Alchemis'tic, Alchemis'tical, *a.* Relating to alchemy, alchemical.

Al'chemize, *v. a.* To transmute. (R.)

Al'chemy, ALCHYMY, *n.* [Fr. *alchimie*, from Ar. *al-kimîa.*] The pretended art of making gold and silver, and, subsequently, of preparing a universal medicine. Those alchemists who were supposed to be skilled in the art were termed *adepts.*—In the opinion of the alchemists, all the metals are compounds, the baser of them containing the same constituents as gold, but mixed with various impurities, which, being removed, the common metals were made to assume the properties of gold. The change was effected by what was termed *Lapis philosophorum*, or the philosopher's stone, which is commonly mentioned as a red powder possessing a peculiar smell. It is not quite certain at what period or in what country *A.* arose; but it is generally supposed that it originated among the Arabians when they began to turn their attention to medicine, after the establishment of the caliphs; or that, if it had been previously cultivated by the Chinese and the Greeks, as there is some reason to suppose, it was taken up by the Arabians and reduced by them into regular form and order. The Egyptian *Hermes Trismegistus* (q. v.) is mentioned as one of the earliest alchemists. For this reason, chemistry and alchemy received the name of *Hermetic art;* but the writings bearing his name are undoubtedly spurious. Geber, an Arabian physician who lived in the 7th century, is one of the earliest alchemists whose works are extant. After him, the most celebrated alchemists are: *Albertus Magnus, Raymond Lully, Roger Bacon, Arnoldus de Villa Nova, Nicolas Flammel, Pierre le Bon, Ferrari, John Isaac Hollandus, George Riply,* and *Basil Valentine.* As the alchemists were assiduous workmen, says Dr. Thomson, (*History of Alchemy,*)—as they mixed all the metals, salts, &c., with which they were acquainted, in various ways with each other, and subjected such mixtures to the action of heat in close vessels, their labors were occasionally repaid by the discovery of new substances, possessed of much greater activity than any with which they were previously acquainted. In this way they were led to the discovery of sulphuric, nitric, and muriatic acids. These, when known, were made to act upon the metals; solutions of the metals were obtained, and this gradually led to the knowledge of various metalline salts and preparations, which were introduced with considerable advantage into medicine. Thus the alchemists, by their absurd pursuits, gradually formed a collection of facts which led ultimately to the establishment of scientific chemistry. Modern chemistry places metals in the class of elements, and denies the possibility of changing an inferior metal into gold, but electricity has not said its last word; and when man will have mastered that great power of nature, many of the *elements* will be found, probably, to be only compound bodies. The possibility of obtaining metals from other substances which contain the ingredients composing it, and of changing one metal into another, or rather of refining it, must, therefore, be left undecided.

Alcibi'ades, the son of Clinias, B. in the 82d Olympiad, abt. 450 B. C., was one of the most distinguished statesmen and generals of Athens during the eventful period of the Peloponnesian war. Descended on both sides from the illustrious families of his country, born to the inheritance of great wealth, endowed with extraordinary beauty of person, and with mental qualifications no less brilliant, it seemed evident from his early youth that he would exert no slight influence over the counsels and the fortunes of Athens. The faults of Alcibiades were those of a spoilt child of fortune. he was fickle, selfish, overbearing, and extravagant. But these faults clouded, not concealed, his nobler qualities. Passionately fond of show and splendor, a frequent victor in the Olympic games, and possessed of a more criminal notoriety as a favored suitor among the most dignified matrons of Athens, he never lost sight of more manly objects of ambition; and he met the proffered friendship of Socrates with eagerness, as the surest means of acquiring that mental cultivation which at Athens was the best, though not the only key to political power. The philosopher soon acquired over his wayward pupil that influence which he seems to have exercised over all who came within his circle; and the close intimacy which arose between these opposite characters was cemented by a singular reciprocity of benefits. In a battle fought near Potidæa, Socrates saved the life of *A.*, and the latter repaid the obligation by a similar service at the battle of Delium. But the influence of Socrates was insufficient in this case to work a permanent change of character; and the political life of *A.* proves that he had not profited much by the moral instructions of his master. In the Peloponnesian war, he was appointed to command with Lysimachus, under Nicias, in an expedition against Syracuse; but while he was thus employed, a charge of impiety was preferred against him at home. One morning all the Hermæ, or half-statues of Mercury, which abounded in Athens, were found defaced; and on a reward being offered for the discovery of the offenders, some slaves gave information that it was done by *A.* and his drunken companions. For this he was ordered home; but, fearful of the consequences, he withdrew to Sparta, and stirred up the Lacedæmonians to declare war against Athens. Soon after this, however, his friendship for the Spartans declined, when he went over to the king of Persia. Subsequently, he was recalled by the Athenians, when he obliged the Lacedæmonians to sue for peace, made several conquests in Asia and was received in triumph at Athens. His popularity was of short duration; the failure of an expedition against the island of Andros exposed him to the resentment of the people, and he fled to Pharnabazus, whom he almost induced to make war upon Lacedæmon. This was told to Lysander, the Spartan general, who prevailed upon Pharnabazus to murder *A.* Two servants were sent for that purpose, and they set on fire the cottage where he was, and killed him with darts as he attempted to make his escape. He was in the 46th year of his age; 404 B. C.

Fig. 74. — ALCIBIADES.

Alci'des. (*Myth.*) A name of Hercules, either from his strength (*alke*), or his great-grandfather, Alcæus. — Also a name of Minerva.

Al'cidæ, or ALCADÆ. *n. pl.* (*Zoöl.*) The Auks, a family of birds, order *Natatores*, including the Auks proper, Penguins, Puffins, and Guillemots. They are oceanic birds, and have the bill compressed and pointed. The power of their wings as organs of flight is generally very circumscribed, but their ill structure is admirably adapted for an aquatic life. The legs are extremely short but powerful, and placed so far backward that, in resting on the rocks, the birds appear to stand in an upright position. Their food consists of fishes, crustacea, and other marine productions; but they never resort to fresh water.

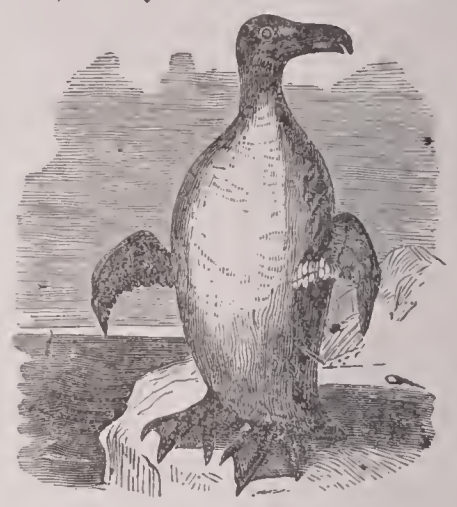


Fig. 75. — PENGUIN (*A. patagonica.*)

Al'cimus, surnamed JACHIM, a high-priest of the Jews, who obtained that office from Antiochus Eupator, king of Syria, but rendered himself odious to his countrymen by his avarice and cruelty. He died two years after his election. Lived in the 2d century B. C.

Al'cinæ, *n. pl.* (*Zoöl.*) A sub-family of birds, fam. *Alcidæ*. The gen. *Alca*, or Auk, forms the type of this group. — See AUK.

Alcin'ous, king of Phæasia (*Corfu*), entertained and listened to the wonderful adventures of Ulysses when shipwrecked on his coast; whence arose the proverb of the *Stories of Alcinous* for improbability.

ALCINOUS, a Platonic philosopher, lived in the 2d century, A. D. He wrote an "Introduction to the Philosophy of Plato," translated into English by Stanley.

Al'ciope, *n.* (*Zoöl.*) A gen. of Dorsibranchiate Annelides, distinguished by having two foliated gills and a couple of bronchial tubercles.

Al'ciphron, the most distinguished of the Grecian epistolary writers, flourished probably in the 2d century before Christ. We have 116 fictitious letters by him, which give a curious picture of Grecian manners.

Alci'ra, a town of Spain, prov. Valencia, on an island of the Xucar, 25 m. S.S.W. of Valencia. *Pop.* 13,000.

Alck'maar, or ALKMAAR, the chief town in North Holland, 19 m. from Amsterdam. It is the greatest cheese-mart in the world, upward of 4,000 tons of that art. being sold every year. Lat. 52° 38′ N.; Lon. 4° 43′ E. — In 1573, *A.* was besieged by the Spaniards, who failed to take it, after persevering for ten years in the attempt. In 1799 it was taken by the British and Russian troops under the Duke of York.

Alcma'on, a philosopher of Crotona, and disciple of Pythagoras. He was the first writer on natural philosophy, and believed in the theory that the stars were animated beings.

ALCMÆON, (*Myth.*,) son of Amphiarous and Eriphyle of Argos: chosen chief of the seven Epigoni, in which capacity he took and destroyed Thebes. His father, going to war, charged *A.* to put to death Eriphyle, who had betrayed him. He did so, and was pursued by the Furies. An oracle informed him that, to escape their vengeance, he must reside in a land which was not in existence when he was cursed by his mother. He at last found rest, for a short time, on an island in the river Achelous, where he married Callirrhoë, the daughter of the god of the river, after repudiating his former wife, Arsinoë. But he did not long enjoy peace. At the request of his wife, he attempted to recover the fatal necklace of Hermione from his former father-in-law, the priest Phlegeus, who caused him to be murdered by his sons.

Alc'man, of Lacedæmon or Sardis, one of the earliest Grecian writers, of whose poems only some fragments remain in different authors. He is said to have been the first writer in amorous poetry. Flourished 672 B. C.

Alcma'nian, *a.* Relating to the lyric poet Alcman.

Alcmanian Verse. (*Anc. Pros.*) A kind of verse consisting of two dactyls and two trochees.

Alc'mena. (*Myth.*) Daughter of Electryon, king of Argos, and wife of Amphitryon. Jupiter loved her, and deceived her by assuming the form of her husband. From this connection, which continued for 3 nights, sprung Hercules.

Al'co, *n.* (*Zoöl.*) A kind of dog domesticated in Peru and Mexico before the discovery of America, and also found in a wild state in those countries. Its origin has not been ascertained.

Al'coate, and **Alcohate,** *n.* See ALCOHOLATE.

Al'cohol, *n.* [Ar. *alkohl;* Fr. *alcohol* and *alcool.*] (*Chem.*) A colorless, volatile, inflammable liquid, of an agreeable well-known spirituous odor, and an acrid, burning taste, termed also *spirit of wine*, and *Ethylic or vinic alcohol.* It is an ingredient of all fermented liquors. It consists of ½ vol. ether vapor, and ½ vol. vapor of water; spec grav. ·7947 at 59: boiling-point, 173°; spec. grav. of vapor, 1·6133. *Formula*, C_2H_6O. It has never been frozen, though at 166° below zero it becomes viscid. Brandy and whiskey contain about 50 per cent. of *A.* When inflamed in the open air, *A.* burns with a bluish-white flame, the product of combustion being carbonic acid and water. Alcohol furnishes a cleanly and valuable fuel to the chemist; it emits a high temperature during its combustion, and deposits no soot upon cold bodies which are introduced into its flame

It is a solvent of great value. It usually exerts but little chemical action upon the bodies which it dissolves, and owing to its volatility, it is easily expelled by a gentle heat, leaving the substances which it previously held in solution in a pure state. It dissolves many of the gases freely; some of them, as for instance protoxide of nitrogen, carbonic acid, and cyanogen, are dissolved by it more readily than by water. Most of the deliquescent salts are soluble in alcohol, but the efflorescent salts, and those which are sparingly soluble in water, are not dissolved by it. With anhydrous saline bodies, it forms the compounds termed *alcoholates*. Alcohol likewise dissolves many organic bodies freely, such as the resins, the essential oils, the vegetable alkaloids, and many of the vegetable acids. It also dissolves, more sparingly, sugar, and the soaps of potash, soda, and ammonia; but the fats and finer oils, with the exception of castor-oil, are dissolved by it in but small quantities. — *Preparation.* Alcohol may be obtained in a state of purity by subjecting to distillation any saccharine solution that has undergone fermentation; for, being more volatile than water, it passes over in the first part of the distillation, accompanied with more or less water. By repeated rectification, it may be concentrated till it contains about 10 per cent. of water. Beyond this point the water adheres to it so strongly that it requires a different process for the complete separation of the last portions:—it is first rectified from charcoal, with a view of retaining all essential oils to which the peculiar odor or flavor of different spirits are mainly owing, and is then mixed with about half its weight of quicklime, and allowed to stand for three or four days; the lime gradually slakes and falls to powder, in consequence of its conversion into a hydrate, at the expense of the water in the alcohol; then, on applying the heat by means of a bath of chloride of calcium, the pure spirit may be distilled off, the hydrate of lime retaining the water at temperatures far above 300° F. Any traces of water which it may still retain are removed by a second distillation from quicklime, or from caustic baryta. The alcohol thus obtained is anhydrous, or, as it is often termed, *absolute alcohol*. — As *A.* mixes with water in all proportions, it is often important to determine the amount of *A.* contained in the mixture. That is easily done by means of the ALCOHOLMETER, *q. v.*

(*Physiol.*) As a drink, *A.* is one of the most powerful antagonists of life. When pure, it is a deadly poison; when diluted, its pernicious effects are not so rapid, of course, but it is ever injurious to health. The able and recent researches of Dr. E. Smith, and MM. Lallemand, Duroy, and Perrin, have positively proved that *A.* is not, in any case, a food, as it is too generally believed; and that it is neither transformed nor destroyed within the organism. *A.* does not assimilate: it passes out of the stomach in precisely the same condition in which it entered it. It shows itself in the breath of the habitual drinker, in his perspiration, his evacuation. It is still alcohol. Part may be retained in the blood, which it thins and weakens. For explaining the effects of alcoholic inebriation, it is said that *A.*, taken in large doses, is at first intensely stimulating, but that a secondary depression quickly arises, which disturbs all the intellectual powers. We believe it highly improper to give the name of stimulant to the effect of *A.* on the mental faculties. *A.* does not stimulate; it paralyzes. This will be easily understood. — As opium, ether, and chloroform, *A.* is a narcotic. The narcotics which especially affect the brain may exercise their depressing influence in such a way as to render that organ, at once, more or less incapable of ministering to any mental operation; or they may lessen, at first, only its capacity for giving effect to certain kinds of mental energy, as it occurs when a large dose of *A.* is taken into the stomach. The first warning of alcoholic inebriation is flushing in the face, an occurrence which indicates that the blood is beginning to be saturated, the cervical sympathetic is beginning to be paralyzed. It is about this period that the drinker finds himself in unnaturally high spirits; that his animal passions are more prominent; that feelings of vanity carry him away in garrulity of talk, and that whatever sentimentalism there may be in his nature, is apt to come out, often ludicrously enough. The clue to a right appreciation of the successive phenomena is this: that the feelings, ordinarily suppressed by voluntary effort, are displayed, by the removal of the customary veils, in the order of their concealment. Reason and prudence and the moral sense, which form the varnish, mostly a thin one, superimposed upon the sensuous nature, vanish simultaneously with the faculty of estimating ideas of time and space, and with the power of accurate co-ordination of the muscular movements. This is the first stage of inebriation. The effects of *A.* proceeding gradually to develop themselves, the nerves of sensation are completely paralyzed, and the drunkard, then voiceless, falls to the rank of an animal of the lowest class. This is the second stage, characterized by the stupidity of the face. At last, paralysis extending itself to the nerves of motion, leaves the body in a state of complete insensibility. After this regular and progressive extinction of the vital properties of the various portions of the nervous system, a fourth and last stage may follow, if the quantity of the absorbed *A.* was considerable; the paralysis reaches the heart, and death is the immediate consequence, exactly as it occurs with other narcotics. — In the recovery from the poisonous influence of *A.*, the brain is the first to lose the influence of the poison. As a consequence of the restoration of consciousness which this brings about, the mind takes cognizance of the condition of the still half devitalized sensory nerves, and there is therefore usually the sensation of neuralgic pain, often followed by vomiting and muscular tremor. When *A.* is brought into contact with a solution of molybdic acid in strong sulphuric acid, a deep azure coloration takes place. This test is so sensitive, it is affirmed, that so small a quantity of *A.* as .1666 part of a grain may be detected.

Al'coholate, Alcohate, Alcoate, *n.* [Fr. *alcoholat.*] (*Chem.*) Crystallizable compounds formed by the combination of anhydrous alcohol with many anhydrous saline bodies in definite proportions, and in which the alcohol seems to occupy the place of water of crystallization. The *chlorides* and the *nitrates* offer the best examples of the formation of alcoholates.

Alcohol'ic, *a.* [Fr. *alcoholique.*] Pertaining to, containing, or having the properties of, alcohol.

Alcoholiza'tion, *n.* [Fr. *alcoholisation.*] The act of rectifying spirits.

Al'coholize, *v. a.* [Fr. *alcoholiser.*] To convert into alcohol; to rectify spirits.

Alcohol'meter, ALCOHOLOM'ETER, ALCOOMETER, *n.* [Fr. *alcoholomètre.*] An instrument for determining the strength of spirits, and usually made of glass, in the form represented (*Fig.* 76). This is the *Gay-Lussac's A.*, the simplest and the best of all. The stem is divided into 100 degrees; it sinks to 0° or A in pure water, and to 100° or B in pure alcohol. If it sinks to 55°, it indicates that the liquor contains 55 per cent. alcohol and 45 per cent. water. This instrument is only accurate at the temperature of 15° C. If the temperature is different, the indication of the Alcoholmeter must be corrected by means of tables prepared for the purpose, to be seen in special books.

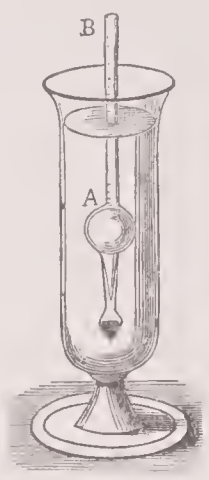


Fig. 76.

Alcoholmet'rical, *a.* Relating to the alcoholmeter.

Alcoholom'etry, ALCOOM'ETRY, *n.* The process of ascertaining the strength of alcohol by determining the quantity of water contained in it.—See ALCOHOLMETER.

Alco'na, in *Michigan*, a county bordering on Lake Huron, and drained by the Au Sable river. *Area*, about 630 sq. m.

Alcoomet'rical, *a.* See ALCOHOLMETRICAL.

Alcoom'eter, *n.* [Fr. *alcoomètre.*] See ALCOHOLMETER.

Al'cora, a town of Spain, prov. Valencia, 48 m. N. of Valencia: *pop.* 5,609.

Al'coran, *n.* See KORAN.

Alcoran'ic, ALCORAN'ISH, *a.* Relating to the sacred book of the Mohammedans, or to Mohammedanism.

Alcoran'ist, *n.* One who adheres strictly to the letter of the Koran or Alcoran.

Al'coru's, in *Iowa*, a village of Adair co., 160 m. W. by S. of Iowa City.

Al'cott, LOUISA MAY. See SECTION II.

Al'cove, *n.* [Fr., probably from Ar. *al-kauban*, a tent.] (*Arch.*) This word strictly means a recess in a chamber for the reception of a bed, separated from the other parts of the room by columns, antæ, or balusters. The French were particularly partial to the *alcove*, using it almost always for state beds.—The term is commonly applied, in England, to ornamental and covered seats in gardens.

Al'cove, in *Wisconsin*, a post-village of Fond du Lac co., 70 m. N.E. of Madison.

Al'covy River. See ULCOFAUHACHEE.

Al'coy, a town of Spain, prov. Valencia, 24 m. N. of Alicante. *Pop.* of town and district, 27,000. It is situated among hills, at the source of a river of the same name, which, 35 m. further, falls into the Mediterranean near Goudia.

Al'cuin, or **Albinus,** FLACCUS, was one of the most learned persons of the 8th century. B. at York, or in Scotland, in 732, he was made abbot of Canterbury. Charlemagne became acquainted with him in Parma, on his return from Rome, whence he had brought the pallium for a friend. At the invitation of the emperor, he consented to come to France. Soon after he arrived, 780, the emperor bestowed upon him several rich abbeys. But the principal occupation of Alcuin was as a public teacher of what was then called the *totum scibile*, or entire circle of human learning. In this capacity he was frequently honored with the attendance at his lessons of the emperor himself, his children, and the lords of the court. The school thus established by Alcuin is considered by French antiquaries as the germ from which the University of Paris originated. In 796, the emperor gave him the abbey of St. Martin of Tours, where he established a school, which soon became greatly celebrated. *A.* died in 804, and was buried in the church of St. Martin. Over his remains was inscribed, on a plate of copper, an epitaph composed by himself, of which the following are two of the lines:

> "Quod nunc es, fueram, famosus in orbe, viator;
> Et quod nunc ego sum, tuque futurus eris."

The first edition of his collected works was published at Paris in 1617, (1 vol. folio.)

Al'cyon, *n.* See HALCYON.

Alcyo'nacea, *n. pl.* (*Zoöl.*) A sub-ord. of polyps, ord. *Alcyonaria*. It comprises polypes which are turbinate at the base, and which are found incrusting foreign bodies. It embraces 4 fam., *Alcyonidæ*, *Xenidæ*, *Cornularidæ*, and *Tubiporidæ*.

Alcyona'ria, *n. pl.* (*Zoöl.*) An ord. of polyps, containing those which have well-developed actinal, mural, and abactinal regions; eight long, pinnately-lobed tentacles around a narrow disk; and which are united by budding. It comprises 3 sub-ord.,—*Pennatulacea*, *Gorgonacea*, and *Alcyonacea*.

Alcy'one, or HALCYONE. (*Myth.*) A daughter of Eolus. She married Ceyx, who was drowned as he was going to consult the oracle. When she found his body lying on the shore, she threw herself into the sea, and was, with her husband, changed into birds of the same name, with power to keep the waters calm while they built, and sit on their nests on the surface of the ocean.

ALCY'ONE. (*Myth.*) One of the Pleiades, daughter of Atlas and Pleione. She had Arethusa by Neptune, and Eleuthera by Apollo. She, with her sisters, was changed into a constellation.—See PLEIADES.

Alcy'one. (*Anc. Geog.*) A town of Thessaly, where Philip of Macedon, Alexander's father, lost one of his eyes.

Alcy'one, *n.* (*Astron.*) A star of the 3d magnitude, the brightest among the *Pleiades*, sometimes for that reason called the Light of the Pleiades.

Alcyonia Palus. (*Anc. Geog.*) A lake of Corinth, whose depth the emperor Nero attempted in vain to fathom. Nocturnal orgies were annually celebrated there in honor of Bacchus.

Alcyon'ic, *a.* Pertaining or relating to the Alcyonidæ.

Alcyon'idæ, *n. pl.* (*Zoöl.*) A fam. of polyps, sub-ord. *Alcyonacea*, containing those in which the polyps are united, forming lobed or arborescent clusters of fleshy or coriaceous texture, filled with calcareous particles. The cells occupied by the polyps are placed at the termination of canals which run through the polypodom, and which, by their union with each other, serve to

Fig. 77. — ALCYONIUM ELEGANS.

maintain a communication between the individual polypes constituting the mass. The *A.* are always attached to submarine bodies. The gen. *Alcyonium* is the principal one.

Al'cyonite, *n.* (*Pal.*) A fossil zoöphite, found in chalk formations.

Al'cyonium, *n.* (*Zoöl.*) A gen. of polyps, fam. *Alcyonidæ*.

Al'cyonium Mare. (*Anc. Geog.*) A name given to that portion of the Sinus Corinthiacus, or Gulf of Lepanto, which lies between the promontory of Autirrhium and the coast of Megaris.

Ald, or ALDE, a river of England, in Suffolk, rising near Framlingham and joining the North sea at Oxford.

Alda'bra, an island in the Indian ocean, composed of three separate parts, having a connection by coral rocks. Lat. 9° 26′ S.; lon. 46° 35′ E.

Al'dan, a river of Siberia which rises on the confines of China and joins the Lena, at lat. 62° 12′ N., lon. 129° 40′ E. There are several towns upon its banks, and in a course of 300 miles it is fed by various tributaries.

Al'dan Mountains, an E. Siberian chain of mountains terminating at Behring's Strait, average height 4,000 ft. A branch which traverses Kamtschatka reaches an elevation of 10,548 ft. and in Klintshewskaja attains 15,763 ft. — See ALTAI.

Ald'borough, a market-town in the West Riding of Yorkshire, England; *pop.* of town and parish 2,438. This is a place of great antiquity, supposed to have been the capital of the *Brigantes*, the most powerful of the nations of Britain before the conquest of that people by the Romans. But however this may be, the remains, which attest the former greatness of the place, go no further than the Roman dominion. Under that people *A.* had the name of Isurium.

ALDBOROUGH, or ALEBOROUGH, another town of England, in Suffolk, on the Alde, 94 miles from London. The encroachments of the sea have made it lose its former importance. It is a sea-bathing resort; *pop.* of parish 1,627.

Aldeb'aran, *n.* [Ar.] (*Astron.*) The Arabic name of a large and bright star of the first magnitude, called in modern catalogues *A. Tauri*, situated in the eye of the constellation Taurus, whence it is called also by the Arabs *Ain al Thaur*, the bull's-eye. It is the bright star in the group of the Hyades. Its light is rather reddish, and of late years it has become remarkable as having been frequently occulted by the moon, and having exhibited the curious phenomenon of projection on the moon's disk. It is easily found in the heavens by the following directions. If a line be drawn through the three conspicuous stars forming the belt of Orion, *toward the head*, it passes just below Aldebaran and the Hyades; if *toward the feet*, it passes through Sirius, which is about the same distance from the belt as Aldebaran. It comes to the meridian at 9 o'clock on the 10th of Jan.

Aldegre'ver, Heinrich, a German painter and engraver, a pupil and successful imitator of Albert Dürer. B. in Westphalia in 1502, D. 1562.

Aldehydeic, *a.* Denoting an acid prepared from an aldehyde.

Al'dehydes, *n. pl.* [A contraction from *alcohol dehydrogenatus*, alcohol deprived of its hydrogen.] (*Chem.*) The name of a series of compounds produced by the oxidation of the alcohol, less highly oxidized than the acids, and standing in an intermediate position between the alcohol and the acids. The characteristic reaction of the series is the formation of definite compounds with the acid sulphites of alkali metals. *Aldehyde* is a volatile inflammable liquid, with a peculiar pungent irritating odor, which has a faint resemblance to that of apples. It is obtained by a gradual oxidation of alcohol in various ways. *Form.*, C_2H_4O. It may be mixed in all proportions with alcohol, ether, and water. It can scarcely be exposed to the air, without absorbing oxygen, and it then forms an acid compound.

Al'den, in *Illinois*, a post-village and township of McHenry co., 70 m. N.W. of Chicago.

Al'den, in *Iowa*, a post-village and township in Hardin co.—*Alden Village* is on the Iowa river, about 70 miles N. by E. of Des Moines.

Al'den, in *New York*, a township of Erie co., 22 m. S. of Buffalo.

Al'den, in *Wisconsin*, a township in the S.E. of Polk co.

Al'denville, in *Penna.*, a post-office of Wayne co.

Al'der, *n.* (*Bot.*) See Alnus.

Al'derbrook, in *Arkansas*, a post-office of Independence co.

Al'derbury, a small town of England, county of Wilts, 3 m. from Salisbury. *Pop.* 1,438. At about a mile from the town is Clarendon, where formerly stood a mansion, which was a frequent residence of the early English monarchs. In it Parliament assembled, and Henry II. enacted the celebrated *Statutes of Clarendon*, framed to check the encroachments of Catholicism.

Al'der Creek, in *New York*, a village of Oneida co., 107 m. W.N.W. of Albany.

Al'derley, in *Wisconsin*, a post-village of Dodge co.

Al'derman, in *N. Carolina*, a vill. of Cumberland co.

Al'derman, in *N. Dakota*, a village of Barns co.

Al'derman, *n.*; *pl.* Aldermen. [A. S., *ealderman*, from *ealder*, older, and *man*, a man.] Princes, earls, governors of provinces, and other persons of distinction, were generally termed *aldermen* by the Anglo-Saxons. But besides this general signification of the word, it was also applied to certain officers in particular; thus, there was an *A.* of all England (*aldermannus totius Angliæ*), the nature of whose office has not been well ascertained. There was also a king's *A.* (*aldermannus regis*), who has been supposed to have been an occasional judge, with authority to administer justice in partial districts. There were also *A.* of cities, boroughs, and castles, and *A.* of hundreds, upon whose particular functions it is useless to speculate. Aldermen, at present, are officers associated with the mayor of a city, for the administration of municipal governments, both in England and the United States.—In some places they act as judges in certain civil and criminal cases.

Al'dermancy, and **Al'dermanry,** *n.* The quality or office of an alderman.

Al'derman'ic, *a.* Belonging or relating to an alderman.

Al'derman-like, and **Aldermanly,** *a.* Like an alderman.

Al'dermanship, *n.* The condition of an alderman.

Al'dern, *a.* Made of alder.

Al'derney, or **Aurigny,** an island belonging to Great Britain, in the English Channel, 55 m. S. from the isle of Portland, and 18 m. W. of Cape La Hogue in Normandy. The channel between *A.* and the latter is dangerous in stormy weather from the strength and rapidity of the tide. This isle is about 3½ miles in length, by 3¾ in breadth. It is celebrated for its breed of cows (see Ox). *Pop.* 4 932.

Al'dershot, and Aldershott, a parish of England, co. of Hants. *Pop.* 16,720. There is here, since 1854, a permanent camp of 20,000 men.

Al'die, in *Virginia*, a post-village of Loudon co., on Little river, 149 m. N. of Richmond.

Al'dine Editions. (*Bibliog.*) The name given to the works which proceeded from the press of the family of Aldus Manutius.—See Manutius.

Aldobrand'ini. See Clement VIII.

Aldrovan'dus, Ulysses, an Italian, distinguished as a natural historian. B. at Bologna in 1522, D. 1607. After passing a life devoted to the most exalted pursuits, and bringing together, at vast labor and expense, a magnificent collection of minerals, plants, and animals, he died in an hospital, which he was compelled to enter on account of his poverty.

Alds'tone Moor, a parish and town of England, co. of Cumberland, Leath ward, on the border of Northumberland. The town stands on a hill washed by the Tyne. *Pop.* of parish, 6,404. It is chiefly celebrated for its lead mines.

Al'dus. See Manutius.

Ale, *n.* [A. S. *eale*, *eala*, *aloth*, from *aelan*, to inflame.] An amber-colored, malt, fermented liquor, differing from beer chiefly by its strength and the quantity of saccharine matter remaining unfermented. Common beer has only 1 per cent. of alcohol, while brown ale has from 5 to 6 per cent. The strongest *Burton ale* is made with the best pale malt, and contains as much as 8 per cent. of alcohol. The *Scotch ales* also, especially those of Edinburgh and Prestonpans, which have a high reputation, contain a very small amount of hops, and are distinguished for their vinous flavor. *India pale ale* differs from others chiefly in having a larger quantity of hops. The use of an intoxicating beverage composed of barley and other grain steeped in water and afterwards fermented, may be traced in several parts of the ancient world. Pliny states that in his time it was in general use among the natives who inhabited the western parts of Europe, and under different names in Egypt, Spain, and Italy. 900 years before Pliny, Herodotus tells us that the Egyptians used a liquor made of barley, and Tacitus states that the ancient Germans for their drink drew a liquor from barley and other grains, and fermented it so as to make it resemble wine. Ale was also the favorite liquor of the Anglo-Saxons and Danes, and before the introduction of Christianity it was an article of belief among them that drinking copious draughts of ale formed one of the chief felicities of their heroes in the hall of Odin. It is equally named as one of the chief liquors provided for a royal banquet in the reign of Edward the Confessor. By a statute of Henry III. (1266), the preamble of which alludes to earlier statutes on the same subject, a graduated scale was established for the price of ale throughout England. For a long time after the introduction of hops in England, which took place about the year 1524, the name Ale was restricted to the unhopped liquors in opposition to the German beer or hopped liquors. But as now used, the word *ale* does not imply the absence, but only a less proportion of hops.

Ale'a, *n.* [Lat., a game of hazard.] (*Law.*) The chance of gain or loss in a contract.

(*Conch.*) A gen. of minute land-shells, found in marshy ground, roots of trees, moss, &c.

Ale'a. (*Anc. Geog.*) A town of Arcadia, built by Aleus. It had three famous temples—that of Diana Ephesia, of Minerva Alea, and of Bacchus. At the annual festival held here in honor of the latter deity, women were beaten with scourges, in accordance with a command of the Delphian oracle.

Aleak', *adv.* In a leaking condition.

(*Naut.*) *To spring a leak*, is said of a vessel, when a leak commences in some part of her.

Al'eatory, *n.* [From *alea.*] (*Law.*) An *A.* contract is an agreement of which the effects, with regard both to the advantages and losses, whether to all the parties, or to some of them, depend on an uncertain event.

Ale'-berry, *n.* A beverage made by boiling ale with spice, sugar, and sops of bread.

Ale'-brewer, *n.* One who brews ale.

Ale'-conner, Ale'-kenner, *n.* In England, an officer sworn to look at the assize and goodness of ale and beer.—Also an officer whose office is to inspect the measures used in public-houses.

Ale'cost, *n.* (*Bot.*) The costmary, *Balsamita vulgaris*, sometimes put into ale to improve its taste.

Alec'tor, *n.* (*Zoöl.*) See Curassow.

Alectoromi'achy, *n.* [Gr. *alector*, a cock, and *mache*, a battle.] Cock-fighting.

Alec'trures, *n. pl.* See Alectrurinæ.

Alectruri'næ, *n. pl.* (*Zoöl.*) A sub-fam. of dentirostral birds, ord. *Passeres*, fam. *Muscicapidæ*.

Alectryomi'ancy, and Alectrom'ancy, *n.* [Gr.] An ancient practice of foretelling events by means of a cock. The letters of the alphabet were traced on the ground, and a grain of corn laid on each; a cock was then permitted to pick up the grains; and the letters under the grains selected, being formed into words, were supposed to foretell the events desired.

Alec'tura, *n.* (*Zoöl.*) See Talegalla.

Aledo, in *Illinois*, a city, capital of Mercer co., about 75 miles W. N.W. of Peoria. *Pop.* (1890), 1,601.

Ale'-draper, *n.* A keeper of an ale-house.

Alee', *adv.* [From *a* and *lee*. In Fr. *sous le vent*, under the wind.] (*Naut.*) The situation of the helm when it is pushed down to the lee side of the ship, in order to put the ship about, or to lay her head to the windward.

Aleft', *adv.* On the left. (R.)

Ale'hoof, *n.* (*Bot.*) A species of ground-ivy, the *Nepeta glechoma*, ord. *Lamiaceæ*; once so called on account of its being the chief ingredient with which ale was made.

Ale'-house, *n.* A house where ale and beer are drunk;—distinguished from a *tavern*, where wines and liquors are also retailed.

Al'eman, Mateo, a Spanish writer, who lived in the 16th century. He satirized the manners of his countrymen in the masterly creation of *Guzman de Alfarache*, a novel published in Madrid, 1599.

Alema'nni, or Allemanni, *n. pl.* [O. Ger. *Allemannen*, from *alle*, all, and *Mann* (pl. *Männer*), a man;—all men, all sorts of men; a vast union of many tribes.] The name of a confederacy of several German tribes, which, in the beginning of the third century, approached the Roman territory. Their principal abode was the very heart of Germany, the space between the sources of the Rhine and the Danube; from this vital centre, their sway seems to have extended very far along the banks of both those rivers, occupying the entire space between them. In the earliest period of their history, their limits are supposed to have been the Rhine, the Danube, and the Maine: in subsequent ages, their territory extended towards the Alps and the Jura mountains. Caracalla first fought with them, on the southern part of the Rhine, in 211, but did not conquer them. Maximin drove them beyond the Rhine, in 236, and Posthumius pursued them into Germany. But the *A.* did not desist from their incursions. Successively repulsed by Lollianus, the emperor Probus, and Constantius Chlorus, they were defeated by Julian, 357, who forced their princes to sue for peace. Valentinian I. had almost incessantly to contend with them in his own domain. Gratian, in 377, fought with them a bloody battle, at Argusturia (Harburg). In the middle of the 5th century, they spread over Helvetia. After the great victory gained by the Frankish king Clodwig, at Tolbiacum, 496, many of them sought refuge with Theodoric the Great, who assigned to them abodes in Rhætia. They consolidated with the Suevi into a dukedom, called the *Duchy of Alemannia*, after which their history is absorbed in the general history of Germany.

Alemanni'c, *n.* The language of the Alemanni.

—*a.* Pertaining or relating to the Alemanni.

Alem'bert, Jean le Rond d', B. at Paris, 1717, was a natural child, abandoned by his mother, exposed in a public market, by the church of St. Jean le Rond, and found by the overseer of the district, who intrusted him to the wife of a poor glazier. D'Alembert commenced his studies in the college of Mazarin, where he made surprising progress in mathematics. When he left college, he returned to his foster-mother, with whom he lived altogether 40 years. Giving up all hopes of wealth or civil honors, he devoted himself entirely to his favorite studies. Some memoirs, which he wrote in the years 1739 and 1740, procured him admission to the Academy of Sciences, in 1741, at the age of 24. From this time may be dated the career of honor which ranks him among the greatest benefactors to science of the last century. In 1743 he produced his treatise on dynamics. In 1749 he solved the problem of the precession of the equinoxes, ascertained its quantity, and explained the rotation of the terrestrial axis. In 1752 he published an essay on the resistance of fluids, and soon after obtained a pension from Louis XV. He next engaged with Diderot in compiling the celebrated "Encyclopédie," for which he wrote the preliminary discourse, which was so excellent, that it drew from Condorcet the compliment, that in a century only two or three men appeared capable of writing such. While engaged on mathematical subjects, his name was not much known; but now he became celebrated by works of an historical and miscellaneous character, such as his "Philosophical, Historical, and Philological Miscellanies;" "The Memoirs of Christina, Queen of Sweden," and his "Elements of Philosophy." Frederick, king of Prussia, offered him the office of president of his academy, and Catharine, the empress of Russia, invited him into her dominions as tutor to the grand-duke; but Alembert refused both. In 1765 he published his dissertation on the destruction of the Jesuits. He also published nine volumes of memoirs and miscellaneous pieces, and the "Elements of Music." In 1772 he was elected secretary to the French Academy, and wrote the history of 70 of its members. D. 1783. D'Alembert has been held up to reprobation on account of his religious opinions. Nevertheless, the published writings of *D'A.* contain no expressions offensive to religion. Had it not been for his private correspondence with Voltaire and others, which was published after his death, the world would not have known, except by implication, what the opinions of *D'A.* were. On this point we will cite respectable Catholic authority. The Bishop of Limoges said, during the life of *D'A.*, "I do not know him personally; but I have always heard that his manners are simple, and his conduct without a stain. As to his works, I read them over and over again, and I find nothing there except plenty of talent, great information, and a good system of morals. If his opinions are not as sound as his writings, he is to be pitied, but no one has a right to interrogate his conscience." The style of *D'A.* as a writer is agreeable, but he is not placed by the French in the first rank. His mathematical works show that he wrote as he thought without taking much trouble to finish. His expression was, "Let us find out the thing—there will be plenty of people to put it into shape,"—an assertion abundantly verified since his time.

Alem'bic, *n.* [Ar. *al*, the, and *ambeeq*, a cup.] (*Chem.*) An obsolete form of still. In France, the term *alembic* is used to designate a glass still, consisting of a retort and head.

Alem'broth, *n.* (*Chem.*) An old term, which was applied by alchemists to the poisonous *salt of wisdom*, a double chloride of mercury and ammonia. It was used as a stimulant.

Alente'jo. See Alentejo.

Al'en, John Van, a distinguished Dutch painter of birds, landscapes, and representations of still life. B. at Amsterdam, 1651; D. 1678.

Alen'çon, a city of France, cap. of the dep. of the Orne, in a plain on the Sarthe, 105 m. W.S.W. of Paris.—*Man.* Cloth, linen, tanneries. Some houses still make the celebrated lace called *point d'Alençon*. The *A.* diamonds are crystals of smoke quartz found in neighboring granite quarries. *Pop.* 14,760.

Alength', *adv.* [From *a* for *ad*, and *length*.] At full length; along; stretched at full length. (O.)

Ale'nio, Julius, an Italian Jesuit, who propagated Christianity with great success in China during 56 years and wrote several books in the Chinese language. D. 1649.

Alente'jo, a prov. of Portugal, between Lat. 37° 20′ and 39° 40′, having, N. Beira, S. Algarve, E. Spain, and W. the Atlantic and part of Estremadura.—*Area*, 10,224 sq. m.—*Climate*, hot and dry. Surface undulating.—*Rivers*, Tagus, Guadiana, and Sado.—*Chief towns*, Evora the cap.; Beja, Villa-Viscosa, Portalegre, Elvas, and Estremoz. Lisbon is mostly supplied with corn from hence, and rice is grown in the low grounds; *pop.* 329,277.

Alep'po, or Haleb-es-Shabba, a city of Turkey in Asia, cap. of a pashalic of the same name, in the N. of Syria, on the Koeik (anc. *Chalus*), 70 m. E. of the Mediterranean. Lat. 36° 11′ N.; Lon. 37° 10′ E. The city rose to importance on the destruction of Palmyra, and be-

came the great emporium of trade between Europe and the East. *A.* has a castle, a Mohammedan college, with numerous pupils, many Christian schools and churches, an ancient aqueduct, several large inns, and many extensive warehouses and bazaars.—*Manf.* Silk, cotton, gold and silver thread stuffs. Large caravans arrive from Bagdad, Bassora, Diarbekir, Mosul, Kurdistan, and Armenia. Consuls of most European nations reside at Aleppo. About 30 m. N.W. is Angoli Tagh, a mountain with ruins of a convent, and a number of deserted villages, which indicate its former populousness. *Pop.* about 100,000; but previously to the earthquake of 1822 it is said to have been upward of 200,000.

Alep'po, in *Pennsylvania*, a township of Green county.

Alert', *a.* [Sp. *al' erta*, on the mound or post of the sentinel on the fortification or rampart.] Watchful; vigilant; ready at a call; active; brisk; nimble.—Although *A.* is used for briskness or activity in general, it still is most appropriately used of cases in which, according to the etymology, the mind and body answer to some external call upon them, to be on the alert, or to be on the lookout, ready to act on short notice, being found prepared. (*Mil.*) *Upon the alert*, on one's guard; upon the watch; guarding against surprise or danger.

Alert', in *Ohio*, a post-village of Butler co.

Alert'ness, *n.* The quality or state of being alert; nimbleness; sprightliness.

Ale'-pole, ALE-POST, *n.* A pole or post set up for a sign before an ale-house.

Ale'-silver, *n.* A rent or tribute anciently paid to the Lord Mayor of London by the sellers of ale.

Alessan'dria, ("City of Alexander,") a fortified town of N. Italy, Piedmont, cap. of a prov. of the same name, on the Tanaro, 56 m. E.S.E. of Turin. It has a cathedral, barracks, and many public edifices. *Manf.*, silks, linens, woollen goods, stockings, and hats. *Pop.* 59,000. In the extensive and barren plain of San Giuliano, 2 miles S.E. of *A.*, is the little village of Marengo, celebrated for the great victory gained by Napoleon I. over the Austrians, on June 14, 1800.

Ales'si, GALEUS, a famous architect, who planned the monastery and church of the Escurial, the royal palace near Madrid. B. at Perugia, 1500; D. 1572.

Ales'so, d', MATTEO PEREZ, an eminent painter and engraver, B. at Rome. His most celebrated performance is a gigantic fresco figure of St. Christopher, in the great church of Seville. D. 1600.

Ale'tris, *n.* [Gr. *aleiatros*, meal, from the powdery dust with which the plant is covered.] (*Bot.*) A gen. of the ord. *Hæmodoraceæ*. The *A. farinosa*, or star-grass, grows in low grounds in the U. States. Its roots are intensely bitter. It is used in infusion as a tonic and stomachic, and has been employed in chronic rheumatism.

Aleu'rites, *n.* (*Bot.*) A gen. of the ord. *Euphorbiaceæ* The *A. triloba*, a Molucca tree, has much reputation for its nuts, said to be aphrodisiac.

Aleu'romancy, *n.* [Gr.] A kind of divination by flour, used by the ancients.

Aleurom'eter, *n.* [Gr. *aleuron*, flour, and *metron*, measure.] An instrument to ascertain the quantity of gluten in flour.

Aleu'tian, or ALEUTAN, **Islands,** a chain of islands in the North Pacific, extending between Kamtschatka in Asia, and the peninsula Alaska in America. They are very numerous, occupying a circular area, extending from 165° to 195° E. lon., whose chord is in 55° N. lat., and over 600 m. in length. Behring's island, Attoo, and Unalaska, are the largest. They are rocky and volcanic, having some volcanoes in constant activity. Vegetation scanty; there are no trees nor any plants surpassing the dimension of low shrubs and bushes. The seas abound in fish, and the feathered tribes are numerous. Foxes are the principal quadrupeds. Only a few islands are inhabited, and the total population, variously estimated, is perhaps 2,500. The islands were partially discovered by Behring, in 1741. The E. part of the chain belongs to the U. States, and a few islands at the extreme W. end to Russia. See ALASKA.

Ale'wife, *n.* A woman who keeps an ale-house. (*Zoöl.*) The *clupea serrata*, an American fish, resembling the herring.

Alexan'der I., king of Macedon, son of Amyntas I., was alive at the time of the great Persian invasion of Greece, B. C. 480.

ALEXAN'DER II., the 16th king of Macedon, was the son of Amyntas II., and ascended the throne about B. C. 370.

ALEXAN'DER III., (THE GREAT,) son of Philip II., king of Macedon, was born B. C. 356. His mother was Olympia, the daughter of Neoptolemus, king of Epirus, through whom *A.* claimed a descent from the great Phthiotic hero Achilles. The history of *A.* forms an epoch in the history of the world. Whatever difficulties we may have in making an exact estimate of his personal character, we can hardly assign too much importance to the great events of his life, and their permanent influence on the condition of the human race. The overthrow of the great Asiatic monarchy which had so often threatened the political existence of Greece, the victorious progress of the Macedonian arms from the plains of Thebes to the banks of the Danube, and from the Hellespont to the Nile, the Jaxartes, and the Indus,—these have formed in all ages the theme of historical declamation, and are still the subject of vulgar admiration. But the diffusion of the language and the arts of Greece, the extension of commerce by opening to Europeans the road to India, the great additions made to natural science and geography by the expedition of *A.*,—these are the real subjects for enlightened and critical research. If we knew nothing more of *A.* than that Aristotle was his master, the memory of the philosopher would preserve that of the pupil. But it is a rare coincidence to find the greatest of conquerors instructed by the first of philosophers—the master of all knowledge teaching the future master of the world. Some of the great projects of *A.* might pass for the mere caprice of a man possessed of unlimited power, if we did not know that Aristotle had given him lessons in political science, and written for his use a treatise on the art of government. That the pupil, amid all his violence and excesses, possessed a vigorous and clear understanding, with enlarged views of the advantages of commerce, and of the nature of civil government, is amply confirmed by some of the most prominent events of his life. Unfortunately, Aristotle was not his only master; the flattery of Lysimachus, and the obsequiousness of his attendants, conspired to cherish those ungovernable passions which seem to have descended to him from both his parents.—His first essay in arms was

Fig. 78.—TETRADRACHM OR FOUR-DRACHM COIN OF ALEXANDER THE GREAT.

(*The reverse of this coin is a figure of the eagle bearing Jupiter.*)

made at the battle of Chæronea, B. C. 338, when his father crushed the united forces of Thebes and Athens with their allies, and established the Macedonian supremacy in Greece. Philip was murdered during the celebration of his daughter's marriage, when he was just on the eve of setting out on his Asiatic expedition, at the head of the combined force of Greece, and *A.*, in his 20th year, succeeded to the monarchy and to the great designs of his father. After having punished Philip's murderer, *A.* went into the Peloponnesus, and received, in the general assembly of the Greeks, the chief command already conferred on his father. After his return, he found the Illyrii and Triballi in arms, went to meet them, forced a passage through Thrace, and was everywhere successful. But the Thebans, having heard a rumor of his death, had taken up arms, and the Athenians, urged by Demosthenes, were about to join them. *A.* hastened to prevent this junction, and appeared before Thebes, took and destroyed the city. 6000 of the inhabitants were put to the sword, and 30,000 carried into captivity. The house and family of the poet Pindar alone were spared. This severity terrified all Greece. Leaving Antipater to govern in his stead in Europe, he crossed over into Asia, in the spring of 334, with 30,000 foot and 5,000 horse. When he approached the Granicus, he learned that several Persian satraps, with 20,000 foot, and as many horse, awaited him on the other side. *A.*, without delay, led his army through the river, and obtained a complete victory, having overthrown, with his lance, Mithridates, the son-in-law of Darius, and exposed himself to every danger. Most of the cities of Asia Minor, even Sardis, opened their gates to the victor. Miletus and Halicarnassus resisted longer. *A.* restored democracy in all the Greek cities. In passing through Gordium, he cut the Gordian knot, and conquered Lycia, Ionia, Caria, Pamphylia, and Cappadocia. But a dangerous sickness, brought on by bathing in the Cydnus, checked his course. On this occasion he showed the elevation of his character. He received a letter from Parmenio, saying that Philip, his physician, had been bribed by Darius to poison him. *A.* gave the letter to the physician, and at the same time drank the potion which he had prepared for him. Scarcely was he restored to health, when he advanced toward the defiles of Cilicia, whither Darius had imprudently betaken himself, with an immense army. The second battle took place near Issus, between the sea and the mountains. The disorderly masses of the Persians were broken by the charge of the Macedonians, and fled in wild confusion. The treasures and family of Darius fell into the hands of the conqueror. The latter were treated most magnanimously. *A.* did not pursue Darius, who fled toward the Euphrates, but, in order to cut him off from the sea, turned toward Cœlo-Syria and Phœnicia. The victory at Issus had opened the whole country to the Macedonians. *A.* took possession of Damascus, and secured all the towns along the Mediterranean sea. Tyre, emboldened by the strength of its situation, resisted, but was taken, after seven months of incredible exertions, and destroyed. *A.* continued his victorious march through Palestine, where all the towns surrendered, except Gaza, which shared the fate of Tyre. Egypt, weary of the Persian yoke, received him as a deliverer. In order to confirm his power, he restored the former customs and religious rites, and founded Alexandria. At the return of spring, *A.* marched against Darius, who, in the meantime, had collected an army in Assyria, and rejected the proposals of *A.* for peace. A battle was fought at Gaugamela, not far from Arbela, in 331. Justin estimates the forces of Darius at 500,000 men; Diodorus, Arrian, and Plutarch at more than double that number. Notwithstanding the immense numerical superiority of his enemy, *A.* was not a moment doubtful of victory. At the head of his cavalry, he attacked the Persians, and routed them immediately; he then hastened to the aid of his left wing, which had been, in the mean time, severely pressed. His wish was to take, or kill, the king of Persia. The latter was on an elevated chariot, in the midst of his body-guards. These, when they saw how *A.* overthrew everything, fled. Darius then mounted a horse, and fled likewise, leaving his army, baggage and immense treasures to the victor. Babylon and Susa, where the riches of the East lay accumulated, opened their gates to *A.*, who directed his march toward Persepolis, the capital of Persia. The only passage thither, Pylæ Persidis, was defended by 40,000 men under Ariobarzanes. *A.* attacked them in the rear, routed them, and entered Persepolis triumphant. From this time the glory of *A.* began to decline. Master of the greatest empire in the world, he became a slave to his own passions; gave himself up to arrogance and dissipation; showed himself ungrateful and cruel, and, in the arms of pleasure, shed the blood of his bravest generals. Hitherto sober and moderate, this hero, who called himself a god, sunk to the level of vulgar men. Persepolis, the wonder of the world, he burned in a fit of intoxication. Ashamed of this act, he set out with his cavalry to pursue Darius, who was assassinated by Bessus, satrap of Bactriana, and mourned by the Macedonian hero. The ambition for conquest had now become in *A.* an inordinate passion. He entirely subdued Persia, and then prepared to invade India. In the early part of the year 326 B. C. he crossed the Indus, and entered the Punjab. On the banks of the Hydaspes he encountered Porus, an Indian prince, with a numerous army, in which were several elephants. The wonted fortune of the Macedonians prevailed; but *A.* was so pleased with the gallantry of Porus, that he restored him his kingdom and entered into an alliance with him. Pursuing the tide of conquest, which seemed to roll him to success, he advanced to the Acesines (the Chenaub), traversed the barren plain between it and the Hydraotes (the Ravee), when he was met by a second Porus; him he defeated, and gave his kingdom to the former Porus. Continuing his march, he arrived at the river Hyphasis (the Garra), which was the limit of his Indian expedition. Here he erected twelve colossal towers to mark this circumstance. He now ordered a fleet to be built, and sailed down the Indus; and leaving the ships to Nearchus, whom he directed to the Persian Gulf, he returned with his army through Persia to Babylon, where he was carried off by a fever, in the 33d year of his age, 323 B. C. He had four wives: Barsina, the daughter of Artabazes; Roxana, a Persian princess, by whom he left a son of his own name, who was assassinated with his mother, by Cassander; Parisatis, daughter of Artaxerxes Ochus; and Statira, daughter of Darius Codomannus. By his own direction, his body was carried to Alexandria, where Ptolemy Lagus deposited it in a gold coffin, which one of his successors changed for a glass one. Having appointed no successor, his generals divided his conquests among themselves.—The character of *A.* was made up of very great and very bad qualities. He committed many odious cruelties, and he drank to a shameful excess. In one of his drunken fits he stabbed his most intimate friend Clytus with his own hand. Yet he often performed deeds that indicated a benevolent mind; and though he was pleased with the fulsome ascription of divinity, on other occasions he expressed his abhorrence of adulation and flattery. He possessed a taste for learning and the fine arts, and had always about him men of science, philosophers, and poets.

Alexan'der, JANNÆUS, king of the Jews, third son of Johannes Hyrcanus, succeeded his brother Aristobulus as king and as high-priest from 106 or 104 to 79 B. C. He began his reign by murdering one of his brothers, and entered into hostilities, which lasted long, with Ptolemy Lathyrus, king of Egypt. His cruelties irritated his subjects, and produced a civil war, which lasted six years. *A.*, however, proved successful, and in one day caused 800 captives to be crucified, after their wives and children had been murdered before their eyes.

ALEXAN'DER, son of king Aristobulus II., and grandson of Jannæus, was taken captive in Judæa by Pompey, who intended to exhibit him with his father and brother in his triumph at Rome. Alexander escaped on the journey, and returned to Judæa, where he raised an army. But Marcus Antonius, who was sent by Gabinius, governor of Syria, defeated Alexander near Jerusalem, B. C. 57, and besieged him in Alexandrion, where he capitulated. After his father, Aristobulus, had escaped from Rome to Judæa, and had been again defeated and put into prison, Alexander once more took up arms and conquered Judæa. But he was defeated in a battle near Mount Tabor, fell into the hands of Metellus Scipio, and was beheaded at Antioch, 49 B. C.

Alexan'der I., surnamed **Balas,** reigned as king of Syria from 150 to 145 B. C. He was an adventurer, who was employed by the Romans to personate the son of Antiochus Epiphanes, king of Syria, in order to take possession of that kingdom. He defeated Demetrius Soter, the lawful heir and married at Ptolemais, Cleopatra, a daughter of Ptolemæus Philometor, king of Egypt, who afterwards turned against him and embraced the cause of Demetrius Soter. Balas being defeated by Ptolemy, escaped into Arabia, where he was slain. On some coins, the head of Balas is associated with that of Cleopatra, who occupies the foreground with a modius on her head, — an indication of his subordination to that proud woman.

Fig. 79.

ALEXAN'DER II., called Zabina, or the *brought-on*, as it was reported that he had been purchased from slavery. He reigned over a part of Syria, from 128 to 122 B. C., and was put to death.

Alexan'der I., king of Scotland, son of Malcolm III., succeeded his eldest brother Edgar, 1107, and D. 1124. He was very rigorous in the administration of justice; on which account several insurrections took place, all of which he subdued. Alluding to the most serious of them, excited by the English, the old chronicler Wynton says,

> "Fra that day forth his lieges all
> Used him Alexander *the fierce* to call."

ALEXANDER II., succeeded his father, William the Lion, 1214, at the age of 16. He engaged in a long and destructive war with England. His marriage with the sister of Henry III., 1221, restored peace between the two kingdoms. D. 1249.

ALEXANDER III., son of the preceding by his second wife, came to the crown at the age of eight years. Soon after he was married to Margaret, daughter of Henry III. of England, whom he assisted against the English barons. He defeated the king of Norway, who had invaded Scotland with a large army. He was killed in hunting, 1286, leaving the character of a great and good prince.

Alexander, POPE, succeeded Evaristus in 109; D. 119. He was a Roman by birth, and stands as a martyr and prince in the Roman Calendar.

ALEXANDER II., succeeded Nicholas II. in 1061. He carried the Papal powers to a great height, and most of the sovereign princes yielded to his authority. D. 1073.

ALEXANDER III., succeeded Adrian IV. in 1159. The emperor Frederick I. having procured an anti-pope to be elected, *A.* deposed the emperor, and absolved his subjects from their allegiance. Upon this, Frederick marched to Rome, and having driven out *A.*, placed his rival in the pontifical chair; but becoming weary of the contest, he acknowledged *A.* as legal pontiff. *A.* took part with Thomas à Becket in his quarrel with Henry II., and canonized him after his assassination. D. 1181.

ALEXANDER IV., of Anagni, succeeded Innocent IV., 1254. He claimed unsuccessfully the right to dispose of the crown of Sicily. D. 1261.

ALEXANDER V., succeeded Gregory XII. in 1409. B. on the Island of Candia, of such poor parents that in his childhood he was obliged to go about begging, he was admitted among the Friars Minors, went to Paris for his studies, obtained the bishopric of Vicenza, and afterward the archbishopric of Milan; Pope Innocent VII. made him cardinal. He was a liberal and munificent pontiff. D. 1410.

ALEXANDER VI., (RODERIGO BORGIA,) B. at Valencia, Spain, 1431, succeeded Innocent VIII. 1492. His mother was sister to Calistus III., by whom he was made cardinal. By his intrigues he got himself elected by the conclave, though he had then four sons and a daughter by a Roman lady. His son, Cesare Borgia, was a monster of wickedness like himself. There is hardly a crime of which they have not been accused, and it seems with justice. At length Providence punished them by the same means which they had prepared for the ruin of others. In 1503, the Pope and his son attempted to poison a rich cardinal, on account of his wealth; when, by a mistake of the attendants, they drank the wine which they had destined for their victim. The Pope died almost instantly, but Borgia recovered, and was killed some years after. His daughter Lucrezia was married, first to Giovanni Sforza, Lord of Pesaro, whom she afterward divorced; then to a prince of the house of Aragon, who was murdered by her brother Cesare; after which she lived some time in the pontifical palace, sharing in the intrigues and licentiousness of that court. She was married a third time, in 1501, to Alfonso d'Este, son of Hercules, duke of Ferrara. — The pontificate of *A.* is certainly the blackest page in the history of modern Rome. The general demoralization of that period, of which abundant details are found in Catholic as well as Protestant writers, appear in our time almost incredible.

Fig. 80. — ALEXANDER VI.

ALEXANDER VII., FABIO CHIGI OF SIENA, succeeded Innocent X. 1655. He published, in 1656, the famous bull against the Jansenists. He protected learning, but was accused of favoring too much his relatives and connections. D. 1667.

Alexan'der VIII., Cardinal *Ottoboni* of Venice, succeeded Innocent XI. 1689; D. 1691, at the age of 82.

Alexan'der I., emperor and autocrat of all the Russias, and king of Poland, was born Nov. 6, 1777, and in 1801, on the death of his father, Paul, ascended the throne. From 1805 to 1815, his name and his influence were connected with all the most important political transactions of Europe. In the year 1805, Alexander united with the emperor of Austria against France. This coalition, however, was of short continuance; it was broken up, in consequence of the success of Napoleon at Austerlitz. In the following year he joined with Prussia; but, in 1807, after having been defeated at Friedland, he signed, at Tilsit, a peace with the French emperor, very soon

Fig. 81. — ALEXANDER I.

after which he became one of his closest allies. The interval between 1807 and 1812 was filled up with the seizure of Finland, and a war against Turkey. In the latter year, hostilities were again commenced between France and Russia, and were actively continued until the downfall of Napoleon. During his last years, *A.* was leader of the reaction against his former liberal tendencies. D. Sept., 1825, and was s. by his brother Nicholas.

ALEXAN'DER II., *Nicolaievitch*, B. 1818, son of the emperor Nicholas and Alexandra Feodorowna, sister to the king of Prussia, William IV. (I. of Germany), s. his father, Mar., 1855, during the Crimean war. *A.* continued to resist the allied armies of England, France, Sardinia, and Turkey. Sebastopol was taken by the allies Sept. 8, 1855; an armistice was agreed on Mar. 30, 1856, and peace was restored by the treaty of Paris, Sept. 7, 1856. He crushed the Polish insurrection (1863–4) with a cruelty which leaves a stain on his name, but proved himself a beneficent ruler to his own subjects. The great distinguishing feature of his reign is the abolition of serfdom throughout the Russian empire (decree of March 3, 1861). After several attempts against his life, *A.* was at last killed, March 13, 1881, by the explosion of bombs thrown under his carriage and at his feet while alighting, by two Nihilists, who, together with their accomplices, were hanged, April 15, 1881. *A.* left five sons: Alexander, who succeeded him; Vladimir (B. 1847), Alexis (B. 1850), who visited the U. States in 1871–2; Serge (B. 1857), and Paul (B. 1860).

ALEXANDER III., *Nicolaievitch*, late emperor of Russia, B. 1845; became heir-apparent on the death of his elder brother Nicholas, in 1865; married in 1866 the Danish princess Dagmar, and succeeded his father, Alexander II., March 13, 1881. Under him Russia pursued her policy of Asiatic conquests and the consolidation of her dominions. D. Nov. 2, 1894; succeeded by Nicholas II.

Alexan'der, king of Poland, succeeded his brother, John Albert, in 1501. D. 1506.

Alexan'der, ARCHIBALD, D.D., a distinguished American author, B. in Virginia, 1772; D. 1851.

Alexan'der Newskoi, a Russian hero and saint, son of the grand-duke Jaroslav, B. 1219. In order to defend the empire, which was attacked on all sides, but especially by the Mongols, Jaroslav quitted Novgorod, and left the charge of the government to his sons, Fedor and Alexander, the former of whom soon afterwards died. *A.* repulsed the assailants. Russia, nevertheless, came under the Mongolian dominion, in 1238. *A.*, when prince of Novgorod, defended the western frontier against the Danes, Swedes, and Knights of the Teutonic order. He gained, in 1240, a splendid victory on the Neva, over the Swedes, and thence received his surname. He overcame, in 1242, the knights of the sword, on the ice of lake Peipus. After the death of his father, in 1245, *A.* became grand-duke of Wladimir. He died in 1264. The gratitude of his countrymen has commemorated the hero in popular songs, and raised him to the dignity of a saint. Peter the Great honored his memory by the erection of a splendid monastery in Petersburg, on the spot where *A.* gained his victory, and by establishing the order of St. Alexander Newskoi; but dying before he had named the knights, this was done by Catharine I. in 1725.

Alexan'der, OF PARIS, a French poet, who flourished in the 12th century. He wrote a poem on the life of Alexander the Great, in verses of 12 syllables, which measure has ever since been called Alexandrine.

Alexan'der Severus. See SEVERUS.

Alexan'der, St., an Asiatic; who founded the order called *Acemetes*, because one of the monks was always to be on the watch to sing hymns. D. about 430.

Alexan'der, WILLIAM. See STIRLING, EARL OF.

Alexan'der (Archipelago). See ALASKA.

Alexan'der, in *North Carolina*, a western county, founded in 1846, from Wilkes, Caldwell, and Iredell counties. *Area* about 300 sq. m.; soil hilly and partially fertile; cap. Taylorsville.

Alexan'der, in *Georgia*, at township of Burke co., about 30 m. E. of Milledgeville.

Alexan'der, in *Illinois*, a county lying between the Ohio on the S.E. and the Mississippi on the S.W. *Area* 245 sq. m. Cash river, after flowing along the E. boundary of the county, flows into the Ohio. The soil is fertile, but some parts of this county are subject to inundation. Chief towns, Thebes, and Cairo, the capital.

Alexan'der, in *Maine*, a post-township of Washington co., 25 m. N. of Machias.

Alexan'der, in *New York*, a post-village and township of Genesee co. The village, at 258 m. W. of Albany, on the Tonawanda creek, contains a flourishing seminary.

Alexan'der, in *Ohio*, a township of Athens co., about 80 m. S.E. of Columbus.

—a village of Licking co., about 12 miles west of Newark.

Alexan'der, in *Tennessee*, a small village of Cannon co.

Alexan'dersville, or ALEXANDERVILLE, in *Ohio*, a post-village of Montgomery co., on the Miami Canal, 7 m. S. of Dayton.

Alexan'dretta. [Turk. *Iskanderoon.*] The ancient *Alexandria ad Issum*, a seaport of Syria, on the E. side of the bay of Iskanderoon, 23 m. N. of Antioch. *Pop.* 1,000.

Alexan'dria, a celebrated city and seaport of Egypt, near the westernmost branch of the Nile, on the Mediterranean, 112 m. N.W. Cairo, with which it communicates by railway, canal, and the river Nile. Lat. of lighthouse 31° 12′ 9″ N.; Lon. 29° 53′ E. The modern city is built on a peninsula (anciently the island of Pharos), and on the isthmus connecting it with the continent, the ancient city was on the mainland, where its ruins cover a vast extent of surface. A castle called Farillon, and serving as a landmark to sailors, replaces the famous *Pharos* of antiquity, which was considered one of the seven wonders of the world. *A.* is the great emporium of Egypt.—*Exp.*, corn, cotton, wool, gum, soda, rice, dates, senna, feathers, and other African products, hides, and manuf. goods. — *Imp.*, cotton, woollen, and silk goods, hardware, with timber, coal, drugs, and colonial products. *A.* is an important station in the overland route to India, and is connected by railway with Suez. Consuls of the chief European countries reside here. *P.* (1897) estim. at 250,000, chiefly Copts, Turks, Jews, and many Europeans of all nations. *A.* was founded in 332 B. C., by Alexander the Great, on the plans of the celebrated architect Dinocrates. It made great progress under the dynasty of the Ptolemies. *A.* at that epoch engrossed the commerce of India, the great object of ancient ambition. It became also at the same time, the centre of all sciences, and contained an immense library, the largest of antiquity, chiefly collected by Ptolemy Soter. Altogether, it consisted of 700,000 volumes, 500,000 of which were destroyed when Julius Cæsar was blockaded in the Greek part of the city, and the rest by the Saracenic general Omar, A.D. 640. When Omar took *A.* he said in his letters to the caliph, that he found in it 4,000 palaces, 4,000 baths, 40,000 Jews who paid tribute, 400 royal circuses, and 12,000 gardens, which supplied the city with all kinds of herbs in great plenty. After falling before the armies of the Romans, *A.* continued to be the channel by which the commodities of India, Arabia, and Eastern Africa were transported to Europe, but when conquered by the caliphs, and subjected to the Saracen yoke, it then began and continued to decline till the discovery of a passage to India by the Cape of Good Hope, in 1497, gave the last blow to its trade. But Mehemet Ali, being anxious to acquire a navy, perceived the importance of *A.*, both as a station for his fleet, and a centre of commerce. He greatly improved the city, and restored the ancient communications with the Nile by means of the Mahmoudieh canal, opened in 1817. Since that time the pop. has quadrupled. The opening of the Suez Canal (*q. v.*) has greatly added to its importance. Of the ancient city, the cisterns, catacombs, Pompey's pillar, and the obelisk called *Cleopatra's Needle*, are the principal remains. The obelisk, which in 1878 was erected on the Thames embankment in London, was origiually one of six which adorned the Temple of the

Sun at On, in Ancient Egypt, hewn from a single block of rose-colored granite. But one now remains upon the original site — one was transferred to Constantinople, one to Rome, one to Paris, one to London in 1878, and one, in 1880, to New York. The two latter were long

Fig. 82.—CLEOPATRA'S NEEDLE.

at Alexandria, where they had been transported at an early date (abt. 23 B. C.), and whence they became associated with the name of Cleopatra. The weight of the one taken to London is 180 tons, and height 68 feet; that to New York being somewhat heavier. They are, perhaps over 3 500 years old.—21st March 1801, took place the battle of *A.*, the French, under Menon, were defeated by the British under Sir Ralph Abercrombie. *A.* was taken by the English in 1882. See EGYPT.

Alexan'dria, Piedmont. See ALESSANDRIA.

Alexandria, a vill. of Scotland, in the parish Bonhill, Dumbarton co., on the Level, 3½ m. N. of Dumbarton. —In Canada, a p.-v. of Glengarry co., 70 m. W. of Montreal.—In *Ala.*, a town of Calhoun co., abt. 136 m. N.E. of Tuscaloosa.—Or ST. PAUL, in *Alaska Ter.*, a vill. on the island Kadiak, or Kodiak.—In *Ind.*, a vill. of Madison co., on Pipe Creek, abt. 45 m. N E. of Indianapolis. —In *Kansas*, a twp. of Leavenworth co.—In *Ky.*, a twp., cap. of Campbell co., abt. 13 m. S.S.E. of Newport.

Alexan'dria, in *Louisiana*, a town, cap. of Rapides parish, on the Red River, 350 m. W.N.W. of New Orleans, by steamboat. It is situated on an exceedingly fertile plain.

Alexan'dria, in *Minnesota*, a post-village, capital of Douglas co., about 65 m. W.N.W. of Saint Cloud.

Alexan'dria, in *Missouri*, a town of Clarke co., on Fox River, near its entrance into the Mississippi.

Alexan'dria, in *New Hampshire*, a post-township of Grafton co., 34 m. N.N.W. of Concord.

Alexan'dria, in *New Jersey*, a township of Hunterdon co.

Alexan'dria, in *New York*, a village of Essex co., near the N. end of Lake George;

—A post-township of Jefferson co., on the river St. Lawrence, with a village of the same name, 27 m. N. of Watertown.

Alexan'dria, in *Ohio*, a post-village of Licking co., 4 m. W.S.W. of Portsmouth.

Alexan'dria, in *Pennsylvania*, a town in Morris township, Huntingdon co., on Frankstown, a branch of the Juniata, 78 m. from Harrisburg.

Alexan'dria, in *Tennessee*, a post-village of De Kalb co., 45 m. E. of Nashville.

Alexan'dria, in *Virginia*, a county comprising all that part of the District of Columbia which lies W. of the Potomac, which formerly belonged to V., and was, in 1844, returned to that State. *Area*, 36 sq. m. A bridge of over one mile in length, crossing the Potomac, connects it with the City of Washington. The surface is hilly.

ALEXAN'DRIA, the capital of the above county, is finely situated on the right bank of the Potomac, 7 miles below Washington, in N. lat. 38°, W. lon. 77° 4′ It is considerably elevated, ascending gradually from the river, which has here a depth of water sufficient for vessels of the largest class. The tonnage of this port is very important. *A.* is connected by railroads with Washington, Leesburg, and Georgetown. *Population* in 1890, 14,339; in 1897 (estimated), 15,400.

Alexan'dria Bay, a village and summer resort in Jefferson co., N. Y., on the St. Lawrence river, opposite the Thousand Islands and 7 m. from Redwood. *Pop.* 1123.

Alexan'dria Centre, in *New York*, a post-village of Jefferson co.

Alexan'dria Junction, a station on the B. & O. R. R., in Prince George's co., Md.

Alexan'drian, *a.* Pertaining to Alexander or to Alexandria.

Alexan'drine, *n.* (*Pros.*) A kind of verse borrowed from the French, first used by the poet Alexander of Paris. They consist of twelve syllables.

"Then, as the last, an only couplet, fraught
With some unmeaning thing they call a thought,
A needless *Alexandrine* ends the song,
That, like a wounded snake, drags its slow length along."—*Pope.*

—*n.* Relating to the Alexandrine verse.

Alexan'drov, a town of Russia, gov. Vladimir, 55 m. W.N.W. of Vladimir. It has an imperial stud, and a convent founded by Ivan IV., who established here the first printing-press known in Russia.

Alexan'drovsk, a fortified town of Russia, gov. of Ekaterinoslav, 40 m. S. of Ekaterinoslav, on the Dnieper below its cataracts. It is the place of embarkation for all the products exported by this river to the Black sea. *Pop.* 6,000.

Alexiphar'mic, ALEXIPHAR'MACAL, *a.* [Gr., *keeping off poison.*] (*Med.*) Antidotal.

Alexiphar'mic, ALEXIPHAR'MAC, *n.* An antidote against poison.

Alex'is, a Greek comic poet, uncle of Menander, of whose works a few fragments remain. Flourished 4th century B. C.

Alexis I., Comne'nus, B. at Constantinople, 1048, was nephew to the emperor Isaac Comnenus. He ascended the throne in 1081, after banishing Nicephorus, and distinguished himself by his war against the Turks and other northern invaders. He received with coldness the crusaders, but, intimidated by their numbers, he signed a treaty of peace with them and promised them support. D. 1118. His daughter Anna Comnena has written a Greek account of his reign; but her history is a panegyric, and not the record of truth.

ALEXIS II., COMNENUS, surnamed PORPHYROGENITUS, succeeded his father Manuel, 1180, in his 12th year. He was murdered two years after, with his mother, by Andronicus Comnenus, who usurped the throne. D. 1210.

ALEXIS III, ANGELUS, dethroned his brother Isaac Angelus, 1178, and put out his eyes. Besieged and taken in his capital by an army of Venetians and French crusaders, headed by Alexius, the son of Isaac, he was in his turn deprived of his sight and confined in a monastery, where he died.

ALEXIS IV., after the punishment of his uncle, placed his blind father, from the dungeon, on the throne, and reigned with him; but his elevation was succeeded by a rebellion, because he laid too heavy contributions upon his allies, and his life was sacrificed to the fury of the people, 1204.

ALEXIS V., DUCAS, surnamed *Murtzufflus*, from his black, heavy eyebrows; an officer at the court of Alexis IV., who dethroned and murdered his master, and was raised to the throne. The Latins, however, laid siege to Constantinople, and pressed it so closely, that *A.* was obliged to escape by night. He was deprived of his eyes by his father-in-law, to whom he fled for refuge; and after rambling about as a mendicant, was seized by the Latins, who cast him from the top of Theodosius's Pillar, where he was dashed to pieces. Reigned at the commencement of the 13th century.

Alex'is del Arco, surnamed EL TORDILLO DE PEREDA, a celebrated deaf and dumb Spanish portrait-painter. B. at Madrid, 1625; D. 1700.

Alex'is, or **Alexei,** MICHAELOVITCH, son of the Czar Michael Feodorowich Romanov, B. 1630, succeeded to the throne in 1645, at the age of 16, and distinguished himself by his war against the Turks, the Swedes, and Poles. Respected abroad, he was beloved at home, as the improvement of his barbarian subjects was the sole wish of his heart. D. 1677, and was succeeded by his son, Peter the Great.

Alex'is, or **Alexei,** PETROWITCH, the eldest son of the czar Peter the Great. B. 1690. Inclined to low pleasures, and decidedly adverse to that reformation of the ancient manners of the country, which it was the object of Peter's life to effect, *A.* secretly quitted Russia, and retired to Naples. By a promise of forgiveness, he was induced to return to Moscow, where he was thrown into prison, tried secretly, and condemned to death. He was found dead in prison, and it was given out that he had been carried off by some natural illness; but suspicions have been naturally enough entertained that a private execution accomplished the end, without incurring the risks of a public one. D. 1718. *A.* left a son who, in 1727, became emperor, under the name of Peter II.

Alexiter'ic, *a.* and *n.* The same as ALEXIPHARMIC.

Alexiter'ical, *a.* The same as ALEXIPHARMACAL.

Aley'beh, a large and popular place in W. Africa, on the bank of the Senegal; lat. 16° 50′ N.; lon. 14° 4′ W.

Alfa Grass. See STIPA.

Alfar' Dagh, a mountain of Turkey in Asia, Anatolia, near the Black Sea. Lat. 41° 35′ N.; lon. 33° 5′ E.

Al'faro, a town of Spain, Old Castile, on the Ebro, 37 m. S.E. of Logroño. *Pop.* 5,000.

Al'feld, a walled town of Hanover, on the river Leine. *Pop.* 3,000.

Alfe'nus Var'us, PUBLIUS, a Roman jurist, lived 1st century B. C. From being a shoemaker, he became an advocate, and at length consul. He wrote forty books of digests, and some collections, cited by Aulus Gellius.

Al'fet, *n.* [A.S. *alfat*, a pot to boil in.] A vessel of boiling water into which an accused person plunged his arm by way of trial to prove his guilt or innocence.

Al'fieri, VITTORIO, the most eminent of Italian tragic poets, was born at Asti, Piedmont, in 1749. His family was rich and noble. His youth was spent in travelling

Fig. 83.— ALFIERI.

over the greatest part of Europe, and in adventures which were marked only by dissipation and licentiousness. After his return to Turin, love inspired him with the spirit of poetry; and, in 1775, he produced his tragedy of Cleopatra. Thenceforth he continued constant to the muses and to study; and the result was no less than fourteen dramas in seven years, besides many compositions in verse and prose. In France, where he next settled with the Pretender's widow, the countess of Albany, whom he secretly married, (see ALBANY, Countess of,) he composed five more tragedies. The fall of the throne, in 1792, drove him from France; his property there was unjustly confiscated: and Alfieri ever after entertained a deadly hatred of that country. Worn out by his incessant literary labors, he died at Florence in 1803. As a tragic writer, Alfieri has had many imitators in Italy, but his throne is still unshared by any rival—no one has yet equalled him in nervous dialogue, in grandeur of style, or in the delineation of strong passions and energetic characters. His *Saul* and his *Filipo* are considered the finest of his productions.

Alfont', in *Indiana*, a post-village of Madison co., 24 m. N.E. of Indianapolis.

Alfon'so. See ALPHONSO.

Al'ford, in *Massachusetts*, a post-village of Berkshire co., on Green river, 130 m. W. of Boston.

Al'ford, a district and parish of Scotland, 28 m. N.W of Aberdeen. *Pop.* of the district, 13,000. — In 1645, a battle was fought in the parish between the Covenanting army under Gen. Baillie, and the Royalists under the Marquis of Montrose, in which the former was defeated.

Al'fordsville, in *Indiana*, a post-village of Daviess co., 15 m. S.E. of the county-seat.

Alfordsville, in *North Carolina*, a post-village of Robeson co., 107 m. S.S.W. of Raleigh.

Al'fort, a village of France, dep. of the Seine, 5 m. S.E. of Paris, with an imperial veterinary college and botanical garden.

Al'fred the Great, the youngest son of Ethelwolf, king of the West Saxons, B. 849. After the death of his brother, *A.* mounted the throne of England in 871, in his 22d year, at a time when the kingdom was a prey to the invasion of the Danes, and to domestic dissensions. After several unfortunate actions with the Danes, *A.* concealed his misfortunes for a year under the dress of a peasant, till the success of one of his chiefs, Odun, earl of Devon, in defeating a body of Danes, drew him from his retirement. The Danes were completely defeated at Eddington, in May, 878. After the victory, *A.* behaved with great magnanimity to his foes, giving up the kingdom of the East Angles to those of the Danes who embraced Christianity. From that time, however, though the Danes occasionally repeated their depredations, the mind of *A.* was not shaken from its noble purpose of enlightening his subjects, and giving stability to their independence. He is said to have been

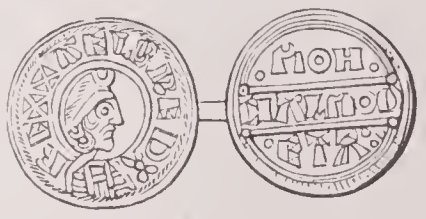


Fig. 84. — COIN OF ALFRED THE GREAT.
(From the British Museum.)

engaged in 56 battles, by sea and land, although his valor as a warrior has excited less admiration than his wisdom as a legislator. He composed a body of statutes, instituted the trial by jury, and divided the kingdom into shires and tithings. He was so exact in his government that robbery was unheard of, and valuable goods might be left on the highway without danger. He founded, or, according to others, restored the University of Oxford, and filled the professional chairs with men of taste, genius, and erudition. He was himself a learned prince, and composed several works. To *A.*, also, England is indebted for the foundation of her naval establishments, and he was the first to send out ships to make the discovery of a north-east passage. In private life he was benevolent, pious, cheerful, and affable, and his deportment was both dignified and engaging. After a reign of over 28 years, he died on the 28th of Oct., 901. He left by his queen, Elswitha, two sons and three daughters, and was succeeded by his 2d son, Edward, surnamed the Elder.

Al'fred, in *Maine*, a post-village and township, capital of York co., 78 m. S.W. of Augusta.

Al'fred, in *New York*, a township of Alleghany co. — *Alfred Centre*, the post-village, is about 250 m. W.S.W. of Albany.

Al'freton, a town and parish of England, Derby co., 6 m. N.N.E of Belper. *Man.* of stockings and pottery *Pop.* of parish, 8,400.

Al'fride, or EL'FRID, the natural son of Oswy, king of Northumberland, fled to Ireland or Scotland, to avoid the persecutions of his brother Egfrid, who waged war with those who granted him an asylum. Egfrid was slain in this contest. *A* ascended the vacant throne, 686, and deserved the applause of his subjects by his benevolence and mildness, and the liberal patronage which he offered to literature. D. 705.

Al'gæ, *n. pl.* (*Bot.*) The name given by Jussieu to the *Algales.*

Al'gal, *a.* Pertaining to the algals.

Al'gales, *n. pl.* (*Bot.*) The Algals, an alliance of plants, class *Thallogens.* They are cellular, flowerless plants, nourished through their whole surface by the medium in which they vegetate; living in waters or very swampy places; propagated by zosphores, colored spores, or tetraspores. In structure they vary through a vast variety

mediate gradations, from the state of simple microscopic vesicles, to branched, woody individuals many fathoms in length. Some of them are only visible to the naked eye when they are collected in heaps; others grow together in the beds of the ocean, and when they rise to the surface, form floating banks of such extent as to impede the course of ships. The *A.* are divided into five orders: *Diatomaceæ*, *Confervaceæ*, *Fucaceæ*, *Ceramiaceæ*, *Characeæ*; q. v.

Algan'see, in *Michigan*, a post-township of Branch co., about 7 m. S.E. of Coldwater.

Algar'di, Alexander, an Italian painter and sculptor, b. at Bologna; d. 1654. He executed many fine works, among which may be mentioned the Attila, which is the largest alto-relievo in the world, and is in St. Peter's Church, at Rome.

Al'garinejo, a town of Spain, prov. of Granada, close to the frontiers of Cordova. *Pop.* (1895) 2,670.

Al'garoba-Bean, *n.* [Ar. *al*, the, and *garoba*, beautree.] (*Bot.*) A plant called also carob-tree, the *Ceratonia siliqua*, ord. *Fabiaceæ*. It is consumed in South Spain by horses, and is used in England as a substitute for oil-cake. The dry pulp in which are the seeds is very nutritious, and is supposed to have been the food of St. John in the wilderness, wherefore it is called locust-tree, and St. John's bread. Singers are said to chew this fruit for the purpose of improving their voice. The seeds of the Carob-tree are said to have been the original carat weights for the jeweller.

Al'garoth, *n.* [From Vittorio *A.*, a physician of Verona, its inventor.] (*Chem.*) A powder obtained on diluting a hot solution of terchloride of antimony in hydrochloric acid with hot water. It is violently emetic in doses of two or three grains, and was formerly much used in medicine.

Algarot'ti, an Italian writer of lively but superficial genius. B. at Padua, 1712. His writings, published in Italian, 1765, and afterwards translated into French, show a great taste for the fine arts, but they convey little information. D. 1764.

Algar've, or Alarva. [Ar. *the west.*] The most S. prov. of Portugal, having N. the prov. Alemtejo, E. Spain, S. and W. the Atlantic. *Area*, 2,151 sq. m. On its N. frontier is the Sierra de Monchique. In the S. are plains yielding aloes and dates. Chief towns: Pavira, Faro, and Lagos.

Al'gebra, *n.* [It. and Sp.; Fr. *algèbre*, probably from the Ar. *Al jebr e al mokabalah*, restoration and reduction.] (*Math.*) The method of calculating indeterminate quantities. It is a sort of universal arithmetic, founded on the same principles as common arithmetic, and proceeding by rules and operations precisely similar. But it is not confined merely to questions relating to numbers, being applied generally to investigate the relations that subsist among quantities of all kinds, whether arithmetical or geometrical. The reasoning is carried on by general symbols, which are of two kinds,—those which denote quantity, and those which denote the affections or relations, or properties of quantities, and operations to be performed on them. For representing quantities or magnitudes, the letters of the alphabet are employed. Thus, in the solution of an arithmetical problem, a number may be represented by the letter *a*; in geometry, *a* may represent a line or an angle; in mechanics, a force. The relations of quantities are expressed by other conventional symbols. The relation of equality is expressed by the sign $=$; thus, to express that the quantity represented by *a* is equal to the quantity represented by *b*, we write $a = b$. The symbol $>$ or $<$ coming between two quantities denotes inequality; thus, $a > b$ signifies that *a* is greater than *b*, and $a < b$ denotes that *a* is less than *b*. The two primary operations of which quantities are susceptible, are addition and subtraction, and these are respectively indicated by the symbols $+$ plus, and $-$ minus. For example, $a + b$ denotes the sum of the two quantities *a* and *b*, or that *a* is to be increased by *b*; and $a - b$ denotes the difference between *a* and *b*, or that *a* is to be diminished by *b*. Multiplication is indicated by the symbol $\times$, or by simply placing the letters beside each other without an intervening symbol. Thus, in numbers, $a \times b$, or *a b*, denote the same thing, namely, the product arising from the multiplication of the number *a* into *b*. In geometry, two letters joined together, as *a b*, denote a rectangular parallelogram, one of the sides of which is represented by *a* and the other by *b*. Division is indicated by $\div$; or more frequently by placing one of the numbers above the other in the form of a fraction; as in this case: $30 \div 10$, or $\frac{30}{10}$. In addition and subtraction, the quantities connected by the appropriate symbols must be homogeneous, or of the same kind; for it is only such quantities that admit of addition or subtraction. Of two quantities connected by the symbol of multiplication, one must necessarily be an abstract number, for a quantity can only be multiplied by a number, or, which is the same thing, added to itself once or twice, or some other number of times. When division is to be performed, the divisor may either be a quantity of the same kind as the dividend, or it may be an abstract number; in the former case, the quotient is an abstract number; in the latter, it is a quantity of the same kind as the dividend. In the multiplication of quantities, the frequent repetition of the same symbol would become inconvenient; it is usual, therefore, to write the root only once, and to place over it, on the right, the exponent or number indicating the power: thus, a^2 denotes the same thing as *a a*, or the square of *a*; a^3 is the same as *a a a*, or the cube of *a*, and a^n denotes the *n*th power of *a*, or *a* multiplied by *n* times into itself. Algebra is in its nature essentially distinct from arithmetic. In arithmetic, absolute numbers are given, from which other absolute numbers are required to be determined. But in algebra the symbols that are employed are perfectly general, and may represent any numbers whatever; and the expressions which result from combining them according to the conditions of the problem, indicate the solution not of a particular question, but of all questions whatever, in which numbers are subjected to the same series of operations. In this manner the general properties of numbers are discovered. For example, the expression $(a + b)(a - b)$, which signifies that the sum of the two numbers *a* and *b* is to be multiplied by their difference, becomes, on performing the multiplication, $a^2 - b^2$; whence we infer this general or universal truth, namely, that the product of the sum and the difference of any two numbers is equal to the difference of the squares of those numbers. Arithmetic could only prove the property to be true in respect of particular numbers. The only necessary preliminary to the study of *A.* is a good knowledge of the four rules of arithmetic, and of common and decimal fractions.

Algebra'ic, Algebraical, *a.* Relating to algebra.

Algebraical Curve. A curve of which the relation between the abscissa and the ordinates is expressed by an equation which contains only algebraic quantities. The term algebraic is here used in contradistinction to transcendental, under which is comprehended infinite series and quantities of the following kind: log. *x*, a^x sin. *x*, cos. *x*, tan. *x*, &c.

Algebraic Equations. An equation of which the terms contain only algebraic quantities. — See Equation.

Algebra'ically, *adv.* By algebraic process.

Al'gebraist, *n.* One who is versed in algebra.

Al'gebraize, *v. a.* To perform by algebra, or reduce to algebraical form.

Algeci'ras, a seaport-town of Spain, Andalusia, prov. of Cadiz, on the W. side of the Bay of Gibraltar, opposite to and 6 m. W. of Gibraltar. *Pop.* about 12,000. It was the scene of a naval engagement between the English and French, 1801.

Al'gemesi, or Algemesia, a town of Spain, prov. and 18. m. S. of Valencia. *Pop.* 5,000.

Al'genib, or Algenæb, *n.* (*Astron.*) A star of 2d magnitude in the constellation *Pegasus*, 14° S. of Alpheratz, 16½° E. of Markab.—*A.* in Pegasus, *Alpheratz* in Andromeda, and Caph in Cassiopeia, are situated on the *prime meridian*, and point out its direction through the polo. For this reason they are sometimes called the *three guides*. They form an arc of that great circle in the heavens from which the distances of all the heavenly bodies are measured.

Alge'ria, [Fr. *Algérie.*] A country of North Africa, the largest and most important of the colonial possessions of France, cap. Algiers. This territory is situated between lat. 35° and 37° N.; extending from 1 m. 2° 11′ W. to 8° 53′ E.; length about 550 m., greatest breadth about 200 m. It is bounded N. by the Mediterranean, S. by the Sahara, E. by Tunis, and W. by Morocco.—*Area*, 96,369,000 acres. *Desc.* Algeria is traversed throughout by the Atlas mountains, which rise in successive stages parallel with the coast, the highest points exceeding 7,000 feet. The coast is steep and deficient in good ports. The chief plains are those of Oran, Metidjah, and Shelif; the principal rivers are the Wad-el-Gedy, which rises S. of the Atlas range, and flows to the Melgig Lake; the Shelif, which rises on the borders of Sahara, and flows to the Mediterranean; the others are the Sebus, Isser, Harna, and Jafna. There are several lakes, called sebkhas, which are generally dry in summer; the chief of these are the Zagries in Constantine, the Shott and the Sebkha in the S.E. of the Melgig. The climate is temperate and healthy on the N. slopes of the mountains, but pestilential in the marshy plains. The heat is often excessive under the influence of the *simoom*, or hot wind of the desert. From April to October the sky is serene; the winter is mild, and marked by abundant rains. The mean temperature of winter is from 54° to 65°, and of summer 74° to 104° Fahr.; but this elevated temperature is moderated by constant sea-breezes. The mountains contain mines of iron, copper, and lead, but their extent is imperfectly known. In the mountains of Bou Hamra there are rich iron mines, which appear to have been worked by the Romans. The country is divided by the natives into the *Tel*, or country of grain crops, in the N., and the *date country* in the S. Vegetation is developed with great activity. The level part of the Tel, occupied by Arabs, is fertile in cereals, and the mountainous country, occupied by the Kabyles, has extensive forests, and rich and varied vegetation. The Algerian Sahara is not, as was supposed, a sterile desert, but a vast archipelago of oases, each of which presents an animated group of towns and villages, surrounded by olives, figs, vines, and palms. Throughout the Tel, wheat, barley, and legumes are extensively cultivated, and in some places maize, millet, and rice are raised. Cotton, indigo, and the sugar-cane succeed well. The natives rear cattle, sheep, and goats. The horses, which are of an excellent breed, are employed only for the saddle; the camel, dromedary, ass, and mule, are used for draught. Among wild animals may be noticed the lion, panther, jackal, and the antelope. The harvests are sometimes ravaged by locusts. Excellent coral and sponge are fished on the coasts. Very recently numerous artesian wells, bored in the immense plains of *A.*, have given life to countries till then desert. This system, pursued with activity, will do more for the civilization of *A.* than forty years of military warfare.—*Manf.* Carpets, blankets, and other woollens; silks in the form of sashes and handkerchiefs. A considerable trade is carried on in salt, ostrich-feathers, hides, wax, cattle, and sheep; and there are imported European manufactures and colonial produce. With the French-African settlement of Senegal a profitable trade is carried on, across the interior, by means of caravans.—*Towns.* The principal are, Algiers, Constantine, Bona, Philippeville, Bildah, Oran, Tlemsen, and Setiff.—*Division and Gov.* The commander-in-chief of

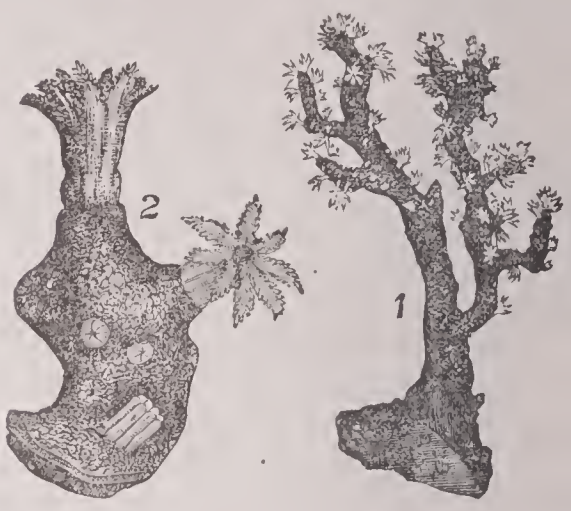


Fig. 85.—RED CORAL OF COMMERCE.
(*Corallium rubrum.*)
No. 2 is a part of No. 1 amplified.

the French forces in *A.*, is governor-general, and responsible to the French cabinet. The country is divided into five great military districts,—Aumale, Dellys, Médéah, Milianah, and Orléansville,—which are subdivided into military circles. For the civil administration, the territory is divided into the three departments of Algiers, Oran, and Constantine.—*Hist.* *A.* embraces the ancient Numidia, the kingdom of Massinissa, Syphax, and Jugurtha; and the Mauritanian kingdoms of Bocchus and Juba. It has been successively conquered by the Romans, the Vandals, the Byzantine Greeks, and the Arabs, who, in the beginning of the 8th century, invaded North Africa, and established Islamism. The Spaniards, for a short time masters of the country at the beginning of the 16th century, were driven out by the famous corsairs Barbarossa I. and II., the survivor of which obtained in 1520, from Sultan Selim, the title of Dey. Since then *A.* was in almost incessant hostilities against the powers of Christendom, capturing their vessels and reducing their subjects to slavery. In 1541, the emperor Charles V. made an unsuccessful attempt against Algiers. In 1815, the Americans captured an Algerian frigate; and the Dey consented to renounce all claims to tribute from them, and to pay them 60,000 dollars as an indemnification for their losses. In 1816, Algiers was bombarded by the British under Lord Exmouth; and in June, 1830, in consequence of an insult to the French consul, a large fleet and army were dispatched by Charles X., when the Algerians fell under the power of that nation. From that time the invaders gradually extended their conquest, not without much bloodshed. Their bravest and most persevering foe was Abd-el-Kader, *q.v.*—In 1879, civil was substituted for military rule. In 1881, just after the occupation of the Tunisian territory, a formidable insurrection of the Arabs broke out in several parts of *A.*, producing at the time much anxiety. *Pop.* 4,124,732, of which 272,662 are of French origin or naturalization.

Alge'rian, and **Al'gerine,** *n.* (*Geog.*) A native of Algeria. Algerine is used sometimes in poetry as a synonym for pirate.

—*a.* Belonging or relating to Algeria or to Algiers.

Alghe'ri, or Alghe'ro, a town and seaport of the island of Sardinia, on its W. coast; lat. 40° 25′ 50″ N.; lon. 8° 16′ 45″ E. *Pop.* 8,419.

Al'gidum. (*Anc. Geog.*) A town and mountain of Latium, near Tusculum, 12 m. from Rome.

Al'giers. [Ar. *Al-jezair*, the islands; Fr. *alger.*] A city and seaport of Africa, cap. of the French territory of Algeria, built in the form of an amphitheatre, on the W. side of a bay of same name, in the Mediterranean. Lat. of lighthouse, 36° 47′ 20″ N.; lon. 3° 4′ 32″ E. The city, situated on a slope facing the sea, and crowned by a citadel, is 2 m. in circumference, and strongly walled; since 1830, the French have been actively engaged in extending its defences and improving the port. The streets have been widened, and it in part resembles a European town. *A.*, owing to its mild climate, has become a favorite winter resort—frost is almost unknown. A railroad connects *A.* with Oran, and another, in construction, to Tunis. Several forts and outworks protect it on the land side; by sea it has in front two rocky islands (whence its name), connected with the mainland by a mole; this and another mole, both furnished with batteries, enclose the harbor. *A.* has two suburbs, and numerous villas in its environs, which are of great beauty; is the seat of the gov.-gen. of Algeria and of many foreign consuls, and has regular steam communication with Marseilles and Cette in France, and Bona in Africa. *Pop.* in 1890, 74,792; in 1897 (est.), 82,500.

Al'giers, a village of Orleans parish, La.; the terminus of the Southern Pacific, the Texas and Pacific, and the New Orleans, Fort Jackson and Grande Isle Railroads.

Al'goa Bay, or Port Elizabeth, an extensive bay on the S.E. coast of Africa, Cape Colony, bet. Capes Recife and Padron, 425 m. E. of the Cape of Good Hope; is open to S. winds, but has good anchorage. In this bay, Fort Elizabeth and Fort Frederick have already some commercial importance. Lat. 33° 56′ S.; lon. 26° 53′ E.

Al'gol, *n.* [Ar. *al ghûl*, destructive.] (*Astron.*) A remarkable star in the *Head of Medusa*, 12° E. of Almaak. It is on the meridian the 21st of December. Nine degrees E. by N. from *A.* is the bright star *Algenib*, which with Almaak makes a perfect right angle at *A.*, with the open part towards Cassiopeia. By means of this strikingly perfect figure, the three stars may always be recognized without the possibility of mistaking them. *A.* varies from the 2d to the 4th magnitude in about 3½ hours, and back again in the same time: after which it remains steadily brilliant for 2¾ days, when the same change occurs. Dr. Herschel attributes the variable appearance of *A.* to spots upon its surface, and thinks it has a motion on its axis similar to that of the sun.—*Mattison.*

Algol'ogy, *n.* [Lat. *alga*, seaweed, and Gr. *logos*, discourse.] (*Bot.*) The description of the algals or algæ.

Algo'ma, in *Michigan*, a post-township of Kent co., 13 m. N. by E. of Grand Rapids.

Algo'ma, in *Wisconsin*, a post-township of Winnebago co., about 80 m. N.N.E. of Madison.

Algo'na, in *Iowa*, a town and township, cap. of Kossuth co., on the Des Moines river, about 120 m. N. by W. of Des Moines city.

Algonac', in *Michigan*, a post-village of St. Clair co., on the St. Clair river, 40 m. N.E. of Detroit.

Algon'quin, in *Illinois*, a post-township of McHenry co., about 50 m. N.W. of Chicago:

Algon'quin, in *Iowa*, a post-village of Butler co., 29 m. W. of Cedar Falls.

Algon'quin, in *Michigan*, a post-village of Ontonagon co., about 12 m. S. of Ontonagan.

Also, a post-village of Houghton co.

Algon'quin, in *Ohio*, a post-village of Carrol co.

Algon'quins, a numerous family of N. American Indians, once spread over all the northern part of the Rocky Mountains, and S. of the St. Lawrence. Their language was heard from the bay of Gaspé to the valley of the Des Moines; from Cape Fear to the land of the Esquimaux; from the Cumberland river, of Kentucky, to the western banks of the Mississippi. It was spoken though not exclusively, in a territory that extended through 60 degrees of lon. and more than 20 degrees of lat. (*Bancroft.*) All the tribes of New England were Algonquins; the tribes in Maine, the great tribe of the Delaware Indians, the Creeks in the region of Great Slave Lake, and the Ottawas and Potawattomies in Michigan claimed the same origin. Traces of the primitive *A.* language appear in the names of places, such as *Atteghany, Connecticut.* At present the *A.* do not number more than a few hundred warriors.

Al'gor, *n.* [Lat., *coldness.*] (*Med.*) A sudden chillincss or rigor.

Al'gorab, *n.* [Ar.] (*Astron.*) A star of 3d magnitude in the constellation *Corcus*, 14½° S.W. of Spica Virginis. It is on the meridian about the 13th of May.

Al'gorithm, *n.* [Ar.] (*Math.*) The art of computing in reference to some particular subjects, or in some particular way; as, the *A.* of numbers, the *A.* of the differential calculus.

Al'gous, *a.* [Lat. *algosus.*] Abounding with, or like, algals or algæ.

Alguazil', *n.* [Sp. *alguacil*, Pg. *alguazil*, from Ar. *al-wazir*, administrator, vizier.] An inferior officer of justice in Spain; a constable.

Alha'ma. [Ar *the bath.*] In Spain, a town of Andalusia, 24 m. S.W. of Granada. Near it are celebrated warm baths; *pop.* 6,284. — A town of Murcia, 13 m. W. of Murcia city, having also warm baths.

Alham'bra. See GRANADA.

Alham'bra, in *Illinois*, a vill. of Madison co.

Alhambresque', *a.* After the fanciful manner of the ornaments in the Alhambra. — See GRANADA.

Alhau'rin el Grande, a town of Spain, prov. of Granada, 22 m. W.S.W. of Malaga. *Pop.* 5,514.

Alhucc'mas, a small island and fortress belonging to Spain, in the Mediterranean, on the coast of Morocco. Lat. 35° 15′ N.; Lon. 4° 12′ E.

Ali, surnamed by the Arabs *Asad Allah*, and by the Persians *Sïr-i-Khoda*, *i. e.*, the Lion of God, was the cousin of Mohammed, and the first man who acknowledged his divine mission. From these circumstances, and also on account of his marriage with Fatimah, the daughter of Mohammed, Ali appeared to have strong claims to the succession of the Prophet. Abu-Bekr, Omar, and Othman were, however, successively appointed caliphs before Ali came to the throne, A. D. 655. The controversy concerning the respective rights of the three first caliphs on the one side, and of Ali and his lineal descendants on the other, has given rise to the schism of the Sunnites and Shiites in the Mohammedan community. The commencement of the troubles arising from this division disturbed the reign of Ali, who was assassinated in A. D. 660. He was succeeded for a short time by his eldest son Hassan.

Alias, *adv.* [A Lat. word signifying *otherwise.*] (*Law.*) When a defendant sued on a specialty, or a prisoner had more than one common appellation, he was designated, in the Latin form of instruments, as, John, *alias Dictus*, Peter.

—*n.* Another name than the ordinary one; an assumed name.

(*Law.*) A second or further writ, which is issued after a first writ has expired without effect, and containing this clause: "We command you as we formerly have commanded you." (*Sicut alias præcepimus.*)

Alias'ka. See ALASKA.

Ali Bey, Pasha of Egypt, B. in Circassia about 1728. He fell, when a child, into the hands of robbers, who carried him to Cairo, and sold him to Ibrahim, lieutenant of the Janissaries, who reared and adopted him. Ali soon rose to the rank of Sangiac, or member of the Council; and when his patron was assassinated by Ibrahim the Circassian, he avenged his death and slew the murderer with his own hand. This raised against him numerous enemies, and he was obliged to flee to Jerusalem, and thence to Acre; but in time he was recalled by the people, and being placed at the head of the government, Egypt began to recover its former splendor. In a battle fought against the troops of the rebellious Mamelukes, Ali was cut down, after defending himself with desperate valor, and died of his wounds eight days afterward, 1773.

Al'ibi, *n.* [A Latin word signifying *elsewhere.*] (*Law.*) A defence resorted to in criminal prosecutions, when the party accused, in order to prove that he could not have committed the crime with which he is charged, offers evidence that he was in a different place at the time the offence was being committed.

Alican'te, a province of Spain, founded in 1834, out of the S. part of the ancient kingdom of Valencia, and part of Murcia. *Area*, 2,911 sq. m. It yields excellent wine, sugar, rice, and fruits. *Pop.* 412,514.

ALICAN'TE, *cap.* of the above province; a fortified city and seaport, on a bay in the Mediterranean. Lat. 38° 20′ N.; Lon. 0° 27′ W. It is defended by a castle on a rock about 400 feet high. *A.* is important as a commercial place. *Exp.* wine, almonds, barilla, olives, brandy, figs, wool, silk, and linen; *pop.* 33,086.

Alica'ta, or LICA'TA, a seaport-town of Sicily, prov. Girgenti, on the S. coast of the Mediterranean; lat. 37° 4′ 25″ N.; lon. 13° 55′ 40″ E. *Exp.* corn, macaroni, fruit, and excellent wines; *pop.* 15,481.

Al'ice, a town of Cape Colony, prov. of Victoria; lat. 32° 48′ S.; lon. 26° 52′ E.

Al'ice-Holt, a forest in England, Hants co., on the border of Surrey; *area*, 15,000 acres.

Alicu'di, the ancient *Ericusa*, the most W. of the Lipari isles, on the coast of Sicily, 6 m. in circumference, and rising as a cone from the sea; *pop.* 450.

Ali'da, in *Illinois*, a post-office of Stephenson co.

Al'idade, *n.* [Ar.] The index or ruler moving about the centre of an astrolabo or quadrant, carrying the sights. *Brande.*

Al'ien, *a.* [Lat. *alienus*, from *atibi natus*, born elsewhere, in another country.] Belonging to another country; hence, metaphorically, foreign to the purpose; as, "principles *alien* to our religion."

Al'ien, *n.* A foreigner; in contradistinction from a natural-born citizen.

(*Law.*) In the United States, one who, being born in a foreign country, has not been naturalized, unless his father were a natural-born citizen, in which case he will himself be deemed a natural-born citizen, to all intents and purposes. — An *A.* cannot hold landed property; and if he purchases land, he may be divested of the fee, upon an inquest of office found; but until this is done he may sell, convey, or devise the lands, and pass a good title to the same. That is the general rule, but the disabilities of *A.*, in respect to holding land, are removed by statute law in a considerable number of States, and modified in others. Where the disability is not removed legislation is in nearly every instance favorable to resident aliens, permitting them, if they intend to become citizens, to acquire land for a limited period, and dispose of it or transmit it to heirs.—An *A.* may hold and dispose of, by will or otherwise, goods, money, or other personal estate, and may take a lease of a house for habitation or trade. His property is liable to taxation; he cannot exercise any political rights whatever; he cannot be a member of Congress till the expiration of seven years after his naturalization. Even after being naturalized, he is forever ineligible to the office of President of the United States. Under the laws of Congress an alien is not entitled to take out a copyright. In time of war an alien enemy is not entitled to make a contract with a citizen. Such a contract cannot be enforced, even after peace. See NATURALIZATION.

Alienabil'ity, *n.* (*Law.*) The capacity of being alienable.

Al'ienable, *a.* That may be alienated.

Al'ienage, *n.* (*Law.*) The condition or state of an alien.

Al'ienate, *v. a.* [Fr. *aliéner.*] To transfer property to another. — To change from friendliness to aversion.

Al'ienate, *a.* Withdrawn; alienated.

—*n.* An alien.

Aliena'tion, *n.* [Fr., from Lat. *alienatio.*] Estrangement; change of affection. — Constitutional estrangement of mind.

(*Law.*) The act of parting with property, more especially real property.

Al'ienator, *n.* (*Law.*) One who transfers property.

Aliene', *v. a.* (*Law.*) To transfer property; to alienate.

Alienee', *n.* (*Law.*) One to whom a transfer of property is made.

Al'ienism, *n.* The state of being an alien; alienage. (R.)

Alienor', *n.* (*Law.*) One who transfers property.

Alight', *a.* Lighted; lit; — as, "The lamps were *alight.*"

Alight', *v. n.* [A. S. *alihtan*, to come down.] To come down and stop. The word implies the idea of *descending;* as, of a bird from the wing; a traveller from his horse or carriage, and generally of resting or stopping.

"There is *alighted* at your gate a young Venetian."—*Shaks.*

—It is used also of any thing thrown or falling; to fall upon.

"But storms of stones from the proud temple's height,
Pour down, and on our batter'd helms *alight.*"—*Dryden.*

Al'ighur, a district of British India, presidency of Bengal, prov. Agra, watered by the Ganges and Jumna; barren toward the N., but fertile in the S. — *Area*, 2,145 sq. m.; *pop.* 739,356. — The fort of *Alighur*, 50 m. N. of Agra, lat. 27° 56′ N., lon. 77° 59′ E., was taken by the British in 1803; and retaken from the Sepoy rebels in 1857.

Align', *v. a.* [Fr. *aligner.*] To adjust by a line; to form in line, as troops.

Align'ment, ALIGNEMENT, *n.* [Fr.] Position in a straight line, as a body of soldiers.

Alike', *adv.* and *a.* [From *a* and *like.*] Like in character or nature or community of circumstances;—resembling; similar; homogeneous; akin; equally.

Alime'da, or ALAMEDA, in *Iowa*, a village of Louisa co., on the Iowa river, about 20 m. S.W. of Muscatine.

Al'iment, *n.* [Fr. from Lat. *alimentum.*] Any substance which, when introduced into the living body, contributes to its growth, or to the repair of the losses it is continually sustaining. Thus, water and air may be called *aliments.* When applied specially to animals, its sense is generally confined to those materials which are absorbed and applied to the purposes of nutrition, only after undergoing the process of digestion.—See FOOD.

Aliment'al, *a.* Nourishing.

Aliment'ally, *adv.* So as to serve for nourishment or sustenance.

Aliment'ariness, *n.* Quality of being alimentary.

Aliment'ary, *a.* Belonging to aliment; nourishing.

Alimen'tiveness, *n.* (*Phren.*) The organ of appetite for food and drink.

Alimo'nious, *a.* That nourishes.

Al'imony, *n.* [Lat. *alimonia*, maintenance.] (*Law.*) The allowance made to a wife out of her husband's estate for her support, either during a matrimonial suit or at its termination, when she proves herself entitled to a separate maintenance by showing a legal and valid marriage.—*A. pendente lite.* The whole property being supposed by the law to devolve upon the husband, he is generally obliged to pay the expenses on both sides, and to allow his wife *A.* during the suit, and that whether the suit be commenced by or against him. It is usually about one fifth of the husband's net income. It may be reduced or increased according to the fluctuations of the husband's income.—*Permanent A.* does not consist of a sum of money, nor of a specified proportion of the husband's estate given absolutely to the wife, but is a continuous allotment of sums payable at regular intervals for her support from year to year. For being entitled to it, the wife must be separated from the bed and board of her husband by judicial decree; voluntary separation, for whatever cause, is insufficient. The amount of alimony to be allotted depends wholly upon the discretion of the court, equitably exercised with a view to the circumstances of each particular case. In forming their estimate in this respect, the courts have held, that after a separation on account of the husband's misconduct, the wife is to be alimented as if she were living with him as his wife; they attend carefully to the nature, as well as to the amount of the husband's means, drawing a distinction between a substantial property and an income derived from personal exertion. The station in life of both parties, and the fortune brought by the wife, are also considered: and much stress is laid upon the disposal of the children and the expense of educating them. The conduct of the parties forms also a very material consideration; where the wife has eloped from her husband, or where the sentence of divorce proceeds upon the ground of her adultery, the law will not compel the allowance of alimony.

Alioth, *n.* (*Astron.*) A star in the constellation *Ursa Major*, 4½° of Mizar. It is the 3d star in the handle of the *Dipper. A.* is very nearly opposite Shedir in Cassiopeia, and at an equal distance from the pole.

Ali Pacha, Vizier of Yanina, B. in Albania, 1744. His father, an Albanian chief, died of grief in consequence of being stripped of his territories; but his mother, who was remarkable for energy of character, spirited up her son to assume the conduct of her dependants and avenge his father. With this band he committed so many depredations, that the adjacent tribes took up arms in their own defence, and carried off his mother and sister, whom they treated with great cruelty. This roused the naturally implacable temper of Ali, and he vowed the extermination of the whole race. He raised a body of 2,000 men, assumed great authority, and wreaked his vengeance upon the Suliotes, whom he treated with the most horrible barbarity. During fifty years of constant warfare, he brought under his sway a wide extent of territory, which the Porte sanctioned his holding, with the title of Pacha. He received agents from foreign powers, and ultimately intrigued with England, France, and Russia. But the jealousy of the Porte was at length excited, and Hassan Pacha was sent to demand his head. On declaring his errand, Ali replied, "My head is not to be delivered up so easily," accompanying the words with a pistol-ball, which broke his opponent's thigh. He shot two men dead on the spot, but fell the same moment. His head was severed from his body, and sent to Constantinople, 1822. Lord Byron visited him in his fortress of Tepelen, and thus sings of him in his second canto of *Childe Harold:*

"He passed bleak Pindus, Acherusia's lake,
And left the primal city of the land,
And onward did his further journey take
To greet Albania's chief, whose dread command
Is lawless law."

Al'ipee, a town of Hindostan, in Cochin. *Exp.* pepper and timber. Lat. 9° 30′ N.; lon. 76° 24′ E.; *pop.* 13,006.

Alipher'ia. (*Anc. Geog.*) A town of Arcadia, situated on a lofty hill, 8 m. S. of Hereæ. It was taken from the Æleans during the Social War, by Philip, king of Macedon.

Al'iped, *n.* and *a.* [Lat. *ala*, a wing, and *pes*, a foot.] Having toes connected by a membrane, serving for a wing, as a bat.

Al'iquant, *a.* [Lat. *aliquantus*, somewhat.] (*Arith.*) A part of a given quantity which will not divide it exactly, or without remainder. — 5 is an aliquant part of 16, twice 6 being 12, thrice 6 making 18.

Al'iquot, *a.* [Lat., some.] (*Arith.*) *Aliquot part* is a number which divides the given number without leaving a remainder. Thus, 2, 3, 4, and 6, are aliquot parts of 12. To find the aliquot parts of any number, divide the given number by its least divisor; divide the quotient also by its least divisor, and so on, always dividing the last quotient by its smallest divisor, till the quotient is 1. The divisions thus used are the prime aliquot parts of the given number; and the products of every 2, every 3, every 4, etc., of the prime aliquot parts of the given number. Suppose the given number 30; divide 30 by its least divisor, which is 2, and the quotient is 15: divide 5 by itself, (it has no smaller divisor,) and the quotient is 1. Therefore, 2, 3, and 5 are the prime aliquot parts of 30. The compound aliquot parts are $2 \times 3 = 6$, $2 \times 5 = 10$, $3 \times 5 = 15$.

Alis'al, in *California*, a village of Monterey co., abt. 30 m. E. by S. of Monterey.

Al'ish, *a.* Resembling ale.

Al'isma, *n.* (*Bot.*) A gen. of plants, ord. *Alismaceæ*. The species *A. plantago*, water plantain, found in U. S., is a handsome inhabitant of ponds and ditches. Its leaves resemble those of the common plantain. It gives in July numerous flowers tinged with purple.

Alis'maceæ, *n. pl.* (*Bot.*) The alismals, an ord. of plants, fam. *Alismales*. — *Diag.* Alismal endogens with 3-petaled flowers, few-seeded, simple and axile, or basal placentæ, and a solid embryo. They are floating and swamp plants, generally native of the northern part of the world. This order is to Endogens what crow-foots are to Polypetalous Exogens, and is in like manner recognized by its disuniting carpels and hypogynous stamens.

Al'ismales, *n. pl.* (*Bot.*) The alismal family. *Diag.* Hypogynons, tri-hexapetaloideous Endogens, with separate carpels and no albumen. This alliance seems to close the class of Endogens, and to stand on the limits of Exogens, in consequence of the intimate relation between Alismads and crow-foot. It is divided into the three ord., *Butomaceæ*, *Alismaceæ*, and *Juncaginaceæ*.

Al'ison, Sir Archibald, Bart., b. in Shropshire, England, 1792. His principal work is, a *History of Europe from the Commencement of the French Revolution in* 1789, *to the Accession of Louis Napoleon in* 1852. D. 1867.

Aliso'nia. See Allisonia.

Al'itrunck, *n.* [Lat. *ala*, a wing, and *truncus*, body.] (*Zoöl.*) The posterior segment of the thorax of an insect, to which the abdomen is affixed, and which bears the legs, properly so called, or the two posterior pairs and wings.

Alive', *a.* [Prefix *a* and *live*.] In the state of life; not dead.

"Nor well *alive*, nor wholly dead they were."—*Dryden.*

—Figuratively, unextinguished; undestroyed; active; in full force; as, to keep the affections *alive*; — cheerful; sprightly; full of alacrity; as, "She was not much *alive* the whole day."—In a popular sense, it is used only to add an emphasis, like the French *du monde;* as, the *best* man *alive*; that is, the *best*, with an emphasis.

Al'iwal, a village of Upper India, on the banks of the Sutlej, 20 m. from Loodiana, was the scene of a battle fought on January 28th, 1846, between the British under Sir Harry Smith, and the Sikhs, commanded by Runjoor Singh. The Sikhs were defeated with a loss of nearly 6,000 men.

Alizar'ic Acid, or Phosphalic Acid. (*Chem.*) Produced from alizarin with boiling dilute nitric acid.

Aliz'arin, or Alizarine, *n.* [From *alizari*, the name of the madder in the Levant.] (*Chem.*) A red crystalline matter destitute of odor and taste; neutral to test-paper, soluble in hot water and alcohol, obtained of the Rubia tinctorum; the madder. Potash dissolves it freely, and strikes a beautiful purple; but it is precipitated unaltered on adding an acid; with lime, baryta, and oxide of iron, it forms an insoluble purple lac. With alumina it forms a beautiful red lac. By a heat of 420° alizarin is sublimated and forms beautiful transparent orange-colored needles, which are anhydrous and of high lustre. *Form*, $C_{14}H_8O_4$.

Aljubarro'ta, a town of Portuguese Estremadura, 15 m. S. of Leiria; *pop.* 1,600. In the vicinity Alphonso I. defeated the Moors in 1139, and on the same field John I. of Portugal gained over John I., king of Castile, in 1385, the signal victory of Campo de Ouriques, described by Camoens in the fourth Canto of his *Lusiad*.

Al'kahest, *n.* [Ar.] The supposed universal solvent of the alchemists.

Alkahes'tic, *a.* Relating or pertaining to alkahest.

Al-Kaisseria, a town in the N. part of Morocco, not far from Al-Kasar; *pop.*, abt. 8,000.

Alkales'cency, *n.* [Fr. *alcalescence*.] A tendency to become alkaline.

Alkales'cent, *a.* [Fr. *alcalescent*.] Having a tendency to the properties of an alkali; slightly alkaline.

Al'kali, *n; pl.* Alkalies. [Fr. The name of the carb. of sod, obtained from the ashes of sea-weeds.] (*Chem.*) A class of substances possessing many qualities exactly the reverse of those which belong to the acids. An alkali is soluble in water, and produces a liquid which is soapy to the touch, and has a peculiar nauseous taste; it restores the blue color to vegetable infusions, which have been reddened by an acid; it turns many of these blues to green, as in the case of the red cabbage and syrup of violets, and it gives a brown color to vegetable yellows, such as turmeric and rhubarb. Potash, soda, and hartshorn, or ammonia, are instances of well-known alkalies. Like the acids, they are remarkable for their great chemical activity; so, potash or soda destroys the skin if allowed to remain upon it, and also gradually dissolves portions of earthenware, or of glaze from the vessels which contain it; and the solutions, if suffered to fall upon a painted surface, quickly remove the paint. But the most remarkable property of alkalies and acids is the power they possess of uniting with each other, and destroying or *neutralizing* the chemical activity which distinguished them when separate. Any compound produced by the union of an acid with an alkali is termed a *salt*. The alkalies constitute one subdivision of the class of bodies known as *bases*.

Fixed Alkalies. See Potash, Soda.

Vegetable Alkalies. See Alkaloids.

Volatile Alkali. See Ammonia.

Alkal'ifiable, *a.* [Fr. *alcalifiable*.] That which may be converted into an alkali.

Alkal'ify, *v. a.* [Fr. *alcalifier*.] To convert into an alkali.

Alkalig'enous, *a.* Generating alkali.

Alkalim'eter, *n.* [Fr. *alcalimetre*.] (*Chem.*) A graduated burette or tube for ascertaining the purity of alkalies, that is to say, the amount of carbonate which they contain.

Alkalimet'ric, and **Alkalimet'rical,** *a.* Relating to alkalimetry.

Alkalim'etry, *n.* (*Chem.*) The method or process of analysis of an alkali, to the effect of ascertaining the amount of carbonate which it contains. It depends upon the determination of the number of divisions of diluted acid, of definite strength, which a hundred grains of the different samples of ash are capable of neutralizing: the neutralization being estimated by the action of the solution upon blue litmus.

Al'kaline, *a.* [Fr. *alcalin*.] Belonging to, or having the qualities of, alkali.

Alkaline Earths. Substances which greatly resemble alkalies, but are sparingly soluble, such as lime and baryta.

Alkalin'ity, *n.* The quality which distinguishes the alkalies from other chemical compounds.

Alka'lions, *a.* Having the properties of alkali.

Alkaliza'tion, *n.* [Fr. *alcalisation*.] The act of alkalizing, or impregnating bodies with alkali. (R.)

Al'kalize, *v. a.* [Fr. *alcaliser*.] To make substances alkaline, by changing their nature, or by mixing alkalies with them.

Al'kaloid, *a.* Pertaining to, or containing, alkali.

Al'kaloids, *n. pl.* [From *alkali*, and Gr. *eidos*, form.] (*Chem.*) A group of natural organic bases, in great majority derived from the vegetable kingdom, and constituting the active principle of the plant that contains them. They are of great interest to the chemist, not only on account of their remarkable composition, but also from their powerful effects as medicinal and poisonous agents upon the animal economy. When in solution, the vegetable bases have generally a decidedly alkaline reaction upon test-papers, and for the most part they completely neutralize the acids, forming definite and well-crystallized salts. They are generally soluble in boiling alcohol; the alcoholic solutions, as they cool, deposit the alkaloids in the crystalline form. They may be subdivided into two well-marked classes:—1st, those which, like aniline (C_6H_7N), do not contain oxygen; and, second, those which, like quinine ($C_{20}H_{24}N_2O_2 + 6H_2O$), do not contain it. The bases of the first class are oily and volatile; they absorb oxygen rapidly from the air, have a powerful odor, and may be distilled either alone or with the vapor of water, without undergoing decomposition. Many organic bases may be prepared by artificial means; but all attempts at obtaining those which occur naturally in plants, as morphine and narcotine, the alkaloids of opium, have been unsuccessful. Hence, another division of the *A.* into *artificial bases* and *natural bases*.

Al'kanet, *n.* [From the Fr. *arcanette*.] (*Chem.*) A kind of reddish purple dye, obtained from the roots of *Anchusa tinctoria*. Formerly used for staining the face, but now only for coloring preparations.

Alkar'sin, *n.* (*Chem.*) See Kakodyl, Oxide of.

Alker'mes, *n.* See Kermes.

Al'koran. See Koran.

Alk'maar. (*Geog.*) See Alckmaar.

Alkmaar, (*älk-mahr'*,) Henrik van. The reputed author of the first German version of the world-renowned apologue of "*Reynard the Fox*." It is written in Low German, and was printed in Lübeck in 1498. Its title is "Reineke de Vos." For a full account of this work, and of the controversy respecting its authorship, see Carlyle's Essays, vol. ii. p. 298. He lived about 1475–1500.

Alkool', or Alkoohl, *n.* (*Chem.*) A preparation of antimony, used by the women of Eastern nations to tinge the eyelids and lashes of a black color. Dr. Shaw, speaking of the women of Barbary, says, "None of these consider themselves dressed till they have tinged the edges of their eyelids with alkoohl."

All, *a.* [A. S. *eall*.] The whole number, extent, quantity or duration; whole, entire, complete, total. — *All* always precedes the article *the*, and the definite pronouns *my, thy, his, our, your, their*, while its synonyms follow them.

All, *adv.* Quite, completely.

"And swore so loud,
That, *all* amazed, the priest let fall the book."—*Shrev*

—Altogether; wholly; without any other consideration.

"They are *all* for present money, no matter how they pay it afterwards."—*Dryden.*

—Only; without admission of anything else.

"Sure, I shall never marry, like my sister,
To love my father *all*."—*Shaks.*

All the better, wholly the better; that is, better by the whole difference.

All, *n.* The whole; everything; the total; as, "Our *all* is at stake."

All in all, everything to a person; everything desired.

"Thou shalt be *all in all*."—*Milton.*

All in the wind. (*Naut.*) A phrase denoting that the sails are parallel with the course of the wind, so as to shake.

Al'la, an Italian preposition, or the dative of the feminine article *la*, which, prefixed to certain words, signifies, or has the power of the phrase, *in the manner:*—*all' antica*, in the ancient manner: *alla Francese, all' Inglese*, in the French or English style, &c.

Al'la breve. [It., according to the breve.] (*Mus.*) A movement whose bar or measure consists of the note called a breve, equal, therefore, to two semi-breves or four minims. It is denoted at the beginning of a stave by a C with a ball drawn through it vertically.

Al'la capel'la. [It., according to the chapel.] (*Mus.*) The same as *alla breve*. The name originates in the circumstance of this time being principally used in church or chapel.

All-accom'plished, *a.* Completely accomplished.

All-admir'ing, *a.* Wholly admiring.

All-advised', *a.* Advised by all.

Al'lah, the Arabic name of the Supreme Being. It is properly a contraction of *al-ilâh: al* is the Arabic definite article, and *ilâh*, which corresponds to the Hebrew words *Eloah* and *Elohim*, signifies a deity generally; the prefixed article restricts the meaning, and *al-ilâh* or *Allah* signifies the True God, as opposed to the deities worshipped by idolaters. The word *Allah* is frequently met with as a component part of Arabic proper names: e. g. *Abd-Alloh*, i. e. the Servant of God. *Allah akbar* (God is great) is the common battle-cry of the Mohammedans. The phrase *Bism Allah* or *Bism-illah* (in the Name of God) is invariably uttered by devout Mussulmans before the commencement of any undertaking, and before their meals: it is also put at the beginning of their books.

Allahabad', in Hindostan proper, a British province of Soubah, bounded on the N. by Oude and Agra, S. by Gundwarra, E. by Bahar, and W. by Malwah and Agra. It is about 270 m. in length by 120 in breadth, between the 24° and 26° N. Lat., and 79° and 83° E. Lon. It is divided into the zillahs or districts of Allahabad, Benares, Mirzapoor, Juanpoor, Rewah territory, Bundelcund, Cawnpoor, and Manicipoor territory. The chief towns are Allahabad, Benares, Callinger, Chatterpoor, Chunar, Ghazepoor, Juanpoor, and Mirzapoor. — Watered by the Ganges, the Jumna, and the Goomtee, *A.* is one of the most productive countries in India. — *Products.* Opium, sugar, indigo, coffee, all kinds of grain, and fruits. Adjacent to the Ganges, the country is flat, but in the S.W., in the Bundelcund district, it forms an elevated tableland, diversified with high hills, containing the celebrated diamond mines of Poonah. *Pop.* (1891), 1,548,737.

Allahabad', the capital of the above prov., and of a district of the same name, is an ancient city, near the confluence of the Ganges and Jumna, 75 m. from Benares, and 475 m. from Calcutta. Lat. 25° 27′ N.; Lon. 81° 50′ E. — At the junction of the two rivers is situated the fortress, founded by the emperor Akber in 1583, indicating one of the most esteemed places of Hindoo worship and ablution, to which, every summer, multitudes of pilgrims resort from all parts of India. The extensive cultivation of cotton in India, a result of the American civil war, has been favorable to *A.*, it having become the chief seat of an extensive trade in the article. *A.* was occupied by the British in 1765. In the course of the Indian mutiny in 1857, it became the scene of the several demoniac massacres which distinguished the revolt of the Sepoy troops. *Pop.* (1891), 175,246.

All-along', *adv.* Throughout; in the whole.

Allamakee', a N.E. co. of *Iowa*, bordering on Minnesota; *area*, 660 sq. m.; *cap.* Wawkon.

Allaman'da, *n.* (*Bot.*) A gen. of plants, ord. *Apocynaceæ*. An infusion of the leaves of the *A. cathartica* is considered a valuable cathartic in medicine, in moderate doses, especially in the case of painters' colic. In overdoses it is violently emetic and purgative.

All-a-mort', *a.* [See Amort.] Dispirited.

"What! sweeting, *all a-mort?* — *Shaks.*

Allamuch'y, or Allamuchee, in *New Jersey*, a post village of Warren co., abt. 60 m. N. of Trenton.

Allan, David, b. at Alloa, Scotland, 1744, has been called the *Scottish Hogarth*, although far inferior to the distinguished artist in the pathos of humorous and eccentric delineations of human characteristics. Lord Erskine of Mar sent him to Rome to prosecute his studies. Here a painting of the Corinthian Maid who executed a profile of her lover's countenance, round the shadow thrown by a lamp upon the wall, procured him a golden medal in the Academy of St. Luke, and a proportionate amount of reputation. His most popular designs are the twelve illustrations of Ramsay's far-famed Scottish pastoral, *The Gentle Shepherd*. D. 1796.

Allan, Sir William, an historical painter, b. in Edinburgh, 1782. He was an old and attached friend of Sir Walter Scott. In 1838 he was chosen president of the Royal Scottish Academy, and was knighted in 1842. His best productions are, the *Circassian Captives*, the *Slave-Market at Constantinople*, *Mary and Rizzio*, and the *Battle of Waterloo*. D. 1850.

Allan, in Scotland, a river noted for the beauty of the scenery through which it flows for 18 m., when it falls into the Frith of Forth, 2 m. from Stirling.

Allan, Bridge of, a neat town on the above river, 3 m. N.W. of Stirling. It is a good deal resorted to in summer by visitors, on account of its mineral spring. *Pop.* 2,000.

Al'lanburg, in *West Canada*, a post-village of Welland co.

Al'landale, in *Georgia*, a post-village of Habersham co.

Al'landale, in *Minnesota*, a village of Goodhue co., 15 m. W.S.W. of Redwing.

Allanto'ic, *a.* Belonging or relating to the allantois.

Allan'toin, *n.* (*Chem.*) A neutral, tasteless substance, crystallizing in hard, brilliant prisms, soluble in boiling water. It occurs in the allantoic fluid of the cow, or in the urine of the fœtal calf, but it may also be procnred by the oxidation of nric acid. *Form.*, $C_4H_3N_2O_3$.

Allan'tois, ALLANTOID, *n.* [Gr. *allas*, a sausage, and *eidos*, form.] (*Phys.*) A thin membranous sac, developed from the termination of the alimentary canal of the embryo, situated between the amnion and chorion, and organized by the hypogastric arteries and umbilical vein. Its function as a respiratory organ is of most importance in those oviparous vertebrates, where the embryo has no branchiæ; in the mammalia, its use is more or less snperseded by the chorion and placenta. In some quadrupeds the *A.* has the form of a sansage; whence its name.

Allantu'rie Acid. (*Chem.*) A white deliquescent snbstance produced by heating in a closed tube to about 280° an aqueous solution of allantoin. *Form.*, $HO_2C_{10}H_6N_4O_3$.

Al'la-Pri'ma. [It., all at once.] (*Paint.*) The method of applying all the colors upon the canvas *at once*, without any retouching. Many of the finest works of the old masters were painted in this way; but the method demands too much artistic skill, knowledge, and decision, to be generally employed.

Al'lassStrait, a channel between the islands Lombok and Snmbassa, in the Sunda gronp of the Malay archipelago. The strait, abont 50 m. in length and 9 m. wide in its narrowest part, is considered the best for navigators.

Allatoo'na, in *Georgia*, a post-village of Bartow co., 130 m. N.W. of Milledgeville. It was attacked by the Confederates under the command of Gen. French, Oct. 5, 1864; but after vigorons assanlts, snccessfnlly resisted by the little Federal garrison commanded by Gen. Corse, the Confederates, learning that a hostile force was almost upon their rear, gave up the contest. The loss of the garrison was abont 700 men — over one third of tho entire command; that of the Confederates was estimated at 2,000 dead or captnred. In this action, Gen. Corse was woundeš in the face.

Allay', *v. a.* [A.S. *alecgan*, to lay down.] To quiet; to pacify; to appease.

> "If, by your art, you have
> Put the wild waters in this roar, *allay* them."—*Shaks.*

—To repress; snbdue; abate; mitigate; as, to *allay* the severity of a pain.

—*v. n.* To abate; to snbside; as,

> "When the rage *allays*."—*Shaks.*

Allay', *n.* [Fr. *aloi*.] The same as ALLOY.

Allay'er, *n.* The person or thing which allays.

Allay'ment, *n.* That which allays; a palliative; abatement; ease. (o.)

All-beau'teous, *a.* Completely beautiful.

> "Some emanation of the *all-beauteous* mind."—*Pope.*

All-bind'ing, *a.* That binds all.

All'bright, in *Virginia*, a post-village of Preston co.

All-divine', *a.* Supremely excellent.

All-dread'ed, *a.* Feared by all.

Al'lecret, *n.* [Ger. *alles*, all; *kraft*, strength.] Light armor nsed both by cavalry and infantry in the 16th century, especially by the Swiss. It consisted of a breastplate and gussets, often reaching to the middle of the thigh, and sometimes below the knees.

Al'legan, in *Michigan*, a W. co., borderiug on Lake Michigan; *area*, 835 sq. m. *Rivers.* It is drained by the Kalamazoo, Black, and Rabbit rivers. *Surface*, generally undulating, with considerable fine forest. *Cap.* Allegan. *Pop.* (1894) 39,185.

—A post-village, cap. of above co., 25 m. N.W. of Kalamazoo. *Pop.* (1894) 2,673.

Allega'ny. See ALLEGHANY.

Allega'tion, *n.* [Fr. *allégation*.] Affirmative, positive assertion. The thing alleged or affirmed.

(*Law.*) The assertion, declaration, or statement of a party of what he can prove.

Allege', *v. a.* [Fr. *allèguer*, from Lat. *allegare*.] To affirm; to send or put forth, as an authoritative statement; hence, as adding strength, to adduce the authority of another; to declare; to affirm; to assert; to asseverate; to depose; to plead; to cite; to quote; to assign; to advance.

> "If we forsake the ways of grace, we cannot *allege* any color of ignorance."—*Sprat.*

Allege'able, *a.* That which may be alleged.

Alleg'er, *n.* One who alleges.

Allegha'ny, in the *United States*, a river which rises on the N.W. side of the Alleghany mountains, in Potter co., near the northern confines of Pennsylvania. It enters tho State of New York, and after a brief circuit, returns to Pennsylvania. It then pursnes its course toward the S., receiving on its right the Conewago, which conveys the waters of Lake Chalanque and French Creek, which form a direct commnnication with Canada, and on the left, Toby's Creek and the Conemaugh. At Pittsburg, in N. Lat. 40° 28′, W. Lon. 80° 8′, at an elevation of 1,138 ft. above tide-waser in the Atlantic, and after a course of 400 m., it nnites with the Monongahela, and forms the Ohio. It is navigable as far as Hamilton, 270 m. above Pittsbnrg. The principal towns on its banks are Warren, Franklin, and Kittanning. Its banks are generally fertile, presenting tracts of fine cultivation and meadow-land, interspersed with ridges covered with white-oak and chestnut, and its waters are remarkable for their limpidness.

Allegha'ny, in *California*, a post-village of Sierra county, on Kanaka Creek, 60 miles E.N.E. of Marysville.

Allegha'ny, or **Allega'ny,** in *Maryland*, a county on the borders of Pennsylvania and Virginia. *Area*, 800 sq. m.—*Rivers.* The Potomac forms the S. bonndary of the co., which is intersected in its W. part by Youghiogheny river. It is also drained by Town, Evils, Wills, and Glade creeks.—*Surface.* Rocky and broken, the co. being traversed by the main Alleghany mountains and several smaller ridges.—*Mines.* Limestone, sandstone, iron ore and stone coal abound, the latter being extensively mined at Cumberland, the capital.—*Soil.* The valleys or *glades* in the mountains are fertile and furnish the celebrated glades butter and mutton.

Allegha'ny, in *New York* State, a county organized in 1806, in the W.S.W. part of the State, intersected from S. to N. by the Genesee river, which affords immense water-power. *Area*, abt. 1,050 sq. m. The soil is fertile, but generally better adapted to grazing than tillage. The E. and W. parts of the co. consist of an elevated table land.—*Mines.* Bog iron ore and limestone.—*Cap.* Belmont.

—In the same State, a post-village and township of Cattaraugus co., on the Alleghany river, 408 m. from the city of N. Y. It contains a Roman Catholic college and a Franciscan convent, and importaut indnstrial interests.

Allegha'ny, in *Pennsylvania*, a connty organized in 1788, in the W.S.W. part of the State. *Area*, abt. 750 sq. m.—*Rivers.* The Monongahela and Alleghany nnite to form the Ohio, which rnns 14 m. within the co., Yoghiogheny, Chartiers, Turtle, and Pine creeks. *Soil.* Though hilly, the county, nearly all arable land, is fertile, and the natural growth is dense and large.—*Mines.* Bitnminous coal procured in large quantities near Pittsburg, which is the cap. of the county.—*Ind.* See PITTSBURG. *Pop.* in 1890, 551,959. *A.* is the second county in importance in the State.

Allegha'ny, in *Virginia*, a county in the central part of the State; *area*, 500 sq. m.— *Rivers.* Jackson's river intersects the co., and uniting with Cow Pasture river on the E. border, forms the James river.— *Mountains.* The main Alleghany chain forms its N.W. bonndary. Middle Mountain extends along the S.E. line, and Peter's Mountain and the Warm Springs through the centre. *Soil.* The surface is very monntainous, but tho valleys are fertile. *Prod.* corn, wheat, oats, and butter. *Min.* Iron ore. *Cap.* Covington.

Allegha'ny City, or **Alleghe'ny City,** one of the chief manufacturing cities of Pennsylvania, is situated on the Alleghany river, opposite Pittsburgh, with which city it is closely connected, though not consolidated. It is the site of the Western Penitentiary of the State, and possesses an observatory, the Carnegie Public Library, a Presbyterian theological seminary, and other institutions. Among its chief industries are rolling mills, cotton and woolen mills, foundries, steel and locomotive works, breweries, &c. Its population increased from 53,180 in 1870 to 105,289 in 1890, and now (1897) probably exceeds 125,000. It is a favorite place of residence for Pittsburgh business men.

Allegha'ny Monntains. See APPALACHIAN M.

Allegha'ny Springs, a fashionable watering-place of Montgomery co., Virginia, midst highly picturesque scenery, 77 m. S.W. of Lynchburg. The waters here are saline and beneficial for dyspepsia and other diseases of the stomach.

Alleghe'ny. See ALLEGHANY.

Alle'giance, *n.* [Lat. *alligare*, to bind to.] The tie which binds the citizen to the government, in return for the protection which the government affords him. *Natural A.* is that which results from the birth of a person within the territory and under the obedience of the government. *Acquired A.* is that binding a citizen who was born an alien, but has been naturalized. *Local A.* is that which is due from an alien while resident in a country, in return for the protection afforded by the government.

Allegor'ic, Allegor'ical, *a.* [Fr. *allégorique*.] After the manner of an allegory; figurative.

Allegor'ically, *adv.* In an allegorical manner.

Allegor'icalness, *n.* The quality of being allegorical.

Allegor'ist, *n.* A writer of allegory.

Allegor'ize, *v. a.* To turn into allegory; to form an allegory.

—*v. n.* To use allegory.

Al'legorizer, *n.* One who allegorizes or turns things into allegory; an allegorist.

Al'legory, *n.* [Gr. *allos*, another, and *agoreyo*, I speak.] (*Rhet.*) A figurative discourse, which employs terms appropriate to one thing, to signify another; it is a metaphor prolonged and pursued: for example, when the prophets represent the Jews under the allegory of a vine, planted, cultivated, and watered by the hand of God, but which, instead of producing good fruits, brings forth sour grapes; and so of others.—An *A.* is not intended to deceive or perplex, in which respect it differs from an enigma or riddle.— *A.* has been a favorite mode of composition in all countries and ages. Sometimes it has been recommended by seeming to afford the only, or the fittest available means of giving a lively or intelligible representation of certain subjects or notions. The poets of different nations, for example, have resorted to this method, in order to convey sufficiently vivid conceptions of the different virtues and vices, and other abstractions which they have wished to set before their readers. They have personified these notions, as it is termed; that is to say, they have figured them in the shape of living beings invested with the forms and qualities naturally adapted to the character of each. Such pictures are allegories, and are to be found abundantly scattered over nearly all poetry. Some have even conceived that the whole mythology of pagan antiquity is merely a cluster of allegories: but this hypothesis is not favored, either by what we know generally of the birth and growth of superstition in the human mind, or by the earliest and simplest form in which these mystic fables have come down to us. Of all poets who have dealt in *A.*, Spenser is the most famous and the greatest; no other has ever produced so vast a number of these vivified idealities, or put into them such a spirit of life and air of actual existence. It is commonly said, and it is generally true, that too long an *A.* is wearisome; but nobody complains of fatigue in reading Swift's *Tale of a Tub*, which is a tolerably long *A.* This and other examples which might be quoted, seem to prove that, if the *A.* bo sufficiently simple and natural, it may be protracted, without becoming tiresome, to a considerable extent.

(*Paint.* and *Sculpt.*) Allegory may be addressed to the eye, by means of forms intended to convey, besides the notion of those sensible objects which they represent, certain abstract ideas to which those objects are supposed to bear analogy.

Allegran'ja, the most northern of the Canary Islands, inhabited, and possessing extensive woods. Lat. 29° 26 N.; lon. 13° 31′ W.

Allegret'to, [It.] (*Mus.*) The diminutive of *allegro*; denoting that the time is not so quick as that of *allegro.*

All'egri, GREGORIO, a celebrated musician, whose compositions are still retained in the pontifical chapel. The chief is the *Miserere*, which is always snng on Good Friday.

Alle'gro, [It. merrily, sportively.] (*Mus.*) A term denoting the third degree of quickness. It is also used in combination with other terms: for example, *A. agitato*, quick and agitated; *A. furioso*, vehemently quick; *A. assai*, more quickly; *A. di molto*, very quickly; *A. non molto*, not very quick; *A. ma non presto*, quick, but not extremely so.

Al'lehgunge, a town of British India, on Rampunga river, 11 m. from Furruckabad. Lat. 27° 33′ N.; Lon. 79° 45′ E. *Pop.* 6,000.

Alleln'ia, *n.* [Heb. *hallelu-jah*, praise the Lord.] This word occnrs at the begiuning, and at the end of many psalms.—"And all the streets shall sing *alleluia*;" says Tobit, speaking of the rebuilding of Jernsalem (Tob. viii 18). This expression of joy and praise was transferred from the synagogne to the church. At the funeral of Fabiola, says Jerome, in Obit. Fabiolæ, "several psalms were sung with loud *alleluias*."—An expression in sound very similar to this, seems to have been nsed by many nations, who can hardly be supposed to have borrowed it from the Jews. Is it impossible that this is one of the most ancient expressions of devotion? From the Greeks nsing ελελευ ιη as a solemn beginning and ending to their hymns to Apollo, it should seem that they knew it; it is said, also, to have been heard among the Indians in America; and *Alla*, *Alla*, as the name of God, is nsed in great part of the East. What might be the primitive stock which has furnished such spreading branches?

Allemance', in *North Carolina*, a post-village of Guilford co., 70 m. W.N.W. of Raleigh.

Allemande', *n.* [Fr.] A waltz or dance supposed to have derived its name from the country, Germany, in which, according to the prevailing opinion, it originated. It is written in two-crotchet time, and is now nnderstood to be moderately quick, the word *allegretto* best indicating its movement. But anciently this was a slow dance, according to Morley, Brossard, and Rousseau.

Alleman'nic, *a.* See ALEMANNIC.

Allemon'tite, *n.* (*Min.*) A rhombohedral mineral of the Arsenic gronp. *Comp.* arsenic 65·22, antimony, 34·78 = 100.

Al'len, ETHAN, a brigadier-general in the American Revolutionary army, B. 1744, in Salisbury, Conn., bnt educated in Vermont. In 1775, after the battle of Lexington, he collected a small party, and marched against the fortress of Ticonderoga and Crown Point; and in each of these enterprises he was successful. In the attempt to take Montreal, at the head of a small body of troops, he was captured, after a severe battle, and sent to England. On his release from confinement, he returned to Vermont, where he was appointed to the command of the State militia. D. Feb. 13, 1789.

Allen, HENRY WATKINS, B. in Prince Edward co., Va., 1820. A lawyer as his father, he was elected, in 1859, to the legislature of Louisiana, and took very soon in that body a prominent position. Upon the outbreak of the war, Mr. Allen joined the Delta Rifles as a volnnteer, was made colonel, and appointed military governor of Jackson. Wounded at the battle of Ship Island, and more severely at the battle of Baton Rouge, he was appointed brigadier-general in Sept. 1864, and soon after he was almost unanimously elected governor of Louisiana. Eminently fitted for the position, his devotion to the interests of all classes speedily won the general confidence and affection, and gave him almost arbitrary power. At the close of the war, Governor Allen left the country and took his residence in Mexico, where he died, April 22, 1866. We have from his pen "Travels of a Sugar-Planter in Enrope."

Allen, PHILIP, B. in Providence, R. I., 1787, D. there Dec. 13, 1867, was one of the foremost manufacturers of cotton in the State of Rhode Island. In 1831 he began priuting calicoes at the large establishment, still known by his name, situated on the river north of Providence. The

perfection of the style of print made at these works has justly given them a celebrity all over the continent. In 1851, Mr. Allen was elected, as the candidate of the Democratic party, governor of Rhode Island, and was re-elected in 1852 and 1853, when he resigned the gubernatorial office to accept that of United States Senator for six years, after which he retired from public life.

Allen, Sir Thomas, an English admiral, who distinguished himself during the reign of Charles II. in the war against the Dutch. In 1666 he defeated the van of the Dutch fleet, three of their admirals falling in the fight. *D.* 1686.

Allen, William, chief-justice of Pennsylvania before the Revolution, co-operated with B. Franklin in establishing the college of Philadelphia. On the approach of the Revolution, he returned to England, where he died, 1780.

Allen, William, an eminent chemical and experimental English professor. B. in London, 1770; D. 1843.

Al'len, William Henry, a naval officer of the United States, distinguished for his courage and success in the war of 1812–13 against Great Britain. Born at Providence, R.I., 1784. On Aug. 13, 1812, after a very successful cruise, the Argus, of which he was the master-commandant, became a prize to the British brig Pelican, and Allen received a wound, of which he died two days after.

Al'len, in *Illinois*, a township of La Salle county.

Allen, in *Indiana*, a county in the E.N.E. of the State, on the Ohio line. *Area*, 638 sq. m.—*Rivers.* *A.* co. is well watered by the St. Joseph and St. Mary rivers, which unite at Fort Wayne, and form the Maumee river; several creeks also flow through it. *Desc.* The surface is level; the soil very fertile; with the exception of some oak openings and wet prairies, the county is well wooded. *Hist.* It was organized in 1824, and received the name from Col. Wm. Allen, of Kentucky. *Cap.* Fort Wayne. *Pop.* in 1890, 66,689.

—a township of Miami co.
— " Noble co.

Al'len, in *Iowa*, a post-office of Harrison co., 160 m. W. of Iowa City.

—a township of Polk co.
— " Warren co.

Al'len, in *Kansas*, a county in the S.E. part of the State. *Area*, 720 sq. m.—*Rivers.* The Neosho, which intersects the co., and numerous creeks, the principal being Deer and Elm. *Soil.* The county consists mostly of prairie, but the timber abounds aloug the rivers. *Minerals.* coal. *Cap.*, Iola.

—a post-village of Lyon co., abt. 40 m. S.W. of Topeka.

Al'len, in *Kentucky*, a S. county, on the Tennessee line. *Area*, 300 sq. m. *Rivers.* Tennessee, Big Barren river, and Trammel's creek. *Prod.* Corn, wheat, oats, and tobacco. *Hist.* The county was formed in 1825, and named in honor of Col. John Allen. *Cap.* Scottsville. *Pop.* (1897) 15,650.

Al'len, in *Michigan*, a flourishiug towuship of Hillsdale co.

Al'len, in *Missouri*, a post-villago of Randolph co., 147 m. W N.W. of St. Louis.

Al'len, in *New York*, a post-township of Allegbany co., 250 m. W.S.W. of Albany.

Al'len, in *Ohio*, a county in the W.N.W. part of the State. *Area*, 405 sq. m. *Rivers.* It is intersected by the Auglaize and Ottawa rivers, and by Riley and Sugar creeks. *Desc.* The surface is generally level, the soil fertile and abundantly timbered with hard wood. *Prod.* Corn, wheat, oats, hay, and butter. The Miami canal passes through the county and affords good water-power. *Cap.* Lima.

—a township of Darke co.
— " Hancock co.
— " Union co.

Al'len, in *Pennsylvania*, a post-office of Cumberland co.

—a township of Northamptou co.
— " Washington co.

Al'len, Bog of, in *Ireland*. The name given to a number of contiguous morasses separated by ridges of dry ground, situated in Kildare, King's and Queen's counties. *Area*, 238,500 acres. It gives birth to the rivers Boyne, Barrow, and Brosna.

Al'len Centre, in *New York*, a post-village in Allen township, Alleghany co.

Al'len Centre, in *Ohio*, a post-village in Allen township, Union co., 36 m N.W. of Columbus.

Al'len, Isle of, a village of *Ireland*, county of Kildare, 5 m. N.E. of Kildare.

Al'len, Lough, in *Ireland*, a lake in Leitrim co., 10 m. in length and 4 to 5 in width. It is supposed to be the source of the Shannon.

Al'lendale, in *England*, a market-town and parish of Northumberland. *Pop.* of parish about 7,000.

Al'lendale, in *Kansas*, a village of Johnson co.

Allendale, in *Kentucky*, a post-office of Greene co.

Allendale, in *Michigan*, a post-township of Ottawa county.

Allendale, in *Missouri*, a post-village of Worth co., about 18 m. N. of Albany.

Allendale, in *South Carolina*, a township of Barnwell district.

Al'lendorf, in *Germany*, a town of Hesse-Cassel, on the Werra. *Pop.* 4,000.

Al'len's, in *Ohio* (post-office, Lena), Miami co., 62 m. W. of Columbus.

Al'len's Bridge, in *South Carolina*, a village of Marion co., about 130 m. E. of Columbia.

Al'lensburg, in *Ohio*, a post-village of Highland co., 8 m. W. of Hillsborough.

Al'len's Creek, in *Virginia*, a township of Hanover co.

Al'len's Fresh, in *Maryland*, a township of Charles co., about 40 m. S. by E. of Washington,

Allen's Grove, in *Iowa*, a post-village and township of Scott county, 14 miles N.N.W. of Davenport.

Allen's Grove, in *Wisconsin*, a post-village of Walworth co.

Allen's Hill, in *New York*, a post-village of Ontario co.

Allen's Settlement, in *Louisiana*, a post-office of Claiborne parish, 400 m. N.W. of New Orleans.

Al'len's Spring, in *Kentucky*, a p. o. of Warren co.

Al'lenstein, a town of *East Prussia*, 65 m. from Königsberg.

Al'lenstown, in *New Hampshire*, a post-township of Merrimac co., 10 m. S.E. of Concord.

Al'lensville, in *Indiana*, a village of Randolph co., about 8 m. N. by W. of Union City.

—a post-village of Switzerland co.

Allensville, in *Kentucky*, a post-village of Todd co., 180 m. S.W. of Frankfort.

Allensville, in *Ohio*, a post-village of Vinton co., 60 m. S.S.E. of Columbus.

Allensville, in *Pennsylvania*, a post-village of Mifflin co., 76 m. N.W. of Harrisburg.

Al'lenton, in *Alabama*, a post-village of Wilcox co., about 110 m. S. of Tuscaloosa.

Allenton, in *Missouri*, a post-village of St. Louis co., about 30 m. W.S.W. of St. Louis.

Allenton, in *Rhode Island*, a post-office of Washington co.

Allentown, in *New Jersey*, a post-village in Upper Freehold township, Monmouth co., 12 m. E. by N. of Trenton.

Allentown, in *Ohio*, a post-village of Allen co., on the Ottawa creek, 7 m. W. of Lima, and 70 m. N.W. of Columbus.

Al'lentown, in *Pennsylvania*, a flourishing city, capital of Lehigh co., pleasantly situated on an eminence on the W. bank of the Lehigh river, 51 m. N. by W. of Philadelphia. The beds of iron ore and anthracite, which are very extensive in the valley of *A.*, have given to that town a very great importance. It contains numerous iron-works, and has some fine public buildings, an academy, a theological seminary, and a military institute. The first house of *A.* was built by William Allen, in 1750, on a grant of 20,000 acres received from William Penn; in 1812, it became the county-town, and in 1838, its former name of Northampton was changed to Allentown. Its inhabitants are mostly of German descent. *Pop.* in 1890, 25,228; in 1897 (estimated), 33,600.

All'er, a river of Germany, rising in the district of Magdeburg, and falling into the Weser.

All'er, a parish of England, in Somersetshire, where, in 1644, a battle was fought between the Royalist and Parliament forces. Here, also, Alfred the Great defeated the Danes.

Alle'rion, or Alerion, *n.* [Fr. *alérion*, from Lat. *ala*, wing.] (*Her.*) An imaginary bird like an eagle, without beak or feet, so called because they have nothing perfect but the wings. They differ from Martlets in that they are represented facing, with the wings expanded.

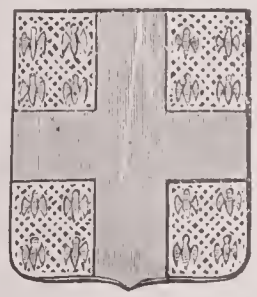


Fig. 86.—Montmorency's escutcheon.

Alle'viate, *v. a.* [Lat. *allevare.*] To make light, sometimes in a literal, but ordinarily in a figurative sense; hence, to lessen; to soften; to palliate; to mitigate; as, he *alleviates* his faults by an excuse; your friendship *alleviates* my sorrow.

Alle'viating, *a.* That which affords alleviation.

Alleviation, *n.* [Lat. *allevatio.*] The act of making light; alleviating; lessening; mitigating or extenuating.—That by which any pain is cured, or fault extenuated.

Alle'viative, *n.* That which alleviates.

Alley, *n.*; *pl.* Alleys. [Fr. *allée.*] A walk in a garden;—a narrow passage or way in a city, narrower than a street; a lane.

(*Arch.*) A passage from one part of a building to another; also, the passage or walk between the pews of a church.

Al'ley's Mills, in *Texas*, a post-office of Cass co., about 300 m. N.E. of Austin.

All-Fool's Day, *n.* The first of April;—so called from the custom of making fools of as many as possible on that day.

All-Fours, *n.* (*Sport.*) A game played by two persons with an entire pack of cards. The name is derived from the 4 chances of which it consists, viz. High, Low, Jack, and Game.—*Laws of the game.* 1. If, in dealing, the dealer discovers any of the adversary's cards, a new deal may be demanded. 2. If the dealer, in dealing, discovers any of his own cards, he must abide by the same. 3. If it is discovered, previous to playing, that the dealer has given his adversary too many cards, there must be a new deal; or, if both parties agree, the extra cards may be drawn by the dealer from his opponent's hand; and the same if the dealer gives himself too many cards. But in either case, if a single card has been played, then there must be another deal. 4. No person can beg more than once in a hand, unless both parties agree. 5. In playing, you must either follow suit or trump, on penalty of your adversary's adding one point to his game. 6. If either player sets up his game erroneously, it must not only be taken down, but the antagonist is entitled to score four points, or one, as shall have been agreed upon. 7. It is allowable for the person who lays down a high or a low trump to inquire whether the same be high or low.

To go on all fours. To move on four legs, or on two legs and two arms or hands. Hence, to go on *all fours*, fig., to be exactly similar in the minutest points. "This example is on *all fours* with the other."

Allgo'sa, in *South Carolina*, a post-office of Spartanburg district.

All-hail', *interj.* See Hail.

All-hal'low, or All-Hallows, *n.* All-Saints' Day: the first of November.

All-hal'low-tide, *n.* [A.S. *tid*, time.] The time near All-Saints or November first.

All hands ahoy! (*Mar.*) The order by which the ship's company is summoned on deck by the boatswain.

All hands to quarters ahoy! is the order to the crew to prepare for battle. This command is more generally given by the boatswain piping down the hatchway.

All'ia, a small river in Italy, rising in the hills of Crustuminum, and flowing into the Tiber, about 11 m. N. of Rome. Near its confluence, the Romans were defeated with great slaughter by the Gauls, under Brennus, B. C. 490. The barbarians captured the city. On its banks also, the dictator Cincinnatus defeated the Prænestines, B. C. 377.

Allia'ceous, *a.* Relating to, or having the properties of, *allium*, or garlic.

Alli'ance, *n.* [Fr. from Lat. *ad ligare*, to bind.] A voluntary compact, binding persons or communities. The alliance of States is either offensive or defensive, or both; with individuals it means friendship or marriage-relationship.—Compact; treaty; union; coöperation; confederation: friendship.

(*Bot.*) The first division of a class, including the orders having certain common characters which separate them from the rest of the class.

Alli'ance, in *Ohio*, a manuf. city and R. R. centre in Lexington township, Stark co. *Pop.* in 1890, 7,607.

Alli'eæ, *n. pl.* (*Bot.*) A tribe of plants, ord. *Liliaceæ.*

Allied', *p. a.* United by kindred or alliance; confederated.

Al'lier, a dep. in France, bounded on the N. by those of Cher, Nievre, and Saône et Loire, and on the S. by those of Creuse, Puy de Dôme, and Loire. It comprehends a great part of the ancient province of Bourbonnais. Lat. between 45° 58′ and 46° 47′ N.; Lon. between 2° 16′ and 3° 57′ E. *Area*, 2,821 sq. m. It is traversed by the Allier, the Cher, and other lesser rivers. The soil is fertile, but the agriculture is in a backward state. The ponds and woods are extensive. *Manf.* Iron machinery and tools of every description, cutlery, paper, porcelain, glass, cloth, &c. Mineral springs attract visitors to the towns of Vichy, Bourbon-L'Archambault, and Neris. The dep. is divided into four arrondissements, named Moulins, Gannat, La Palisse, and Montluçon. *Pop.* 424,582.

Al'lier, a river that gives its name to the above department. It rises in the mountains of the Lozère, and traversing the centre of France, falls into the Loire, a few miles below Nevers, after a course of 220 miles.

Al'ligate, *v. a.* [Lat. *alligare*, to bind to.] To tie one thing to another; to unite.

Alliga'tion, *n.* The act of tying together; the state of being tied. (R.)

(*Arith.*) A rule by which the price of a mixture is found when the price of the ingredients is known. This is applicable to commercial arithmetic only, but the following questions, which fall under the rule, will show its scope better than any general definition.—How much wine at $12 a dozen must be added to a pipe worth $18 a dozen, in order that the mixture may be worth $15 a dozen?—If a cubic foot of copper weighs 8,788 ounces, and of zinc 7,200 ounces, in what proportions must copper and zinc be mixed, so that a cubic foot of the mixture may weigh 8,000 ounces?—For the algebraist we may say, that all questions fall under the rule of alligation which involve the solution of such an equation as, $ax + by + cz = n(x + y + z)$ in which n must be intermediate between a, b, and c; which is indeterminate unless further relations between x, y, and z are given. Any person moderately skilled in algebra may reduce a question of alligation to an equation of this form. The number of cases is infinite, and several of those given in the books of arithmetic are useless. We shall, therefore, confine ourselves to two rules of the most simple cases for the reader not skilled in algebra. *Rule I.* Where the quantity of each ingredient, and its price, are given, to find the price per pound, gallon, or whatever it may be, of the mixture; multiply the quantity of each ingredient by its price, and add; then divide the sum of all these products by the sum of all the quantities in the ingredients.

Ex. What is the worth per ounce of a mixture of 25 ounces of sugar at 10c. with 15 ounces at 12c.?

25 oz. at 10c. is worth	$2.50	
15 " " 12c. "	1.80	
—	—	
40	4.30	40
Answer 10¾	10.75	

Rule II. To find in what proportions *per cent.* two ingredients must be mixed, in order that the price per ounce, &c. of the mixture may be one which has been previously determined upon. To find the proportion of the *first* ingredient, take the difference of price between the mixture and the *second* ingredient, multiply by 100, and divide by the difference between the prices of the ingredients. *Ex.* I wish to know in what proportion

wine at 45c. and 70c. the pint must be mixed, in order that the mixture may be worth 55c. the pint?

Price of the mixture....	55	
Price of the 2d ingredient.	70	
Difference	15	
Multiply by	100	
divide the product by 25, diff. bet. 45 and 70	1,500	25
		60

There must be, therefore, 60 per cent. of the first, and consequently, 40 per cent. of the second.

Al'ligator, *n.* [Lat. *lacerta*, a lizard.] (*Zoöl.*) A genus of very formidable and ferocious reptiles, found in

Fig. 87.—ALLIGATOR.

tropical regions of America, and closely resembling the gen. *Crocodile*, the species of which are all found in the Old World.—See CROCODILIDÆ.

Al'ligator, in *Florida*, a post-village, cap. of Columbia co., See LAKE CITY.

Al'ligator, in *Louisiana*, a post-office of St. Mary's parish.

Al'ligator-apple, *n.* (*Bot.*) The fruit of a species of custard-apple, native of the West Indies; the *Anona palustris*.

Al'ligator-pear, *n.* (*Bot.*) The fruit of the *Persea Gratissima*, a West Indian tree.

Al'ligator Swamp, in *North Carolina*, a large tract of marsh, covering nearly the entire peninsula between Pamlico and Albemarle sounds.

Al'ligator Tortoise. See TORTOISE.

Allig'ature, *n.* See LIGATURE.

Al'ligazant, *n.* A kind of rosewood.

Allighur. See ALIGHUR.

Allign'ment, *n.* See ALIGNMENT.

Al'lioth. See ALIOTH.

Alli'sion, *n.* [Lat. *allisio.*] The act of striking or dashing.

"The island was severed from the continent
By the boisterous *allision* of the sea."—*Woodward.*

Al'lison, in *Michigan*, a township of Lapeer co., about 60 m. N. of Detroit; now called BURNSIDE, *q. v.*

Al'lison, in *Illinois*, a township of Lawrence county.

Al'lison, in *Pennsylvania*, a township of Clinton co., now divided into Lockhaven city and Lamar township.

Alliso'nia, in *Tennessee*, a post-village of Franklin co., on Elk river; 77 m. S.E. of Nashville.

Al'lison's Creek, in *South Carolina*, flows into Catawba river, in York district.

Allitera'tion, *n.* (*Pros.*) The juxtaposition, or frequent recurrence of words commencing with the same letters, or of syllables of the same sound, in the same sentence. *A.* is pleasing when skilfully managed, so as to produce what the French have called *harmonie imitative;* but by too frequent use it becomes trivial and ridiculous. An excellent instance of imitation having a happy *A.* is afforded by the line of Virgil, describing the measured gallop of the horse:

"Quadrupedante pedum sonitu qualit ungula campum."

Or another verse of the same poet:

"Lactantes ventos tempestatesque sonoras."

In which the continual recurrence of the *t* reminds us of the uninterrupted noise of the winds. Greek literature affords many instances of this imitative harmony. In German literature, Bürger has made the most use of *A.* A sonnet of Schlegel finishes with the following:

"Wo Liebe lebt und labt, ist lieb das Leben."

Among the French, a verse of Racine—

"Pour qui sont ces serpents qui sifflent sur nos têtes?"

represents very happily the hissing of the serpent. *A.* has been most used as an ornament of diction in the Celtic and Gothic dialects. Giraldus Cambrensis, who lived in the twelfth century, says, in his description of Wales, that in his day, both the English and Welsh were so fond of this figure of speech, that they deemed no composition to be elegant, in which it was not plentifully employed. The most famous poem in the English language, entirely composed in *A.* metre, is that entitled "*The Vision of Piers Plowman,*" written about the middle of the 12th century, attributed to William or Robert Longland, and which has been frequently printed. So strongly had *A.* obtained possession of the English ear, that even for some time after the introduction of rhyme, it appears to have been still considered an important embellishment of verse. The English popular ballad or lyrical poetry is full of such lines as those with which the Scotch song commences:

"*Merry* may the *maid* be
That *marries* the *miller*;
For one *day* and *fair day*," &c., &c.

Down even to the present day, the use of *A.*, to a considerable extent, has continued to characterize English versification in its most polished form, and in the hands of some of the greatest poets. Byron's line in the concluding stanza of the second canto of *Childe Harold*,

"What is the worst of *woes* that *wait* on age?"

may be given as an example. Churchill has at once ridiculed and exemplified the figure in his well-known verse,

"And apt *alliteration's* artful aid,"

where every word begins with the same letter.

Allit'erative, *a.* Pertaining or relating to alliteration.

Allit'erator, *n.* One who makes use of alliterations.

Al'lium, *n.* [Lat.] (*Bot.*) A gen. of plants, O. *Liliaceæ*, remarkable for their pungent odor. *A. sativum*, the garlic, a native of Sicily, is cultivated in all parts of the world. Its bulb, used as seasoning, and also in medicine, is composed of several smaller ones surrounded by a common white membrane, and called cloves of garlic. They are strong-scented, and have a bitter, acrid taste.

Fig. 88.—ALLIUM SATIVUM. (Common garlic.)

(*Med.*) The garlic is a local irritant and rubefacient. Internally it quickens the circulation and stimulates the secretions generally. It is employed as an expectorant in chronic catarrhal affections, and as a stomachic in flatulence, &c. Externally, it is used as a revulsive rubefacient to the feet, as a resolvent in indolent tumors, and as a liniment in infantile convulsions. See ONION.

All'ness, *n.* Totality; entirety; hence, completeness of attributes. (R.)

"The *allness* of God, including his absolute spirituality."—*Turnbull.*

Alloa, a seaport town and parish in the shire of Clackmannan, Scotland, on the Forth, 25 m. W.N.W. of Edinburgh. The harbor is excellent, and the trade considerable. *A.* is supposed to be the *Alloma* of Ptolemy. *Pop.* of town 7,000.

Allob'roges, a warlike nation of Gaul, who dwelt near the Rhone, in those parts of France and Italy now called Savoy, Dauphiné, and Piedmont. The Romans destroyed their city on account of their assistance to Hannibal.

Alloea'tion, *n.* [Fr.] The act of putting one thing to another. The admission of an article in reckoning, and addition of it to the account.

(*Eng. Law.*) An allowance made upon accounts in the Exchequer, or rather a placing or adding to a thing.

Alloea'tur, *n.* [Lat., *it is allowed.*] (*Law.*) The allowance by a master or prothonotary of a bill referred for his consideration, whether touching costs, damages, or matters of account.

Alloen'tion, *n.* [Lat. *al* for *ad*, to, and *locutio*, a speaking.] An address, usually of a formal nature; particularly applied to an address delivered by the Pope at the college of cardinals, on matters of importance to the Church, or by a general to his troops prior to a battle.

Allo'dial, and **Allo'dian,** *a.* [Fr.] (*Feudal Law.*) Held without any acknowledgment of superiority; not feudal; independent.

Allo'dially, *adv.* In an allodial manner.

Allo'dium, or ALODIUM, *n.* In the feudal law, an *A.* was a property held in absolute dominion, without rendering any service, rent, fealty, or other consideration whatever to a superior. It was opposed to *Feodum* or *Fief*, which means property, the use of which was bestowed by the superior upon another, on condition that the person to whom the gift was made should perform certain services to the giver, upon failure of which, or upon the determination of the period to which the gift was confined, the property reverted to the original possessor. Hence arose the mutual relations of Lord and Vassal. The etymology of the word *A.* has not been ascertained.—See FEUDAL SYSTEM, and FIEF.

Allog'amy, *n.* [Gr. *allos*, other, and *gamos*, marriage.] The fecundation of one flower by pollen from another of the same species; cross-fertiization. The op. of *autogamy.*

Alloge'neous, *a.* [Gr. *allogenes*, from *allos*, and *genus*, kind.] Of a different nature, of another kind. The opposite of *homogeneous.*

Allonge', *n.* [Fr., from *allonger*, to lengthen.] (*Fencing.*) A pass with a sword or rapier; sometimes contracted into *longe* or *lunge.*—A long rein, where a horse is trotted by the hand.—A paper attached to a bill of exchange when the successive indorsements are too numerous to be written on the bill itself.

—*v. n.* To make a pass or thrust by stepping forward and extending the sword or rapier.

Alloo', *v. a.* and *n.* [Probably from the Fr. *allons*, let us go.] To incite a dog by crying *alloo.*

"*Alloo* thy furious mastiff."—*Philips.*

Allopath'ic, *a.* Belonging or relating to allopathy.

Allopath'ically, *adv.* According to the principles of allopathy.

Allop'athist, *n.* One who adheres to, or practises, allopathy.

Allop'athy, *n.* [Gr. *allos*, other, and *pathos*, suffering.] The ordinary medical practice, as opposed to *Homœopathy.*—See HOMŒOPATHY.

Al'lophane, *n.* (*Min.*) A subsilicate, amorphous mineral; vitreous lustre; color usually pale sky-blue, sometimes greenish, brown, yellow, or colorless. It is regarded as a result of the decomposition of some aluminous silicate. Found in the U. S. in mines of limonite, zinc, copper, &c.

Allot', *v. a.* [O. Fr. *allotir.*] To divide or distribute by lots.—To distribute; to parcel out; to give each his share.

Allot'ment, *n.* The act of allotting.—That which is allotted; the part; the share; the portion granted.

Allotrop'ic, *a.* (*Chem.*) Belonging to allotrophy. Thus a substance is allotropic when it is capable of assuming two or three of the four conditions in which solid bodies may exist, (*crystalline, vitreous, amorphous,* and *organized;*) and an allotropic substance is in an allotropic state when it occurs in one of its regular conditions.

Allot'rophy, and ALLOT'ROPISM, *n.* [Gr. *allos*, another, *tropos*, manner.] (*Chem.*) The existence of the same substance in different forms, each endowed with different properties arising, not from differences in their chemical nature, but in their molecular arrangement. Sulphur, for example, often occurs naturally in beautiful and hard octohedral *crystals.* But if a quantity of these crystals be melted, and heated considerably beyond the boiling-point of water, and the liquid be then suddenly cooled by pouring it into cold water, a tough, flexible, transparent substance, of an amber color, is procured, which may be kneaded in the hand or drawn out into long threads, and is less easily inflamed than ordinary sulphur. This constitutes *vitreous* sulphur; but if it be left a few days, it becomes brittle, opaque, and partly crystalline. However, it is not all crystallized, for, if digested with bi-sulphide of carbon, part of it only will be dissolved; the crystallized portion is taken up, and a buff-colored powder is left, which is insoluble. It has no crystalline appearance, and is *amorphous* sulphur. This, if melted by heat, becomes as soluble as before. The carbon, as *diamond, graphite,* and *charcoal,* is another striking example of allotrophy.

Allot'tee, *n.* A person to whom shares in a public undertaking are allotted.

Allow', *v. a.* and *n.* [Fr. *allouer*, from Lat. *allocare* or *allaudare.*] To make a deduction, as upon an account.—To grant or give in a stated manner or periodically.—To grant the claim of a thing on the ground of truth, justice, reason, or equity; to concede for reasons best known to one's self; to allot; to assign; to afford; to grant; to remit; to recognize; to acknowledge; to avow; to confess; to admit; to permit; to suffer.

Allow'able, *a.* [Fr. *allouable.*] That which may be admitted without contradiction.—That which is permitted or licensed; lawful, not forbidden.

"I was, by the freedom *allowable* among friends, tempted to vent my thoughts with negligence."—*Boyle.*

Allow'ableness, *n.* The quality of being allowable; lawfulness; exemption from prohibition.

Allow'ably, *adv.* In an allowable manner.

Allow'ance, *n.* Admission without contradiction; acknowledgment.

"Without the action and *allowance* of spirits, our philosophy will be defective."—*Locke.*

—Sanction; license; authority.

"To conclude,
Without the king's will, and the state's *allowance*."—*Shake.*

—Permission; freedom from restraint; indulgence.

"To consult their reason before they give *allowance* to their inclination."—*Locke.*

—A settled rate; or appointment for any use.

"And his *allowance* was a continual *allowance* given him of the king; a daily rate for every day, of the days of his life."
2 *Kings* xxv. 30.

—Abatement from the strict rigor of a law, or demand. "Parents never give *allowance* for an innocent passion."

(*Com.*) A deduction; an average payment; a portion.

—*v. a.* (*Naut.*) To put upon allowance, *i. e.*, to limit the portion of food allowed to a crew or passengers.

Al'loway, in Scotland, a parish of Ayrshire, in which stand the ruins of the *auld haunted kirk*, immortalized by the "*Tam O'Shanter,*" of Robert Burns.

Al'loway, in *New York*, a post-village of Lyous township, Wayne co., 3 m. S. of Lyons.

Al'loway's Creek, in *New Jersey*, flows into the Delaware river, in Salem co.

Al'lowaystown, in *New Jersey*, a post-village of Salem co., 60 m. S S.W. of Trenton.

Allox'an, *n.* [Gr. *allos*, other, and *oxos*, vinegar.] (*Chem.*) A substance obtained in octohedral crystals, by mixing 4 parts of uric acid with 8 of commercial hydrochloric acid, and gradually adding 1 part of powdered chlorate of potash. It stains the skin pink, and gives it a sickly odor. A characteristic property of alloxan is the formation of an intensely violet, purple-colored liquid on admixture with solution of a protosalt of iron. *Form.* $C_8H_2N_2O_8 + 2$ and 8 Aq.

Allox'anic Acid, *n.* (*Chem.*) An unstable compound obtained by treating *alloxan* with baryta water. *Form.* 2HO. $C_8H_2N_2O_8$.

Alloxan'tin, *n.* (*Chem.*) A compound obtained by the mixture of dialuric acid with *alloxan.* It forms small, white, hard, brilliant prismatic crystals; it is freely dissolved by boiling water, and its solution reddens litmus. *Form.* $C_8H_2O_7 + 3$ Aq.

Alloy′, *v. a.* [From Fr. *aloi*, the fixed standard for gold and silver.] To reduce the purity of metals by mixing with a less valuable substance: as to alloy gold with silver, or silver with copper.—Metaphysically, to abate, impair, or corrupt; as, "To *alloy* pleasure with misfortune."

Alloy′, *n.*; *pl.* ALLOYS. A base metal mixed with a finer.—Evil mixed with good; as, "No happiness is without *alloy*."

(*Chem.*) Metals enter into combination with each other, and form compounds termed *alloys*, many of which are most extensively used in the arts. Comparatively few of the metals possess qualities such as render them suitable to be employed alone by the manufacturer; aluminium, zinc, iron, tin, copper, lead, mercury, silver, gold, and platinum, constitute the entire number so used. Arsenic, antimony, and bismuth are too brittle to be used alone, but are employed for hardening other metals. Many of the physical properties of the metals are greatly altered by combination with each other; the combination or alloy being often adapted to purposes for which either metal separately would be unfit. So, copper alone is not fit for castings, and it is too tough to be conveniently wrought in the lathe or by the file; but when alloyed with zinc, it forms a much harder compound, which can be cast, rolled, or turned, and which constitutes the different kinds of brass, the qualities of which can be varied by varying the properties of the two metals.—When the metals combine with mercury, the resulting body is called an *amalgam*.—Sometimes alloys are true chemical compounds, resulting from the combination of metals in definite proportions, as is the case with silver and mercury; most frequently they are only mixtures of definite compounds with an excess of one or other metal, and the separation of their components from each other is easily affected by simple means. For instance, by exposing brass to a high temperature, the zinc is volatilized, leaving the copper behind.—Generally speaking, the hardness of metals is increased by alloying them; of this a familiar instance is afforded by the standard coin of the republic: neither gold nor silver, when unalloyed, is sufficiently hard to resist attrition to the degree required for the currency, but the addition of $\frac{1}{10}$ or $\frac{1}{12}$ of its weight of copper to either metal increases its hardness to the requisite point. The more important alloys will be considered under their respective names. See SEC. II.

Alloy′age, *n.* The act of alloying metals; alloy.

All-Saints' Bay, in Brazil, prov. of Bahia. Lat. 12° 42′ S.; Lon. 38° 42′ W. With the town of Bahia on the E., and its surface dotted with islands, All-Saints' Bay, 37 m. long and 27 wide, is one of the largest and finest natural harbors in the world.

All-Saints' Day, or ALL-HALLOWS, *n.* (*Eccl. Hist.*) A Catholic festival celebrated on the 1st of November. This feast, established by Boniface IV. in 611, for the commemoration of all the martyrs, was extended into the festival of All-Saints' by Gregory IV., in 830.

All-Saints' Islands, three small islands S. of Guadaloupe, West Indies. Lat. 15° 51′ N.; Lon. 61° 41′ W. Total *area* abt. 5 sq. m.; *pop.* 1,409. They belong to France.

Alls′borough, in *Alabama*, a post-village of Colbert co.

All-see′er, *n.* One who sees or beholds everything.

"That high *All-seer*."—*Shaks.*

All-Souls Day, *n.* (*Eccl. Hist.*) A Catholic festival, held on the 2d of November, in commemoration of all the faithful deceased.

Allspice, *n.* See EUGENIA.

Alls′ton, WASHINGTON, an eminent American painter; B. in Charleston, S. Carolina. He went to London in 1801, and entered as a student in the Royal Academy. He next visited France and Italy, and pursued the study of his art at Rome for four years, where he distinguished himself by his coloring, which acquired for him the name of the American Titian. In 1809 he visited America, married the sister of Dr. Channing, and afterward resumed his residence in London, where his first historical picture, the "Dead Man Revived," obtained for him the first prize of the British Institute. Having lost his wife, he came home in 1818, married, in 1830, the daughter of Chief Justice Dana, and took his residence in Cambridge, where he died, on the 9th of July, 1843. His principal works are: *Elijah in the Wilderness*, *Jeremiah*, *Saul and the Witch of Endor*, *Miriam*, *Dante's Beatrice*, and *Valentine*. *The Feast of Belshazzar* was not finished. *A.* published in 1813 a small volume of poems, called the "*Sylph of the Season, and other Poems*," and, in 1841, a tale called *Monaldi*.

Allude′, *v. i.* [Lat. *alludere*.] To have reference to a thing, without the direct mention of it; to hint at; to insinuate: as, he *alludes* to an old story.

Allumette′, *n.* [Fr. from *allumer*, to light.] A match for kindling.

Allure′, *v. a.* [From *ad* and *lure*.] To entice to anything whether good or bad; to draw toward anything by enticement.

Allure′ment, *n.* That which allures or has the force of alluring; enticement; temptation.

"....Adam, by his wife's *allurement* fell."—*Milton.*

Allur′er, *n.* The person or thing that allures.

Allur′ingly, *adv.* In an alluring manner.

Allur′ingness, *n.* The quality of alluring. (R.)

Allu′sion, *n.* [Fr.] That which is spoken with reference to something supposed to be already known, and therefore not expressed; a hint; an implication; as, "*allusion* to customs lost to us."

Allu′sive, *a.* Referring to something not fully expressed; hinting.

Allu′sively, *adv.* In an allusive manner; by implication; by insinuation.

Allu′siveness, *n.* The quality of being allusive. (R.)

Allu′sory, *a.* Allusive. (R.)

Allu′vial, *a.* [From *alluvion*.] Relating or pertaining to alluvium; as, *alluvial* land.

Allu′vion, *n.* [Fr. from Lat. *alluvio*.] An alluvial land. The same as ALLUVIUM, q. v.

Allu′vium, *n.*; *pl.* ALLUVIA. [Lat., from *alluere*, to wash upon.] The name given to those accumulations of sand, earth, and loose stones or gravel brought down by currents of water, generally from higher regions into plains, and which, when spread out to any extent, form what is called *alluvial land*, or formation. The superior crust of the earth is constantly being disintegrated by the action of the air, by tides, currents, and streams of running water, and deposited at the bottom of rivers, lakes, estuaries, and the ocean itself. In time, these lakes, &c., are completely filled up, become dry land, and a valley composed of this alluvial soil is formed. So in the United States, the town of New Orleans stands on land formed by alluvium.

(*Law.*) Alluvium, or, more properly, as a legal term, *alluvion*, is that land gained from the sea, or a river, by the washing up of sand and soil, so imperceptibly, that it is impossible to judge how much is added at each moment of time. The proprietor of the bank increased by alluvion is entitled to the additions.

Ally′, *v. a.* [Fr. *allier*, from Lat. *ad ligare*, to bind.] To make a voluntary compact between States by treaty, coalition, or confederation; or between individuals, by affinity of kindred, friendship, or mutual interest; to connect by resemblance, or similitude.

"Wants, frailties, passions, closer still *ally*
The common interest or endear the tie."—*Pope.*

Ally′, *n.*; *pl.* ALLIES. [Fr. *allié*.] A prince or State united to another by treaty or league; a confederate.—One related to another by any tie.

"The English soldiers and their French *allies*."

All′ygurh. (*Geog.*) See ALIGHUR.

Al′lyl, *n.* [From Lat. *allium*, the garlic.] (*Chem.*) An hydro-carbon, which is the basis of all the oils of the sulphuretted essences. Oil of garlic is a mixture of oxide with sulphide of allyl; the essential oils of mustard, of horse-radish, and of scurvy-grass, consist chiefly of sulphocyanide of allyl.—*Allyl* is a very volatile liquid, possessed of a peculiarly penetrating odor resembling that of radishes. Its vapor burns with a very luminous flame. It is obtained by decomposing iodide of allyl with sodium. *Form.* C_3H_5.

Iodide of Allyl. A colorless liquid, soluble in alcohol, and having an alliaceous odor. It is obtained by the action of equal parts of phosphorus diniodide and glycerine upon each other. *Form.*, C_3H_5I.

Sulphide of Allyl. A colorless oil, lighter than water, contained in various essential oils, particularly in those of garlic, onions, leeks, cress, radishes and assafœtida. Its odor is less repulsive than that of crude oil of garlic. It causes a precipitate in many metallic solutions, such as those of silver, mercury, gold and platinum. *Form.*, $C_2H_{10}S$.

Al′ma, Al′me, Al′mai, or AL′MEH, *n.* [Ar., probably corrupted from *âlimah*, the feminine form of the active participle *âlim*, learned.] The name given by the modern Egyptians and Arabs to the dancing and singing girls of Egypt. They form a particular class or society, living together in bands, who are distributed in the various towns, or travel about the country in quest of employment. They are present at all festivals and marriages, and other ceremonies. The girls who are admitted into this society have generally a fine voice. But they chiefly excel in pantomimic dances, which represent the various incidents of life, and above all, the passion of love. The suppleness of their bodies is very great, as well as the flexibility and expression of their features; but the indecency of their attitudes is excessive. These *A.* are admitted into the harems of the great, where they instruct the women in dancing and singing, or amuse them by reciting poems. The Turks, enemies as they are to the fine arts, pass whole nights in listening to them. The *A.* also accompany funerals, at which they sing dirges, and utter groans and lamentations. The higher and more accomplished class of the *A.* attend none but wealthy people, and their price is high. The common people, however, have also their *A.*, who try to imitate the superior class, but have neither their elegance, grace, nor knowledge. They are seen everywhere; the public squares and walks around Cairo abound with them. Their morals are as licentious as their songs; they are, in fact, the common courtesans of the country. Although there are *A.* in Syria and other parts of the Ottoman empire, yet Egypt seems to have been at all times their favorite, and, as it were, their native country. The Bayaderes, or Nautch-girls of India, are a sort of *Almæ*. See ALMAH.

Fig. 89.—AN ALMA.
(Egyptian dancing-girl.)

Al′ma, a small river in the Crimea, near which a great battle was fought, Sept. 20th, 1854, between the allied French and English, and the Russian armies. After a fearful struggle of three hours' duration, the Russians were driven from their intrenchments with a loss of 6,000 men. The English lost 2,000, and the French 1,400 men in killed and wounded.

Al′ma, in *Illinois*, a post-village of Marion co., about 20 m. N.N.E. of Centralia.

Al′ma, in *Kansas*, a city and township of Wabaunsee co., 36 m. W. by S. of Topeka. *Pop.*, 1,125.

Al′ma, or ALMY, in *Michigan*, a post-village of Gratiot co., on Pine river, 7 m. N. N.W. of Ithaca.

Alma, in *New York*, a township of of Alleghany co.; has considerable manufacturing industry.

Alma, in *Wisconsin*, a city, capital of Buffalo county, on the Mississippi river, near the month of the Buffalo river. *A.* is also the name of the twp. *A.* enjoys considerable reputation in the making of wagons, brick, etc.—A township of Jackson co., on Black river.

Almacan′tar, or ALMACANTER, *n.* (*Ast.*) An Arabic term formerly employed in astronomy. The name is given to all the small circles parallel to the horizon; so that two stars which have the same almacantar have the same altitude. *A.* would now be called a circle of altitude, in the same way as a small circle parallel to the equator, all whose points have therefore the same declination, is called a circle of declination.

Al′mada, a town of Portugal, prov. of Estremadura, on the Tagus, opposite to Lisbon; *pop.* 3,500.

Almaden′, a town of Spain, prov. of La Mancha, in the Sierra Morena, 57 m. W.S.W. of Ciudad Real: *pop.* 8,645. Near the town is a famous mine of quicksilver.

Almaden′, in *California*, a twp. of Santa Clara co.; immense quantities of quicksilver are found here.

Al′madie, or ALMADY, *n.* [Fr., from Ar. *al-madiyat*, a raft.] (*Naut.*) A bark canoe used by the Africans.—A long-boat used at Calicut, in India, 80 feet long, and 6 or 7 feet broad; called also Cathuri.

Al′magell, PASS OF, the highest mountain-pass in Europe, being 11,663 feet above the level of the sea. It is between the valleys Visp and Zermatt, in the Valais, Switzerland.

Al′magest, *n.* [Ar. *al*, the, and Gr. *megiste*, greatest.] The name of a celebrated book, composed by Ptolemy, consisting of numerous observations and problems of the ancients respecting geometry and astronomy. The name of *Almagheste* was given to it by the Arabs when they translated it into their own tongue, about the year 800.

Alma′gra, *n.* [Sp. from Ar. *almaghest*, red clay.] A fine, deep-red ochre, somewhat purplish, used in India for painting the face or person. It is the *Sil alticum* of the ancients. Under the name of *Indian-red* it is used for polishing glass and silver.

Alma′gro, DIEGO DE, a Spaniard of low origin, who accompanied Pizarro in the expedition against Peru, in which his valor, profligacy, and cruelty were equally displayed. In 1525 he took Cuzco, the capital of Chili, by storm, and put Atahualpa, the last of the Incas, to a most cruel death: but quarrelling with the brothers of Pizarro about the division of their spoil, he was taken prisoner and strangled, 1538.

Alma′gro, a town of Spain, prov. of La Mancha, 12 m. E.S.E. of Ciudad Real. It has an important manuf. of blondes (lace). *Pop.* 12,605.

Al′magueral, a town of New Granada, S. America, 40 m. from Popayan. It is built on a table-land, 7,440 feet above the level of the sea.

Al′mah, *n.* [A Heb. word derived from a root signifying *to conceal*.] (*Holy Scrip.*) Almah signifies properly *a virgin*; the authors of the books of the Maccabees, and Ecclesiastes, speaking of the young unmarried women, give them the epithets, *kept in*—*secluded*—*hidden*, to distinguish them from married women, who occasionally appear in public. St. Jerome establishes a distinction between *Bethula*, a young woman, and *Almah*, a virgin, in that the latter is one who has never been seen by men. This is its proper signification in the Punic or Phœnician language, which is the same as the Hebrew. In this sense it occurs in the famous passage of Isaiah vii. 16: "Behold, a virgin (*almah*) that conceived and bare a son." The Hebrew has no term that more properly signifies a virgin than *almah*; but it must be remarked that sometimes, by mistake for instance, a young woman, whether truly a virgin or not, is called *almah*. In like manner, in Latin, the name of *virgo* is sometimes given to a young woman who has not, strictly speaking, her virginity

Alma'Tā, a town of Turkey in Asia, 52 m. from Makri, beautifully situated in an amphitheatre of the Massanghis mountains. The peaks of these shoot away far up into the blue ether, the highest of them attaining an elevation of 10,000 feet. Lat. 36° 47′ N.; Lon. 29° 50′ E. *Pop.* about 20,000.

Almamoun, Almamun, Almamown, or ABDALLAH, caliph of Bagdad, son of Haroun-al-Raschid, B. 786, succeeded his brother Al-Amin 814, and D. 833. His reign formed a very brilliant epoch in the history of the Saracens. Its glory was less of arms than of letters and arts. *A.*, who has been compared to Augustus, Leo X., and Louis XIV., promoted literature and science, and went so far in his passion for learning as to go to war with the Emperor Theophilus for refusing to allow the learned Archbishop Leo to go to Bagdad.

Al'manac, *n.* [Fr. *almanach*, from Sp. *almanaque*, probably derived from the Ar. *al*, the, and *mana* or *manah*, a reckoning.] An *A.* or *calendar*, in the modern sense of the word, is an annual publication, giving the civil divisions of the year, the movable and other feasts, and the times of the various astronomical phenomena, and such information relative to the weather as observation has hitherto furnished. The agricultural, political, and statistical information which is usually contained in popular almanacs, though as valuable a part of the work as any, is comparatively of modern date. The Greeks preserved the chronology by the monthly course of the moon; which, after many inventions, they reconciled to the annual course of the sun, and had doubtless their calendar. According to Porphyry, almanacs were known to the Egyptians before the Arabs; and predictions of events were annexed to the month. The Romans had calendars containing names of feasts, lucky and unlucky days, customs in husbandry, &c.—Almanacs were used by the ancient northern nations in their computations of time. They were introduced into England by the Danes. The first *A.* printed was in 1457. Muller, or Regiomontanus, published the first that contained eclipses, about 1475, at Nuremberg. The first *A.* printed in Pennsylvania, and we believe in North America, was issued from the press of William Bradford, near Philadelphia, in 1665.

Alman'da, in *Missouri*, a village of Crawford co., about 23 m. E.N.E. of Rolla.

Al'mandite, Al'mandine, *n.* (*Min.*) A variety of ruby or *Garnet*, q. v. The *precious A.* is distinguished by its fine deep-red and transparent color, whilst the color of the *common A.* is brownish-red and translucent. *Comp.* Silica, 36·1, alumina, 20·6, protoxide of iron, 43·3 = 100. Its name comes from the Alabantic carbuncles of Pliny, so called because they were cut and polished at Alabauda.

Al'man-rivets, ALMAIN, or ALMAYNE-RIVETS, *n. pl.* [From Fr. *Allemagne*, Germany.] An ancient light armor, first used in Germany, consisting of over-lapping plates, which were arranged to slide on rivets, and yield to the motions of the body.

Alman'za, a town of Spain, province of Murcia, 56 m. N.W. of Alicante. On the 25th of April, 1707, the French, under the Duke of Berwick, gained near *A.* a great victory over the allied forces in the interest of the Archduke Charles. *Pop.* 10,000.

Alman'zor, Al-mansur, or **Al-mansoor**, ABU-GIAFAR ABD-ALLAH, of the dynasty of the Abbasides, A. D. 754. He made war on his uncle Abdallah, who claimed the caliphate, but was defeated by Abu Moslem, general of Almanzor. The victorious general, who was immensely rich and very haughty, was soon after murdered by order of his sovereign. Almanzor founded Bagdad, and made it the seat of the caliphate. He was the first caliph who promoted literature, and thus led the way for the glorious reigns of Haroun Al-Raschid, and Al-Mamun.

Alman'zor, or **Al-mansur**, ABU-MOHAMMED. One of the most famous captains of his age; B. in Andalusia, about A. D. 939. On the death of Al-Hakem II., caliph of Cordova, he was appointed guardian of the infant caliph, and was virtually absolute sovereign for 23 years. He was continually engaged in war, and though he undertook over 50 expeditions against the Christian princes of Spain, he was only once defeated. He appeared to be on the point of becoming master of all Spain, when the kings of Leon and Navarre, and the Count of Castile, combined against him, and totally defeated him at the great battle of Calatanazor, A. D. 998. The chagrin he experienced at his first personal defeat caused his death in 1002. *A.* was distinguished as the patron of letters, arts, and sciences.

Alman'zor, or ALMANSUR II., JACOB, caliph of the Almohades, and the greatest prince of that dynasty, succeeded his father Joseph on the throne of North Africa and Mohammedan Spain, in 1184. He gained in 1195, over Alfonso III., king of Castile, the memorable victory of Alarcos. D. 1199.

Al'mas, the name of several towns in Hungary. The principal, in lat. 46° 7′ N., lon. 19° 23′ E., has about 8,000 inhab. The others are of no importance.

Al'me, *n.* See ALMA.

Almei'da, FRANCISCO DE, appointed, in 1505, the first Portuguese viceroy of India. His government of the colonies was firm and wise. When Albuquerque was sent out to supersede him, *A.* resisted and imprisoned him; but after a few months released him, resigned his viceroyalty, and embarked for Portugal. He was killed on his return in a quarrel with the natives of the Cape, in 1510.—*A.*, LORENZO, his son, was also an enterprising commander and navigator, and distinguished himself by many expeditions in the Indian seas. D. 1508.

Almei'da, or ALMEDA, in *Missouri*, a post-village of Newton co., about 50 m. W.S.W. of Springfield.

Almei'da, a fortified town of Portugal, prov. of Beira, 24 m. W. by N. of Ciudad Rodrigo. From its position on the frontier it has always been deemed a military post of great importance. It was taken in 1762 by the Spaniards, and in 1810 by the French, who abandoned it in the following year, after blowing up the fortifications. *Pop.* 6,850.

Almeʹna, *n.* [Ar. *manâ*, or *menâ*.] A weight of about 400 pounds in India.

Almeʹna, in *Michigan*, a post-township of Van Buren co., 50 m. S. by W. of Grand Rapids.

Almendraleʹjo, a town of Spain, prov. Estremadura, 28 m. from Badajos. A considerable number of horses, mules, goats, and sheep, are raised in the neighborhood. *Pop.* 6,000.

Al'mer, or ALMA, in *Michigan*, a township of Tuscola co.;

Almeranteʹ, in *Florida*, a post-village of Walton co., about 140 m. W.N.W. of Tallahassee.

Almeʹria, a prov. of Spain, in Andalusia, mountainous, but fertile; *area*, 3,906 sq. m.; *pop.* 338,649.

ALMEʹRIA, cap. of the above prov.; near the mouth of the river and at the bottom of the gulf of the same name. Lat. 36° 50′ N.; lon. 2° 32′ W.—*Exp.* principally barilla, lead and esparto. *A.* at the time of the Moors, was next to Granada, their richest city. The gulf runs 10 m. inland, and is 25 m. wide at its entrance. *Pop.* 40,000.

Almeʹria, a town of Mexico, prov. of Vera Cruz. Lat. 20° 18′ N.; lon. 97° 30′ W.

Almightʹily, *adv.* With almighty power.

Almightʹiness, *n.* Unlimited power; omnipotence.

Almightʹy, *a.* [From *all* and *mighty*.] Of unlimited power; omnipotent.

"The Lord said unto Abraham, I am the *Almighty* God."—*Gen.* xvii. 1.

Al'mo. (*Anc. Geog.*) A small river near Rome, falling into the Tiber, in which the statue of Cybele was annually washed on the 25th of March. It is now called *Acqua Santa*.

Almodoʹvar del Campʹo, a town of Spain, prov. of La Mancha, 18 m. from Ciudad Real; *pop.* about 6,000.

Almogʹia, a town of Spain in Granada; *pop.* 4,500.

Almoʹhades, or **Almoʹhedes**, termed by Gibbon the *fanatic princes of Morocco*, a Mohammedan dynasty, that grew out of a religious sect formed by Mohammed Ben Abdallah, surnamed El Mehedi, the guide, or teacher. His successor, Abdelmumen, captured Morocco in 1120, and established the dynasty of the Almohades in Africa. The next year he invaded Spain, won several battles, and established the dynasty in part of that country, and of Portugal.—The *A.* ceased to rule in Europe in 1237, and in Africa in 1270.

Almonʹbury, or ALMOND'BURY, a parish of England, W. Riding of Yorkshire. *Manf.* of woollens and cottons. Haddersfield, (*q. v.*) has so increased that now the parish of *A.* includes a part of that important city.

Al'mond, *n.* [Fr. *amande*.] (*Bot.*) The fruit of the *Amygdalus communis*.—See AMYGDALUS.

(*Anat.*) One of the two glands, called tonsils, which are at the base of the tongue.

Al'mond, in *Alabama*, a village of Randolph co.

Al'mond, in *New York*, a post-township of Alleghany co., on the Canisto River.

—In the above township, a village on the N. Y. and Erie Railroad, 123 m. E. of Dunkirk.

Al'mond, in *Wisconsin*, a post-village and township of Portage co., about 58 miles north-west of Fond du Lac.

Al'mond, or ALMON, two rivers of Scotland, one of which enters the Frith of Forth at Cramond, 5 m. N. W. of Edinburgh; the other rises in the Grampian hills, and enters the Frith of Tay. Neither is of great extent.

Al'mond Grove, in *Texas*, a post-office of Red River co.

Al'mond-tree, *n.* (*Bot.*) The *Amygdalus communis*.—See AMYGDALUS.

Al'mond-willow, *n.* (*Bot.*) The *Salix amygdalina*.—See SALIA.

Al'mond-worts, *n. pl.* (*Bot.*) The English name of the ord. of plants *Drupaceæ*, q. v.

Al'moner, *n.* [Fr. *aumônier*.] An officer whose duty is to distribute alms. In former times every sovereign, prince, noble, man of high estate, abbey or monastery, had his, or its, *A.*—The *Lord High Almoner of England* is an ecclesiastical officer whose duties, enunciated in an old judicial treatise of the time of Edward I., were to collect the fragments from the royal table for daily distribution to the poor, to visit the sick and poor persons in distress, to remind the king of the duty of almsgiving, and to see that the value of the cast-off robes should be given to increase the king's charity. Since 1730, the office of Lord High *A.* has been held by the archbishops of York.—In France, the great *A.* of the kings of France was ever the highest ecclesiastical dignitary in that kingdom. The office has been restored by Napoleon III., who has also several *A.* performing the duties of ordinary priests in the chapels of the imperial palaces.—The term of *A.* is generally applied to priests who have charge of hospitals or prisons.

Al'monry, *n.* [Fr. *aumônerie*, from Lat. *almonarium*.] A room or place whence alms are distributed to the poor.

(*Arch.*) In monastic establishments, the *A.* was generally a stone building near the church. In some abbeys, it was removed to the gate-house, for keeping beggars from the refectory door.

Al'mont, in *Michigan*, a township of Lapeer co. In this township, a post-vill., 50 m. N. of Detroit.

Almonʹte, a vill. of co. Lanark, Ont.

Almoʹra, a town of Hindostan, cap. of the British district of Kumaon, 90 m. N. by E. of Bareilly. Lat. 29° 35′ N.; Lon. 79° 40′ E. The surrounding country is bleak and naked. *A.* stands on a ridge, 5,337 feet above the level of the sea, and is compactly built.

Almoʹral, in *Iowa*, a post-village of Delaware co., about 34 m. N.W. of Dubuque.

Almoraʹvides, an Arab dynasty, founded in the N.W. of Africa by Abdallah Ben Yakim, who died in 1058. They conquered a large portion of Spain. A long struggle followed between them and the Almohades, *q. v.*, and the latter dynasty was overthrown in 1270.

Al'most, *adv.* [From *all*, and *most*; that is, *most part of all*.] Nearly; well-nigh; in the next degree to the whole.

"There can be no such thing as an *almost* infinite."—*Bentley.*

Alms, *n. pl.* [A. S. *almes*, from Lat. *eleemosyna*; Fr. *aumône*.] What is given gratuitously, in relief of the poor. It has no singular.

Alms'deed, *n.* An act of charity; a charitable gift.

Alms'house, *n.* [Ger. *Almosenhaus*.] A building appropriated for the reception of poor aged people, and endowed with revenues for their support.

Al'muçe, Au'muçe, *n.* [O. Fr.] A furred tippet worn by the clergy in the middle ages, when officiating in cold weather.

Almudeʹ, *n.* [Sp. *almud*, from Ar. *al-mudd*, a dry measure.] A measure for liquids and grain in Spain and Portugal, varying from three gallons and a half to five and a half.

Al'mug, or ALGUM, *n.* [Heb. *almugîm*, *algûmîm*.] A tree mentioned in Scripture. Of the wood were made musical instruments, and it was used also for rails and in staircases. It may have been the red sandal-wood, *Pterocarpus santalinus*.

Almuneʹcar, a seaport town of Spain, prov. of Granada, 41 m. S. of Granada. The anchorage is only fit for small vessels. *Pop.* 5,400.

Al'na, in *Maine*, a post-township of Lincoln co., on the Sheepscot river, 20 m. S.S E. of Augusta.

Al'nage, *n.* [O. Fr. *aulnage*; N. Fr. *aunage*.] Ell-measure; measure by the ell.

Al'nus, *n.* (*Bot.*) The alder, a gen. of plants, ord. *Betulaceæ*. The *A. glutinosa*, or common alder, wild in Europe, from Lapland to Gibraltar, is a deciduous tree; leaves roundish, wedge-shaped, wavy, serrated, glutinous; flowers brownish in March and April; fruit brown, ripe in October. In the wild state, it is seldom seen higher than 40 or 50 feet; but in good soil, near water, it will attain to 50 or 60 feet. The wood, though soft, is of great durability in water; it is used for sculpture, cabinet-making, wooden vessels, sabots, &c. The *A. rubra*, a variety of the *A. glutinosa*, is a well-known shrub, growing in clumps, and forming thickets on the borders of ponds and rivers, and in swamps.

Fig. 90.—ALNUS GLUTINOSA.
(The common alder.)

Alnʹwick, or ALNEWICK, a town of England, cap. of Northumberland co., near the river Aln, 313 m. from London, by the Great Northern Railroad. At the N. entrance stands Alnwick castle, once a principal stronghold of the kingdom on the side of Scotland, and now the magnificent baronial residence of the Dukes of Northumberland. This castle is the subject of a humorous poem, by the American poet Halleck. *Pop.* of parish, 7,350.

Alo'adin, a Mohammedan sheik, better known by the appellation of the *Old Man of the Mountain*, was prince of the Arsacides, or Assassins. His residence was a castle between Antioch and Damascus, and he had a number of youthful followers so devoted to his will as to engage in any of his attempts to assassinate the monarchs and princes with whom he was at enmity. Lived in the 13th century.

Al'oe, *n.*; *pl.* ALOES. [Lat. *aloe*; Fr. *aloes*; Ar. *alloeh*.] (*Bot.*) A gen. of succulent, herbaceous plants, belonging to the sub-ord. *Aloineæ*, and growing in warm countries. It comprehends a very considerable number of species which differ from each other exceedingly in the size, form, and surface of their leaves, in stature, and in the color, size, and structure of their flowers. The greater part of them are mere objects of curiosity, but among them are species of much value, on account of their yielding the well-known medicinal drug generally called *aloes*.

(*Chem.*) Aloes is the inspissated juice of the leaves of numerous species of the genus *Aloe*. The finest kinds are obtained by exudation. The choicest variety is the Socotrine aloes, *A. socotrina*, collected in the island of Socotra, and occurring in pieces of a yellowish or reddish-brown color. Its powder is of a golden yellow; its odor peculiar, but not unpleasant. In taste it is bitter and disagreeable, but aromatic. The extract of aloes may,

by the action of nitric acid, be made to yield various compounds, which admit of being fixed by means of mordants upon silken and woollen fabrics, to which they impart red dyes of great durability and beauty.—See ALOIN, and CHRYSAMMIC ACID.

(*Med.*) Aloes is tonic in small doses, and purgative in large ones. As a purgative, it is remarkable for the slowness of its operation. Its action is exerted on the large intestines, principally on the rectum. In all bilious diseases, *A.* is the strongest purge. Its efficacy in jaundice is very considerable, as it proves a succedaneum to the bile, of which in that disease there is a defective supply to the intestine either in quantity or quality. *A.* may be considered as injurious where inflammation or irritation exist in the bowels or neighboring parts, in pregnancy, or in habits disposed to piles; but highly serviceable in all hypochondriac affections, cachectic habits, and persons laboring under oppression of the stomach caused by irregularity. Its medium dose is from 5 to 15 grains; nor does a larger quantity operate more effectually.

Fig. 91.—GROUP OF ALOES.

Al'oes-wood. See AGALLOCHUM.

Aloet'ic, Aloet'ical, *a.* [Fr. *aloétique.*] Consisting chiefly of aloe; belonging to or extracted from aloe or aloes.

Aloet'ic, *n.* A medicine which chiefly consists of aloes.

Alœ'us. (*Myth.*) A giant, son of Titan and Terra, married to Sphimedia, by whom Neptune had two sons, Othus and Ephialtus. *A.* educated them as his own, and from that circumstance they have been called Aloides. They grew up nine inches every month, and were only nine years old when they undertook a war against the gods, and were killed by Apollo and Diana. They built the town of Ascra, at the foot of Mount Helicon.

Aloft', *adv.* [A.S. *lyft*, the air, with prefix *a* for *on.*] On high; above; in the air; — used chiefly in poetry.

"Upright he stood, and bore *aloft* his shield."— *Dryden.*

(*Naut.*) Above the deck.

Alo'gians, *n. pl.* [Gr. *a.*, privative, and *logos*, speech.] The name given by Epiphanius, by way of reproach, to a sect of Christians of the 2d century, who denied that Christ was the Logos, or eternal word, and, like the Arians, rejected the gospel of St. John as spurious.

Alogot'rophy. *n.* [Gr. *alogos*, unreasonable, and *trophe*, nourishment.] (*Med.*) Unequal nourishment, as in the rickets.

Al'oin, *n.* [From *aloes.*] (*Chem.*) A neutral substance, with a sweetish-bitter, persistent taste, crystallizing in groups of pale-yellow needles, extracted by evaporation from a warm alcoholic solution of powdered Barbadoes aloes. It constitutes the purgative ingredient in aloes. The alkalies, both caustic and carbonated, dissolve it readily, forming an orange-colored solution. *Form.*, $C_{16}H_{18}O_7$.

Aloin'eæ, or ALOES, *n. pl.* (*Bot.*) A sub-ord. of plants in the ord. *Liliaceæ.* They differ from the Hemerocalleæ only by their succulent foliage. The gen. *Aloe* (*q. v.*) is the most important.

Alom'pra, the founder of the Burmau empire, was a man of obscure birth, who raised himself to independence and sovereign power, and established the now reigning dynasty. D. 1760. — See AVA, BURMAH, PEGU.

Alo'na, *n.* (*Bot.*) A genus of plants, ord. *Nolanaceæ.*

Alone', *a.* [Ger. *allein*, from *all*, and *ein*, or one, single.] Apart from, or exclusive of others; single; solitary; applied to persons or things.

"The quarrel toucheth none but us *alone*."— *Shaks.*

"Eagles we see fly *alone*."— *Sydney.*

Sole; only. (R.)

"God, by whose *alone* power we all live."— *Bentley.*

To let alone; to leave untouched, unmolested, or in the same state as before.

—*adv.* Separately; by itself.

Along', *adv.* [A. S. *andlang.*] At length, by the length; through any space measured lengthwise.

"Some laid *along*, and, .. on spokes of wheels are hung."—*Dryden.*

—In company; joined with; together; — with the particle *with* expressed or understood; as,

"Take this *along*."— *Dryden.*

"We shall to England *along* with you."— *Shaks.*

— Forward; onward.

"Come, then, my friend, my genius, come *along*,
Thou master of the poet and the song."— *Pope.*

Along of, denotes owing to, or on account of; as in Shakspeare, when the mayor was willing to have the troops come in, "so 'twere not *'long of* him;" *i. e.* not owing to his leave. So too, in the London "Punch," — "This increase of price is all *along* of the foreigners."

All along, the whole way, distance, or length; —prostrate.

(*Naut.*) *Alongside*, side by side. — *Along-shore*, by the shore or coast; lengthwise, and near the shore.

—*prep.* By the length of, as distinguished from *across.*

"*Along* the lowlands."— *Dryden.*

Aloof, *adv.* and *prep.* [For *all off.*] At or from a distance. It generally implies a short distance, such as within view or observation, and is applied to distance more commonly than to altitude.

"Then had the knight this lady yede *aloof*,
And to an hill herself withdrew aside."—*Faerie Queen.*

Aloof'ness, *n.* The state of being at a distance.

Alop'ece. (*Anc. Geog.*) An island in the Palus Mæotis. —Another in the Cimmerian Bosphorus. —Another in the Ægean sea, opposite Smyrna.

Alop'eces. (*Anc. Geog.*) A small village of Attica; the native place of Socrates and Aristides.

Alopecu'rus, *n.* [Gr. *alopex*, a fox, *oura*, a tail.] (*Bot.*) The *fox-tail grass.* A gen. of plants, trib. *Phalareæ*, ord. *Graminaceæ.* One species, the meadow fox-tail grass, *A. pratensis*, is a valuable grass to the farmer, if sown in meadow-land. It is the most grateful of all grasses to cattle, and possesses in a higher degree than any other the three great requisites of a good grass,—quantity, quality, and early growth. The slender or field fox-tail grass, *A. agrestis*, from its fibrous root, is a troublesome weed to farmers among wheat, and is called by them *black bent.* It is a useful grass, however, when sown on light sandy soils on the sea-coast.

Al'opecy, *n.* [From Gr. *alopex*, a fox, because this disease is common among foxes.] (*Med.*) Baldness, or the falling off of the hair.

Alo'ra, a town of Spain, in Andalusia, 20 m. from Malaga. *Pop.* about 7,000.

Alo'sa, *n.* (*Zoöl.*) A gen. of fishes of the *Clupeidæ* or herring family. They are distinguished from the herring by having the upper jaw notched in the middle, and by the roof of the mouth and the tongue, the former of which is destitute of teeth. The *A. communis*, or com-

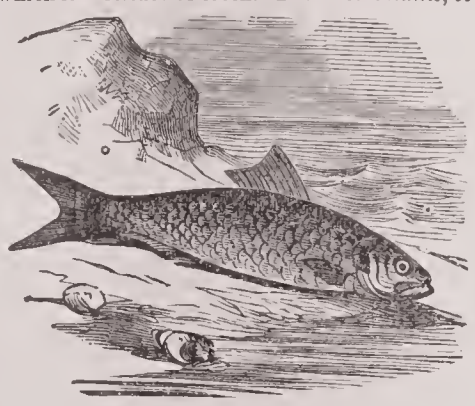


Fig. 92.—ALOSA COMMUNIS. (Common Shad.)

mon shad, reaches a length of two or three feet, and its flesh is highly esteemed. The gen. *A.* contains the shad, alewife, meudahen, and autumnal herring.

A'lost, or AALST, a town of Belgium, in Flanders, on the Deuder, 15 m. from Brussels. It was the capital of imperial Flanders, and was dismantled in 1667 by Marshal Turenne. *Pop.* 17,000.

Aloud', *adv.* [From *a* and *loud.*] Loudly; with a strong voice, or great noise.

"Cry *aloud*, spare not, lift up thy voice."—*Isa.* lviii. 1.

Alow', *adv.* [From *a* and *low.*] In a low place; not so high;—opposed to *aloft.*

"And now *alow*, and now *aloft* they fly."—*Dryden.*

Alp. *n.* [From Lat. *albus*, white.] A name sometimes poetically given to any high summit or lofty mountain. See ALPS.

"O'er many a frozen, many a fiery *alp*."—*Milton.*

Alpac'a, *n.* (*Zoöl.*) The *Peruvian sheep*, a variety of the Guanaco or LLAMA, *q. v.* It inhabits the more elevated parts of the mountain ranges, living almost on the border of perpetual snow. The Peruvians keep vast flocks of them for the sake of the silky lustre and fineness of their wool, which furnishes material for the best of fabrics.—The name given to a description of cloth woven from the wool of the *A.*, exteusively manufactured in the West Riding of Yorkshire, in England, and used, for the most part, for articles of apparel. It is also used as a covering for umbrellas, its material being of a finer and more durable texture than cotton, and not so costly as silk.

Alp-Ars'lan, second sultan of the dynasty of Seljuk, succeeded his uncle Togrul Bey in 1063. He had for his grand vizier Nizam-al-Muluk, who by his wise administration did so much for the interior improvement of the empire. Himself a conqueror, he defeated Romanus Diogenes, emperor of the Greeks, in 1071. He was assassinated in 1072.

Al'pen, *a.* Belonging, or relating to the Alps. (R.)

Alpe'na, formerly ANAMICKEE, in *Michigan*, a county bordering on Lake Huron and Thunder Bay. *Area*, about 700 sq. m. —a city, capital of Alpena co., at the mouth of Thunder Bay river, on Lake Huron. *Pop.* (1890), 12,139.

Al'penstock, *n.* A long staff or pole, pointed sharply with iron, used in ascending the peaks of the Alps, and crossing the glaciers of Switzerland.

Alpe'nus. (*Anc. Geog.*) The capital of Locris.

Alpes Maritimes.

Alpes'trine, *a.* [Lat. *alpestris.*] Pertaining to the Alps, or to any high summit or lofty mountain; as, "*Alpestrine* diseases."

Al'pha, *n.* [Gr.] The first letter of the Greek alphabet, answering to our A, and written A ϕ *a.* In the Holy Scriptures, *Alpha* and *Omega*, the first and the last letters of the Greek alphabet, signify the *beginning* and *end*, or the *first* and the *last*; *i. e.* before and after all things. They are therefore used as a symbol of the Divine Being.

"I am *Alpha* and *Omega*, the beginning and the end, the first and the last."— *Rev.* xxii. 13.

Al'pha, in *California*, a post-village of Nevada co., 18 m. E. of Nevada city.

Al'pha, in *Kentucky*, a post-office of Clinton co.

Al'pha, in *Ohio*, a post-village of Greene co., about 9 m. E.S.E. of Dayton.

Al'phabet, *n.* [From *Alpha* and *Beta*, the two first letters of the Greek alphabet; perhaps derived from the Heb., which gives to the correspondent letters the names *Aleph*, *Beth.*] The name given to the series of letters used in different countries at different times. For information respecting the origin of letters, the relation between the different alphabets, and the different systems on which they are based, see WRITING.

Al'phabet, *v. a.* To range in the order of the alphabet

Alphabeta'rian, *n.* A scholar who learns the alphabet.

Alphabet'ic, and **Alphabet'ical,** *a.* In the order of the alphabet; according to the series of letters; pertaining to the alphabet.

Alphabet'ically, *adv.* In an alphabetical manner; according to the order of the letters.

Alphabetize', *v. a.* To class or arrange in alphabetical order.

Al'phæus, [Gr. *alphaios*, a thousand, from the Heb. *aleph*, a chief.] Alphæus, father of St. James the Minor, was the husband of Mary, believed to have been sister to the holy virgin; for which reason James is called the Lord's brother; but the term brother is too general in its application to fix their relation, though the fact is probable. Many are of the opinion that Cleophas, mentioned in Luke xxiv. 18, is the same as *A.*; Alphæus being his Greek name, and Cleophas his Hebrew, or Syriac name, according to the custom of that time, when men had often two names.

Al'pharetta, in *Georgia*, a post-village, cap. of Milton co., abt. 28 m. N. by E. of Atlanta.

Alphen'ic, *n.* [Fr. *alphenic*; Ar. *al-fânid*, whitest.] (*Med.*) The white barley sugar; sugar-candy.

Alphe'us, or ALPHEIUS. (*Myth.*) A river of Peloponnesus, rising in Arcadia, and falling into the Ionian sea, now called Rofia. The god of this river fell in love with the nymph Arethusa, and pursued her till she was changed into a fountain by Diana.

Alphit'omancy, *n.* [Gr. *alphiton*, barley-meal, and *manteia*, divination.] Divination by means of barley-meal.

Alphon'sin, *n.* (*Surg.*) A kind of instrument for extracting balls, invented by Alphonso Ferrier, a Neapolitan physician. It consists of three branches, which separate from each other by their elasticity, but are capable of being closed by means of a tube in which they are included.

Alphon'sine Tables, celebrated astronomical tables, composed under the direction of Alphonso, king of Castile, in 1252. Their principal object was to correct the tables found in Ptolemy's Almagest, which then no longer agreed with the heavens.— See ALPHONSO.

Alphon'so I., or ALFONSO, king of the Asturias, 739; took Lara and Saldana in Castile, from the Moors, A.D. 757.

Alphon'so II. He was called to the throne in 791; D. 842.

ALPHON'SO III., or the Great, succeeded his father Ordogno, 866. He waged successful wars against the Moors, and abdicated in favor of his eldest son Garcias; but when the Moors threatened the kingdom, he quitted his retirement, and obtained a most signal victory over the enemy. D. at Zamora, 912, universally respected for valor and benevolence. He wrote a chronicle of the Spanish monarchs.

ALPHON'SO IV, surnamed the Monk, abdicated in favor of his brother Ramiro, and retired to a monastery. D. at the end of the 10th century.

ALPHON'SO V., king of Leon in 999, when 5 years old. Cordova was conquered during his reign. Killed at the siege of Viseu, 1028.

ALPHON'SO VI., crowned in 1066. He was a successful warrior, and held under his authority Asturias, Leon, Castile, and Galicia. Had not Spain been invaded by the Almoravides, he would have succeeded in driving the Moors from the peninsula. It was in the reign of this monarch that the Cid achieved the poetical celebrity with which his name has been surrounded by the Spanish romance-writers.

ALPHON'SO VII., became Alphonso I. of Aragon; D. 1134.

ALPHON'SO VIII. The military order of Calatrava was instituted during his reign; D. 1157.

ALPHON'SO IX., fought against the Moors like his predecessor; D. 1230.

ALPHONSO X., king of Leon and Castile in 1252. He was elected emperor of Germany, but delaying to visit that empire, Rodolphus was chosen in his stead. He was dethroned by his son, and D. 1284. As an astronomer and a man of letters, *A.* obtained greater fame than as a

monarch. He perceived the errors of Ptolemy's tables, and under his direction those tables called the *Alphonsine tables* were drawn up by the Jew Hazan, and their epoch fixed on the 30th of May, 1332.

ALPHONSO XI., succeeded his father Ferdinand IV. in 1312. He took Algesiras and Tarifa from the Moors, and died of the plague in 1350.

Alphon'so I., HENRIQUEZ, first king of Portugal, succeeded his father Henry, as count of Portugal, in 1112. In 1139 he obtained a great victory over five Moorish kings, and soon after was proclaimed king by the army, a title which was confirmed by the States, who at the same time settled the law of succession.—*A.* took Lisbon from the Moors, and made it the capital of his kingdom. D. 1185.

ALPHONSO II., D. 1223.

ALPHONSO III. He made some conquests over the Mohammedans; D. 1279.

ALPHONSO IV., surnamed the Brave, succeeded his father Dionysius, 1325. He was an able sovereign, and distinguished himself against the Moors; but his memory is stained by his unjust treatment of his natural brother, and the cruel murder of Inez de Castro, whom his son Pedro had married against his father's will; D. 1357.

ALPHONSO V., B. in 1432, he succeeded his father in 1437, and was a beneficent prince. In his reign Guinea was discovered by the Portuguese. He invaded Africa and took Tangier. D. of the plague at Cintra, in 1481.

Alphon'so V., king of Aragon, surnamed the *Magnanimous*, succeeded his father, Ferdinand the Just, 1416, as king of Aragon and Sicily, and subsequently, on the death of the queen Joanna, obtained the crown of Naples. His claim was, however, resisted for several years, by René of Anjou. He died 1458, aged 74, leaving the kingdom of Naples to his natural son Ferdinand, and those of Spain, Sardinia, and Sicily to Juan his brother, king of Navarre. He was not only a brave prince, but a man of learning, the patron of literature, and the father of his people. He walked with the greatest familiarity among his subjects, observing to his courtiers, who fancied dangers and conspiracies, that a father has nothing to fear among his children. Seeing once one of his vessels ready to perish, he hastened in a small boat to the assistance of the crew, exclaiming, "I had rather die with you than see you perish."

Alphon'so II., king of Naples, succeeded his father Ferdinand in 1494. He was of so cruel and tyrannical a disposition, that his subjects invited Charles VIII. of France to invade the country. That prince took Naples; and *A.*, after abdicating the throne, retired to a monastery; D. about 1496.

Alphon'so XII., king of Spain, B. 1857. In 1875, while residing with his mother, the ex-queen Isabella, in exile, he was declared by the army king of Spain. His reign, which ended with his death in 1885, was but a continual struggle with the Carlist insurrection.

Alphon'so XIII., king of Spain, B. 1886, 6 months after the death of his father, Alphonso XII. His mother, Maria Christina, is queen regent during his minority.

Al'pia, and AL'PIST, *n.* The seed of the foxtail grass, used for feeding birds.

Al'pigene, *a.* [Lat. *alpes*, alp, and *gignere*, to produce.] Growing in Alpine regions.

Al'pine, *a.* [Lat. *alpinus.*] Belonging to the Alps, or to any lofty mountains; high.

Al'pine, in *California*, a northern county, bounded on the N. and E. by the State of Nevada and El Dorado co., and on the S. by Mono and Tuolumne. Lying on either side of the Sierra Nevada, it covers that range at one of its most broken and lofty points, Silver Mountain, the loftiest portion of this northerly trending spur, being over 10,000 feet high. Forming the sources of several forks of Carson river are numerous small lakes, most of them situated on the summit of the mountain. Many of them are very wild and beautiful, being skirted by belts of grass and bordered by plats of lawn-like meadow-lands. There are also many grassy, well watered valleys, rendered the more attractive by their rugged and desolate surroundings. But the great active interest in *A.* county is, and always will continue to be, vein-mining. The mines consist almost wholly of argentiferous lodes, though a few gold-bearing veins and masses of quartz have been found, some of them of great richness, in the Mogul district. The ledges here are of large size and crop boldly, being often traceable for miles by their surface projections. While a vast amount of work has been expended upon them in a small way, but little exploratory labor of a thorough and systematic kind has been performed; consequently, scarcely a single prominent mine has been fully proven. *A.* abounds in spruce and pine forests. County seat, Markleeville.

Al'pine, in *Iowa*, a post-village of Wapello co., on the Des Moines river, about 9 m. S.E. of Ottumwa.

Al'pine, or AL'PINA, in *Michigan*, a post-township of Kent co.

Al'pine City, in *Utah*, a post-village of Utah co., 16 m. N. of Provo;

Alpi'ni, PROSPERO, a Venetian physician and botanist, B. 1553; was the first who discovered the sexes and generation of plants. D. 1617.

Al'pinia, *n.* (*Bot.*) A gen. of plants, ord. *Zingiberaceæ.* The root of the *A. galanga*, known under the name of galangale, has aromatic stimulating properties.

Alps, in *New York*, a post-village in Nassau township, Rensselaer co., 24 m. E. by S. of Albany.

Alps. [See ALP.] The most extensive mountain system of Europe. They extend from the banks of the Rhone in France on the W., to the centre of Slavonia and the frontier of Turkey on the E., from the 5th and 28th degree of E. lon., forming a vast semicircular bulwark, which encompasses on the N. Italy and the Adriatic sea. The extremities of this semicircle approach 45° N. lat., but the great body of the range occupies the space between the 46th and 48th deg. of N. lat.—The Alps are closely united to two other mountain ranges; on the W. to the Apennines, which traverse Italy in its whole length; and on the E. to the Balkan, which covers Turkey and Greece with its numerous ramifications.—Their length is between 600 and 700 miles, their breadth very various.—*Divisions.* The principal divisions are the Maritime, the Cottian, the Greek or Graian, the Pennine, the Rhætian,—distinguished into the High Alps, the Lepontine, and the Rhætian proper; the Tyrolese and Tridentine (including those of Suabia;) the Noric, the Carnic, and the Julian.—*Passes.* The most southern pass

Fig. 93.—SUMMIT OF THE THIERBERG. (*Bernese Alps.*)

of the Maritime Alps is that by the Col de Tende, which connects the town of Nice with the town of Coni, in Piedmont. Until the time of Napoleon I., who made it a carriage-road, it was practicable only for mules. This division is terminated by Mont Vico, which rises 12,582 feet above the level of the sea. Across the Cottians, by the Col of Mont Génèvre, Napoleon also constructed a carriage-road at the height of 6,353 feet above the sea-level. Across the Graian, Napoleon caused another road to be constructed by the Col of Mont Cenis. This was the most frequented route in the days of the overland coaches between France and Italy, and until the construction of the present railroad tunnel. This great undertaking was commenced in the early part of 1858, under the patronage of king Victor Emmanuel; and was completed in the latter part of 1871. The pass by the Little St. Bernard is in the Grecian range, and is that by which Hannibal is supposed to have entered Italy. The Pennine is the loftiest division of the whole range, and includes Mont Blanc, 15,777 feet high; Mont Rosa, 15,200 feet; and Mont Cervin, 14,835 feet. These are the three loftiest peaks in Europe. On each side of Mont Blanc are the cols De-la-Seigle and Da-Ferret, which are respectively 8,072, and 7,613 feet high, and those by which tourists generally traverse the Alps. The pass by the Great St Bernard lies between Aosta in Piedmont and Martigny in the Valais, in Switzerland, and is that by which Napoleon and his army crossed in 1800. Between the Great St. Bernard and the Simplon there are two other passes; one, that of Mont Cervin, is the second highest in Europe, being 11,195 feet above the level of the sea. The most easterly pass of the Pennine division is the Simplon, which leads from the Valais to Milan, and which, though only 6,576 feet high, is one of the most stupendous works conceived by the genius of Napoleon. Across the Rhætian and Noric Alps there are several passes and two railroads, the one over the St. Gothard, connecting Lucerne with Milan, and the other over the Semmering pass, completing the connection between Trieste and Vienna.—*Minerals.* Anthracite coal, iron, copper, lead, silver, quicksilver, gold, and salt.—*Wild animals.* On the higher parts, the ibex, chamois, and white hare; in the upper wooded region, bears, marmots, and moles; and lower down, lynxes, foxes, wolves, and wild cats. Besides the lammergeyer, or great vulture of the Alps, there are numerous eagles and other birds of prey. Immediately below the line of perpetual snow, (8,000 feet,) the white partridge is found, and further down, among the pine forests, bustards are abundant. Quails and partridges are plentiful in the lowest regions, and the lakes are frequented by numbers of palmipedes. Insects are represented in almost every variety as far as vegetation ascends the mountains.—*Vegetation.* Travelling from the base of the Alps upward, beautiful vineyards, and the forests common to Europe, are passed through, until the elevation of 2,000 feet is obtained, when the vine is no longer found. The chestnut disappears at 1,000 feet higher, and by the time that another thousand feet are climbed, the oak, hardy as we are accustomed to call it, is not to be found in a flourishing condition. At 5,000 feet no deciduous trees are to be seen, and at 6,000 the spruce-fir alone appears. At this height the mountains become covered with the Rhododendron Ferrugineum, which, in its turn, succumbs to the change of soil and climate, to be succeeded by a few still more hardy plants, which exist until they are lost in the mosses and lichens which fringe the line of perpetual snow.—*Glaciers.* Of these there are about 400 lying between Mont Blanc and the Tyrol. Several of these are 20 miles long, with, perhaps, an average width of a mile or a mile and a half. They are supposed in the aggregate to cover a space of upward of 1,000 sq. m. The summits of the greatest part of the Alps are capped in perpetual snow.—*Geology.* The central ridges of the Alps are composed of primitive rocks, especially of granite and gneiss, and are distinguished by their pointed peaks. On the N. side of this formation extends a slate formation of considerable width. This does not appear to accompany the range on the S., except along the E. Alps, where it has been observed to extend from Brixen on the Eisach to Marburg on the Drave, skirting that river on the S. Beyond the slate formation, the chalk occupies a considerable space. It is found to occupy the greatest extent on the S.E. of the mountain system, the whole Julian Alps being composed of it. On the opposite or N.W. side, the sandstone formation extends from the lake of Geneva as far as the S. boundary of Bavaria. The chalk formation is distinguished by its summits, which do not rise in pointed peaks, but form either cones or cupolas.

Alps, (Upper and Lower.) See HAUTES- and BASSES-ALPES.

Alpujar'ras, a mountainous region in Spain, beginning at the Mediterranean, and ending at the Sierra Nevada. In 1834 it was divided between the provinces of Almeria and Granada.

Al'quiere, *n.* [Pg. *alquiere*, from Ar. *al-kayl.*] A Portuguese measure called also *cantar.* The *A.* of Lisbon contains 3·7, and the *A.* of Oporto 5·6 imperial gallons.

Alqui'na, in *Indiana*, a post-village of Fayette co., 62 m. E.S.E. of Indianapolis.

Already, *adv.* [From *all* and *ready.*] Prior to some specified time, either future, present, or past.

> "Can I love him, *already* loving you?"—*Dryden.*

It has reference to past time, but may be used for a future past; as, "When you shall arrive, the business will be *already* completed, or will have been completed *already.*"

Al'sace, a province bordering on the Rhine, was included in Charlemagne's empire. It remained connected with Germany till 1648, when a portion of it was ceded to France. Louis XIV. seized Strasburg in 1681, and this city, with the remainder of the province, was secured to France by the treaty of Ryswick, 1697, and formed the depts. of the Haut and Bas Rhin until 1871, when it was ceded to Prussia. (See ALSACE-LORRAINE, and GERMANY.)

Al'sace, in *Pennsylvania*, a twp. of Berks co.

Alsa'cian, *a.* (*Geog.*) Pertaining to Alsace.

Alsa'tia, *n.* A name given formerly to the precinct of *Whitefriars* in London, Eng., noted during the 17th century as being a colony for lawless and abandoned people. It is frequently referred to by English writers of the time, as for instance, Shadwell, in his *Squire of Alsatia.* It forms, also, the scene of a portion of Sir Walter Scott's novel, *The Fortunes of Nigel.*

Alseg'no, [It., to the mark or sign.] (*Mus.*) A notice 𝄋 for a performer to recommence a strain, marked 𝄋.

Al'sen, a Danish island in the Baltic, between the Island of Fünen and the E. coast of Schleswig; *area*, 132 sq m. The principal towns are Nordborg and Sonderborg. Lat. between 54° 51′ and 55° 5′ N.; lon. between 9° 37′ and 10° 7′ E.

Als'feld, in *Ober-Hessen*, Ger., a town situated 26 m. from Giessen, and 50 m. N.E. of Frankfort-on-the-Main. *Pop.* (1895) 3,882.

Alsh' Loch, an inlet of the sea in Ross-shire, Scotland, nearly opposite the southern end of the Isle of Skye. Its shores are rendered romantic by the ruins of several feudal castles.

Alsin'eæ, *n. pl.* (*Bot.*) A sub-ord. of plants, ord. *Caryophyllaceæ*, distinguished by having sepals distinct or nearly so.

Al-si'rat, [Ar., *the path.*] A bridge from this world to the next, over the middle of hell, which must be passed by every one entering the Mohammedan paradise. It is as fine as the edge of a razor. The deceased pass with a rapidity proportionate to their virtues, while the sinful load of the wicked precipitates them into the gulf beneath.

Al'so, *adv.* and *conj.* [From *all* and *so*; A.S. *ealowa.*] In the same manner; likewise; too; in addition to.

Alsode'æ, *n. pl.* (*Bot.*) A sub-ord. of plants, ord. *Violaceæ, q. v.*

Al'stead, in *New Hampshire*, a post-township of Cheshire co., 50 m. W. b. S. of Concord.

Al'ston, in *South Carolina*, a post-village of Fairfield district, on Broad river, 25 m. N.W. of Columbia.

Alstræ'mer, JONAS, a distinguished Swede, who introduced great improvements into arts and manufactures in his country. For his great services he was made Chancellor of Commerce and a member of the Academy of Sciences. The National States decreed a statue to be erected to his memory in the Exchange of Stockholm. D. 1761.

Alströmeri'eæ, *n. pl.* (*Bot.*) A tribe of plants, ord. *Amaryllidaceæ.* A kind of arrowroot is prepared from the succulent roots of *Alströmeria pallida*, and others in Chili.

Alt, *n.* [It. *alto*, from Lat. *altus*, high.] (*Mus.*) That part of the great scale lyiug between F, the 5th liue in the treble clef, and ending at E, the 3d leger, or additional line above the same clef.

Alt, a river of Englaud, rising in Lancashire, and falling into the Irish sea.

Alta'i Mountains, the name given to that extensive range which forms the uorthern border of the *highlands* of Upper Asia (a region composed of high tablelands, mountains, and valleys), and which divides them from the *low lands* that exteud northward to the Arctic ocean. This mountain range begius ou the easteru bank of the river *Irtish*, 80° E. lou., and here it occupies all the space between the Lake of *Zaizang*, 40° 30′ N. lat., and Semipalatinsk, 50° N. lat., consequently abont 5½ degrees of latitude. From 80° E. lon., it extends eastward till it reaches the *Sea of Okhotzk*, a gulf of the Pacific ocean. It grows broader as it advances toward the east; its northern declivities extend, on the banks of the river Yenesei, to Krasnoyarsk, 56° N. lat., and from that town to a point about 200 m. N. of the most northern extremity of the lake of *Baikal*, where, between 57° and 58° N. lat., they join the *Aldan Mountains*. The southern part of the Altai, traversing countries subject to the Chinese empire, is not perfectly known, but it is probable that they extend even fnrther to the south than to the north, and that, between the meridian of 88° and 105°, the mountains occupy no less than 12° of latitude, from 45° to 57°. About the 105° of longitude, or the meridian of the lake of *Baikal*, the great desert of Gobi or Shamo, advancing to the north, narrows the mountain range considerably, and changes its direction from E. to N.E. Between the plains to the N. of Irkutzk, and the valleys about Nertshinsk, it occupies no more than about 500 m. in breadth. In the parallel of the N. part of the lake of Baikal (between 54° and 56° lat.), it runs again to the E., until it arrives at the Pacific ocean, at the S. extremity of the sea of Okhotzk, opposite the island of Tarakai. In the latter part of its extent, the breadth of the range cannot be determined; for here it joins the Aldan Mountains, which may be considered as a branch of the Altai, nearly filling up the whole space between the *Lena* and the sea of Okhotzk, an extent of more than 1000 m. from W. to E., and running to N.N.E. till they terminate at *Cape Eshukotskoi-Noss*, the north-eastern extremity of Asia. It was once thought that the Altai were connected with the Ural mountains, but it is now well known that an immense tract of low country separates the western extremity of the Altai from the southern ranges of the Ural. The mean elevation of the Altai may be regarded as ranging between 4,000 and 5,000 feet. The Bialukha mountains, near the head of the Oby, is estimated at 10,300 feet above the level of the sea. Their summits generally do not taper away into peaks, like those of the Alps, but swell into rounded masses of granite, or spread into level plains of considerable extent. There are two chief roads over the Altai. One is from Irkutzk by lake Baikal to Kiakhta, by which the trade between Rnssia and China is principally carried on; the other is from Udinsk, on the Selenga, to the mining district of Nertchinsk, on the Shiker, an affluent of the Amoor.—*Minerals.* Gold, silver, lead, iron and copper; and the cornelian, the amethyst, the onyx, the topaz, and other gems are found. Mineral wealth seems to be unfailing as regards the more valuable metals.—*Wild Animals.* Altai is the native abode of the wild sheep, which, like the chamois and the bagnetis, lives iu the most inaccessible places.—*Vegetation.* The forests consist of the alper, alder, acacia, larch, birch, fir, and willow, besides the Siberian cedar. This last is found 7,000 feet at the altitude, and at 6,000 feet, attains to the circumference of 16 feet. The birch reaches nearly 5,000 feet, and the dwarf willow nearly 6,000. The snow-line has not yet been accurately determined, but is snpposed to be at about 8,000 feet.

Alta'ian, Alta'ic, *a.* Belonging to the Altai mountains.

Altair, *n.* (*Astron.*) A star of the 1st, or between the 1st and 2d magnitudes. It is the principal star in the constellation *Aquila*, and is situated about 14° S.W. of the Delphinus. It may be known by its being the largest and middle one of the three bright stars which are arranged in a line bearing N.W. and S.E. It is one of the stars from which the moon's distance is taken for computing longitude at sea. Its mean declination is nearly 8½° N., and when on the meridian, it occupies nearly the same place in the heavens that the sun does at noon on the 12th day of April. It culminates about 6 minutes before 9 o'clock, on the last day of August. It rises acronically about the beginning of June.—*Mattison.*

Al'taite, *n.* (*Min.*) An isomeric mineral of the *Galena* division; *comp.* tellurium 37·31, lead 60·71, silver 1·17. This rare species has been identified at the Stanislaus mine, California.

Altamaha, in *Georgia*, a river formed by the confluence of the Oconee and the Ocmulgee, in the S.E. central part of the State. See ALATAMAHA.

Alta'mira, a town of Mexico, State of Tamaulipas, 10 m. N.W. of Tampico.

Al'tamont, in *Tennessee*, a post-village, cap. of Grundy co., on the top of the Cumberland mountains, 80 m. S.E. of Nashville.

Altamu'ra, a town of Southern Italy, prov. of Bari, at the foot of the Apennines, 29 m. S.W. of Bari; *pop.* 17,365.

Al'tar, *n.* [Heb. *Al*, God, and *tar*, appointed.] An elevated table of either stone, marble, or wood, dedicated to particular ceremonies of religious worship. The earliest authentic notice of altars occurs iu Holy Writ, where it is said that "Noah built an altar to the Lord." The principal altars, under the Mosaic ritual, were the *A.* of *Incense*, small, of shittim-wood, overlaid with plates of gold; the *A.* of *Burnt-Offering*, a large coffer of shittim-wood, covered with brass, withiu which, suspeuded from the horns of the four corners, was a grate of brass, whereou the flesh was laid, and sacrifices were made. "In Solomou's temple the altar was considerably larger, square as the ordinary altar, but 20 cubits long, 20 broad, aud 10 high, made entirely of brass. It had no grating, and the ascent to it was probably by three successive platforms, with steps leading to each, as in the figure annexed."—*Britton.* All the nations of antiquity cou-

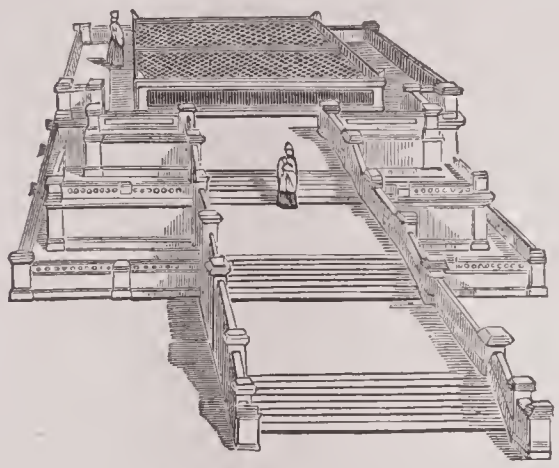


Fig. 94.—ALTAR OF BURNT-OFFERING.

sidered large, massive, unhewn stones, to be emblematic of dignity and power. In the great temples of ancient Rome, there were ordinarily three altars. The first, upon which incense was burned, and libations offered, was raised in the sanctuary, at the foot of the statue of the divinity; the second stood before the gate of the temple, and on it were sacrificed the victims; and the third, upon which were placed the offerings and the sacred vessels, was portable. In the Roman houses, small altars were dedicated to the lares, penates, and genii.—In the Christian church, the *A.* is the table of communion. The principal is almost invariably situated at the eastern end of the choir. Christian altars are generally in the form of small, oblong tables, but they are sometimes made to resemble sarcophagi. They are often very splendidly decorated, being richly adorned with carving or embossed work, and studded with precious stones and metals. On great festivals, the relics of a church are displayed on the high altar, which is then illumined with numerous wax candelabra.

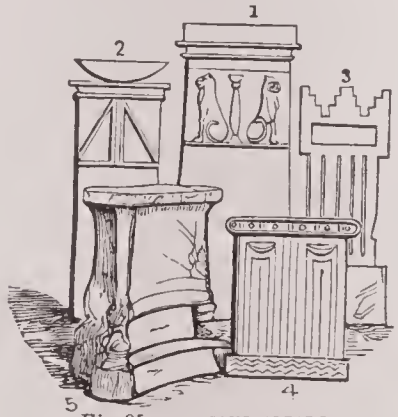


Fig. 95.—VARIOUS ALTARS.

1. 2. Egyptian, from bas-reliefs.
3. Assyrian, found at Khorsabad.
4. Babylonian. *Bibliothèque Nationale.*
5. Assyrian, from Khorsabad.

Al'tarage, *n.* [Lat. *altaragium.*] The profits arising to a priest on account of the altar, as well as the offerings themselves placed upon it.

Al'tar-piece, *n.* A paiuting placed over or behind the altar iu a church.

Al'ta Springs, in *Texas*, a post-village of Limestone co.

Al'taville, iu *California*, a village ot Calaveras co., 21 m. from Mokelumne Hill.

Altay', in *New York*, a post-village of Schuyler co.

Alt'dorf, a town of Bavaria, circ. of Rezat, 13 m. S.E. of Nuremberg. A great number of wooden toys are manufactured here, and exported to all parts of Europe and to America. *Pop.* 2,800.

Altdor'fer, or AL'TORF, ALBERT, a Bavarian painter and engraver, B. 1488. One of his most remarkable paintings is the *Battle of Arbela*, now in the picture gallery of Munich. As an engraver ou wood, *A.* almost rivals Albert Dürer; D. 1538.

Al'tea, a town of Spain, prov. of Valencia, near the sea, 30 m. N.E. of Alicante; *pop.* 6,000.

Alte'na, a town of Prussia, in Westphalia, 18 m. from Arnsberg; *pop.* 5,942.

Al'tenburg, a town of Prussia, formerly cap. of the Duchy of Saxe-Altenburg, 24 m. S.S.E. of Leipsic, near the Pleisse; *pop.* 30,000.

Al'tenburg, in *Missouri*, a post-village of Perry co., about 20 m. S.E. of Perryville.

Al'tendorf, a village of Bavaria, 8 m. from Bamberg, noted for the victory which Kleber, the French general, gained over the Austrians on the 9th of August, 1796.

Al'tengaard, a Norwegian seaport, 53 m. from Hammerfest. Lat. 69° 50′ N.; lon. 23° 6′ E.

Altenkir'chen, a town of Prussia, prov. of the Rhine, 16 m. N.E. of Coblentz. Near it, on 21st of September, 1796, General Marceau was killed, in a conflict between the French and the Austrians. *Pop.* 1,697.

Al'ter, *v. a.* [Fr. *altérer*, from Lat. *alterare.*] To change a thing in some of its parts; to render it otherwise than it was; so, to *alter* a writiug is to blot and interpolate it; to *change* it, is to substitute another in its place.

—To take off from an opinion, a persuasion, or party.

"I am no way *altered* from my opinion."—*Dryden.*

—*v. n.* To become otherwise than it was; to vary; as, "the weather *alters* from bright to cloudy."

Alterabil'ity, *n.* The quality of being susceptible of alteration.

Al'terable, *a.* [Fr.] That which may be altered or varied.

Al'terableness, *n.* The quality of being alterable, or admitting alterations from external causes.

Al'terably, *adv.* In such a manner as may be altered.

Al'terant, *a.* [See ALTER.] That which has the power of producing alterations in anythiug.

—*n.* Same as ALTERATIVE.

Altera'tion, *n.* [Fr. *altération.*] The act of altering or changing in some particular. The state of being altered to, or changed.

Al'terative, *n.* (*Med.*) Such medicines as induce a favorable change in the system, without any manifest operation or evacuation. The principal therapeutic employment of the Alteratives is as antiphlogistics or resolvents. The mercurials are chiefly employed in acute inflammation, the preparations of iodine, bromiue, &c., in chrouic iuflammation.

—*a.* Producing gradual change.

Al'tercate, *v. a.* [Lat. *altercare.*] To dispute warmly; to wrangle; to contend in words.

Altercation, *n.* [Fr.] Warm contention by words; dispute carried on with heat or anger; controversy; wrangling; contest.

"Their whole life was little else than a perpetual wrangling and *altercation.*"—*Hakewell.*

Alter'ity, *n.* [Lat. *alter*, the other.] The state of being another, and not the same.

Altern', *a.* [Fr. *alterne*, from Lat. *al ternus.*] (*Crystallog.*) Exhibiting in two parts, an upper and a lower part, faces which alternate among themselves, but which, when the two parts are compared, correspond with each other.

Alter'nacy, *n.* [From *alternate.*] Performance or action by turns. (R.)

Alter'nal, *a.* Alternative. (R.)

Alter'nally, *adv.* By turn. (R.)

Alter'nant, *a.* [Lat. *alternans.*] (*Geol.*) Applied to rocks composed of alternate layers.

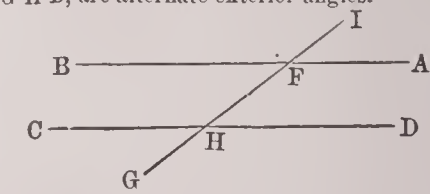
Alter'nate, *a.* [Lat. *alternatus.*] Being by turns; one after another; reciprocal.

"Friendship is a generous strife in *alternate* acts of kindness."—*South.*

(*Bot.*) Denoting the arrangement of parts of the plant, as leaves, &c., at different heights and sides, on the same axis.

(*Her.*) It denotes the position of quarters, partitions and other figures, succeeding one another by turns, as in the *coronet* of the Prince of Wales, set round with four crosses-pattee, and as many fleurs-de-lis alternately.

(*Geom.*) *Alternate angles*; the interior and exterior angles made by a line cutting two parallels. The angles A F H and F H D, also F H C and B F H, are alternate interior angles. The angles I F B and C H G, also A F I and G H D, are alternate exterior angles.



Alter'nate, *n.* That which happens by turns with something else; vicissitude. (R.)

Alter'nate, *v. a.* [Fr. *alterner*, from Lat. *alternare.*] To perform alternately; to cause to succeed by turns; to change one thing for another reciprocally.

—*v. n.* To act or succeed by turns; followed by *with.*

"Rage, shame, and grief *alternate* in his breast."—*Phillips.*

Alter'nately, *adv.* In reciprocal succession: by turns; as light follows darkness, and darkness follows light.

Alter'nateness, *n.* The quality of being alternate, or of happening in reciprocal succession.

Alterna'tion, *n.* The act of alternating; reciprocal succession; alternate performance, as of singers in the choir of a Catholic church. See GENERATION.

Alter'native, *a.* That which offers a choice of two things.

—*n.* The choice given of two things; so that if one be rejected, the other must be taken.

"A strange *alternative*....
Must ladies have a doctor or a dance?"—*Young.*

Alter'natively, *adv.* In alternate manuer; by turns; reciprocally.

Alter'nativeness, *n.* The quality or state of being alternative.

Alter'nity, *n.* Reciprocal succession; turn; change of one thing for another; alternating.

Althæ'a, or ALTHÆ'Æ, *n.* [From Gr. *altho*, to cure.] (*Bot.*) A genus of plants, ord. *Malvaceæ.* The *A. officinalis*, marsh-mallow, a European plant, naturalized on the borders of the salt marshes in the U. S., abounds in

mucilage, and is used in med. as an emollient to prevent suppuration. The *A. rosea*, native of China, is cultivated in gardens, and gives flowers of various shades of coloring. Its leaves are said to yield a blue coloring-matter, not inferior to indigo.

Althæ'menes. (*Myth.*) A son of Creteus, king of Crete. Hearing that himself or his brothers were to be their father's murderer, he fled to Rhodes, where he settled, to avoid becoming a parricide. After the deaths of all his other sons, Creteus went after his son *A.* Upon landing at Rhodes, the inhabitants attacked him, supposing him to be an enemy, and he was killed by the hand of his own son. Upon this coming to the knowledge of *A.*, he entreated the gods to remove him, and the earth immediately opened and swallowed him up.

Althe'nia, *n.* A genus of plants, ord. *Naiadaceæ.*

Although', *conj.* [From *all* and *though.*] Notwithstanding; however it may be granted; however it may be that.

Alt'house, in *Oregon*, a village of Josephine co., 24 m. S.E. of Kirbyville.

Altim'eter, *n.* [Fr. *altimètre*, from Lat. *altus*, high, and *metrum*, measure.] An instrument for taking altitudes, whether accessible or inaccessible, by the help of trigonometry, on the known principle that the sides of triangles having equal angles, are in exact proportion to one another.

Altim'etry, *n.* The art of taking heights by means of an altimeter.

Altin'car, *n.* See TINCAL.

Altingia'ceæ, *n. pl.* (*Bot.*) An ord. of plants in the alliance *Amentales.* Its only gen. is the *Liquidambar*, the spines of which form generally a branching tree, having very much the appearance of a maple. *Diagnosis:* Leaves alternate, simple or lobed, aments monœcious, roundish, with achlamydeous flowers, styles, 2 and long; fruit, a kind of strobile, composed of the indurated scabs and capsules; capsules 2-beaked, 2-celled, opening between the beaks; seeds, several-winged. They are natives of the Levant, India, and N. America. The *Liquidambar altingia*, which gives its name to the order, is a superb tree, 120 to 150 feet high, with a brown-reddish, hard, and very aromatic wood. The *Altingia* or *Liquidambar styraciflua*, a sweet gum or gum-tree, 60 feet high, with a diameter of 5 feet, is thinly disseminated through the U. States. Its trunk is covered with a deeply furrowed bark, which, when punctured in summer, distils a fragrant resin used in medicine under the name of *storax* or *styrax.* — See STORAX.

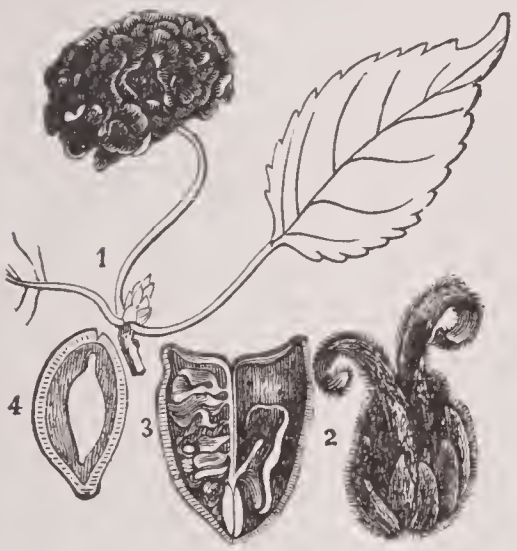


Fig. 96.—1. LIQUIDAMBAR ALTINGIA.
2. Pistillate flower; 3. Section of a mature fruit; 4. Section of a seed.

Al'tis, (*Myth.*) A sacred grove round Jupiter's temple at Olympia.

Altis'onous, and **Altis'onant,** *a.* [Lat. *altisonus*, from *altus*, high, and *sonus*, sound.] High-sounding; pompous, or lofty in sound.

Altis'simo. [It., the superlative of *alto.*] (*Mus.*) The scale in *altissimo* commences with F, the octave above the fifth line in the treble.

Al'titude, *n.* [Lat. *altitude*, from *altus*, high.] The height of an object, or its elevation above that plane to which the base is referred; thus, in mathematics, the altitude of a figure is the perpendicular or nearest distance of its vertex from the base. The altitude of an object is the elevation of an object above the plane of the horizon, or a perpendicular let fall to that plane. — *Accessible Altitude* of an object, is that to whose base there is access, to measure the nearest distance to it on the ground, from any place. — *Inaccessible Altitude* of an object, is that to whose base there is not free access, by which a distance may be measured to it, by reason of some impediment, such as water, wood, or the like. The instruments mostly used in measuring altitudes, are the quadrant, theodolite, geometrical square line of shadows, &c.

(*Math.*) The *A.* of a triangle is measured by a perpendicular let fall from any one of its angles upon the base, or upon the base produced; therefore the same triangle may have different *A.*, accordingly as we assume one side or other of its base. Again, the *A.* of a cone or pyramid, whether right or oblique, is measured by a perpendicular let fall from the vertex to the plane of its base. Similar remarks apply to other solids.

(*Phys.*) The *A. of the eye*, in perspective, is the perpendicular height of the eye above the geometrical plane. The *A.* of a mountain may be determined by trigonometry or by the barometer; for as the weight and elasticity of the atmosphere diminishes as we rise, so the fall of the barometer determines the elevation of any place. — See HEIGHT.

(*Astron.*) The *A. of a star* or other celestial object is measured or estimated by the angles subtended between

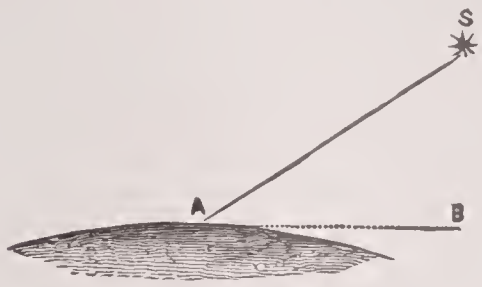


Fig. 97.

the object and the plane of the horizon. Thus, if A be the position of a spectator on the earth, and AB the line on the horizon which is drawn toward the point directly under the star S, the angle BAS is the altitude of the star. This *A.* is either true or apparent. The *apparent A.* is that which is obtained immediately from observation; and the *true A.* that which results from correcting the apparent *A.*, by making allowance for parallax, refraction, &c. — The *A.* at sea is directly observed with the *sextant.* — In fixed observation on land, the *A.* of stars, or rather their zenith distance which are what the *A.* wants of 90 degrees, are observed with the *mural* or the *transit* circle. — See SEXTANT, CIRCLE-MURAL, TRANSIT.

Altitudina'rian, *a.* Which has, or pertains to, altitude. (R.)

Alt'muhl, a river of Bavaria, which falls into the Danube at Kelheim. From Dietfurt to Bamberg-on-the-Regnitz, there is a canal called the Maine-and-Danube, which connects the Black sea with the German ocean.

Al'to, *n.* [It., *high.*] (*Mus.*) The highest natural adult male voice, or counter-tenor, the usual compass of which is from F the 4th line in the base, to C the 3d space on the treble.

—Also, the instrument that we call the *Tenor*, and the Italians *Viola.*

Alto Clef, a name of the C clef, when placed on the 3d line; called also the *counter-tenor clef.*

Al'to, in *Illinois*, a township of Lee co.

Al'to, in *Indiana*, a post-office of Howard co.

Al'to, in *Michigan*, a post-office of Kent co.

Al'to, in *Texas*, a village of Cherokee co.

Al'to, in *Virginia*, a post-office of Amherst co.

Al'to, in *Wisconsin*, a post-township, in the S.W. of Fond du Lac co.

Al'to et Bas'so. [Lat., *high and low.*] (*Law.*) An agreement between two parties, including an absolute submission of all differences to arbitration.

Al'together, *adv.* [From *all* and *together.*] Completely; without restriction; without exception.

"I do not *altogether* disapprove of the manner of interweaving texts of Scripture." — *Swift.*

—Conjunctively; in company:—i. e., *all together.*

Al'ton, in *Illinois*, a city and port of entry in Madison co., on the Mississippi river, about 21 m. above St. Louis, 3 m. above the mouth of the Missouri river, and 76 m. S.S.W. of Springfield. *A.*, connected by railroads with Chicago and St. Louis, is a thriving place. It is the market town and port of exportation for the grain, hay, fruit, and lime of a large county. Limestone and stone-coal abound in the vicinity. It is the seat of a Roman Catholic diocese, with a large cathedral. *P.* (1890) 10,294.

Al'ton, in *Indiana*, a post-village of Crawford co., on the Ohio River, about 40 m. W.S.W. of New Albany.

Al'ton, in *Iowa*, a thriving twp. of Buchanan co.

—a post-village of Dallas co., on the Racoon river, about 36 m. N.W. of Des Moines.

—a village of Howard co.

Al'ton, in *Maine*, a post-township of Penobscot co., about 15 m. N. of Bangor.

Al'ton, in *Michigan*, a post-office of Kent co.

Al'ton, in *Missouri*, a post-village, cap. of Oregon co., about 170 m. S.S.W. of St. Louis.

Al'ton, in *New Hampshire*, a post-township of Belknap co., 22 m. N.E. of Concord.

Al'ton, in *New York*, a post-village of Sodus township, in Wayne co., 10 m. N. of Lyons.

Al'ton, in *Ohio*, a post-village of Franklin co., 9 m. W. of Columbus.

Al'ton, in *Penna.*, a thriving town of McKean co.

Al'ton, in *Virginia*, a post-office of Halifax co.

Al'ton, in *W. Va.*, a post-office of Upshur co.

Al'ton Hill, in *Tennessee*, a post-office of Macon co.

Al'tona, in *Prussia*, prov. Schleswig-Holstein, on the Elbe, 2 m. W. of Hamburg, Lat. 53° 32′ N.; Lon. 90° 56′ E. It is a free port. *A.* has a good deal of trade; shipbuilding is also carried on to a considerable extent. *Manf.* Velvets, silk stuffs, calico, stockings, gloves, tobacco, starch, wax, and looking-glasses. It was burnt by the Swedes in 1713. *Population* (1895), 142,249.

Al'tona, in *Nebraska*, a village of Platte co., about 60 m. W. by N. of Omaha.

Al'tona, in *New York*, a post-township of Clinton co., about 10 m. N.W. of Plattsburg.

Al'tona, in *Wisconsin*, a village of Buffalo co., on the Mississippi river.

—a village of Calumet co., about 24 m. N.E. of Fond du-Lac.

Altoo'na, [from Lat. *alto*, high,] in *Pennsylvania*, a flourishing city of Blair co., at the foot of Alleghany mountains, 236½ m. W. of Philadelphia, and 117 N.E. of Pittsburgh. — *Ind.* The Pennsylvania railroad has here extensive machine-shops, where thousands of operatives are employed in the manufacture of locomotives, railway cars, &c. — *A.* has also steam planing-mills, breweries, several daily and weekly papers, 4 banks, &c. — It was laid out in 1849, and incorporated as a city in 1868. *Pop.* in 1880, 19,746; in 1890, 30,337; in 1897 (est.) 39,500.

Al'to otta'vo, *n.* [It.] An octave higher.

Al'to-relie'vo, *n.* [It.] (*Sculp.*) That kind of sculpture which is executed on a flat surface, but projects considerably above the ground or plane. The degree of projection given to alto-relievo depends on the will of the sculptor; more than three-fourths of the figure are frequently shown, and figures in *basso-relievo* (low relief) are sometimes added, to express gradations of distance. The largest performance ever executed in alto-relievo is the stupendous work by Algardi, in St. Peter's at Rome, representing the repulse of Attila by St. Peter and St. Paul. The alto-relievos of Donatelli at Florence are among the most perfect examples of this art.

Al'torf, or ALT'DORF, a town of Switzerland, cap. of the canton Uri, near the S.E. extremity of the lake of Lucerne, at the N. extremity of the pass over Mount St. Gothard. Here there is a tower which marks the spot where William Tell is said to have shot off the apple from his son's head. Close by is the village of Burglen, pointed out as being the birthplace of that patriot. *Pop.* 2,426.

Al'to ripie'no. [It.] (*Mus.*) The tenor of the great chorus in the full parts of a concert.

Al'to violi'no. [It.] (*Mus.*) A small tenor violin.

Al'trincham, or AL'TRINGHAM, a town of England, in Cheshire, 8 m. from Manchester. *Manf.* Cloths, cottons, and yarns. *Pop.* 6,628.

Alt'stetten, a town of Switzerland, canton of St. Gallen, 9 m. S. from the embouchure of the Rhine into the Lake of Constance, on the declivity of a mountain in a beautiful country. *Pop.* 1,187.

Altu'ras, in *Idaho*, the former name of a south-central county, east of Boisé co. and containing the flourishing town of Hailey—now called BLAINE CO.

Alu'cita. See ALUCITIDÆ.

Alucit'idæ, *n. pl.* (*Zoöl.*) A family of small lepidopterous insects, distinguished by the wings being singularly divided into narrow feathered rays. The larvæ are clothed with very long hairs; they have sixteen feet, and are very inactive; the pupæ are either naked, and enclosed in a transparent silken cocoon; or conical, hairy, and either suspended perpendicularly by a thread, or affixed at the posterior extremity of the body to a layer of silk or leaves. These insects vary in the time of their flight; the *Alucita* frequenting our gardens, and sitting with its beautiful fan-like wings on our hot-houses, whilst the *Pterophori*, being crepuscular, fly over low plants.

Al'ula, *n.* [Lat., dim. of *ala*, a wing.] See OTIS.

Al'um, *n.* [Fr. from Lat. *alumen.*] (*Chem.*) The alum, or *sulphate of aluminium and potassium*, is a very important salt, occasionally found native in volcanic districts, in the form of an efflorescence produced by the action of the sulphuric acid of the volcano upon the alumina and potash contained in the lava and trachytic rocks. For the purposes of commerce, alum is manufactured artificially. It has a sweetish, astringent taste, is soluble in about 18 parts of cold water, and in less than its own weight of boiling water. The solution has a strongly acid reaction, and dissolves iron and zinc with evolution of hydrogen. *Comp.* potassium sulphate, 18.4: aluminium sulphate, 36.2; water 45.4 = 100. *Form.* $Al_2(SO_4)3 + K_2SO_4 + 24H_2O$. Alum is used in large quantities in many manufactories. When added to tallow, it renders it harder. Printers' cushions, and the blocks used in the calico manufactory, are rubbed with burnt alum to remove any greasiness, which might prevent the ink or color from sticking. Paper impregnated with alum is useful in whitening silver, and in silvering brass without heat. *A.* mixed in milk helps the separation of its butter. If added in a very small quantity to turbid water, in a few minutes it renders it perfectly limpid, without any bad taste or quality. It is used in making pyrophorus, in tanning, and many other manufactories, particularly in the art of dyeing, in which it is of the greatest and most important use, by cleansing and opening the pores on the surface of the substance to be dyed, rendering it fit for receiving the coloring particles (by which the *A.* is generally decomposed), and at the same time making the color fixed. Bakers mix a quantity of *A.* with their bread, to render it white, a process highly pernicious.

(*Med.*) *A.* is employed internally as a powerful astringent in cases of passive hemorrhage from the womb, intestines, and sometimes lungs. In bleedings of an active nature, *i. e.* attended with fever and a plethoric state of the system, it is highly improper. It is a powerful tonic, and is given in a dose of 10 grains, in such cases as require powerful tonic and astringent remedies. Externally *A.* is much employed as a lotion for the eyes, in dissolution with rose-water. It is applied as a styptic to bleeding vessels, and to ulcers, when there is too copious a secretion of pus. It is also employed as an injection in cases of gleet or fluor albus.

Al'um Bank, in *Pennsylvania*, a post-office of Bedford co.

Al'um Creek, in *Ohio*, a post-office of Delaware co.

Al'um Creek, in *Texas*, a post-office in Bastrop co.

Al'umed, *a.* Mixed with alum.

Alu'men, *n.* The same as alum, *q. v.*

Alu'mian, *n.* (*Min.*) A rhombohedral mineral of the crocoito group. It occurs in microscopic white crystals, or in a massive form. *Comp.* sulphuric acid 60·9; alumina 39·1 = 100.

Alu'mina, and ALU'MINE, *n.* [Fr. *alumine.*] (*Chem.*) One of the earths, the only known oxide of aluminium. It forms one of the materials that enter most largely into the composition of the superficial strata of the earth. It is the basis of all the varieties of clay, and is present in greater or less quantity in almost every soil. It occurs nearly pure, and crystallized in six-sided prisms, in *Corundum*, hard enough to cut glass. The *sapphire* and *ruby* are also composed of this earth, tinged with a small quantity of oxide of chromium. They are only inferior to the diamond in hardness. *Emery* is another form of alumina, colored with oxides of iron and manganese. It is procured from alum, or from aluminate of sodium. It possesses properties which approach somewhat to those of an acid, for it has a strong tendency to unite with basic oxides. When combined with silica, it forms clay, which is the basis of porcelain and of earthenware. To the dyer and the calico-printer, the compounds of *A.* are of high value; the hydrate of *A.* has the property of combining intimately with certain kinds of organic matter, and when salts of aluminium are mingled with colored vegetable or animal solutions, and precipitated by the addition of an alkali, the alumina carries down the greater portion of the coloring matter, forming a species of pigments termed *lakes.* By soaking the cloth with a preparation of aluminium, the earth attaches itself to the fibre; and if cloth thus prepared be plunged into a bath of the coloring matter, it becomes permanently dyed. Sp. gr. 3·95; *form.* (Al_2O_3).

Alu'minate, *n.* (*Chem.*) An earthy combination of alumina.

Alu'minate of Sodium. A whitish, infusible, but freely soluble compound, which furnishes a valued material in the preparation of lakes for pigments, as well as for purposes of a mordant to the calico-printer, and which will probably to a large extent supersede the use of the different forms of alum. It is used in the preparation of alumina, for which it is chiefly required.

Al'umine, *n.* See ALUMINA.

Aluminif'erous, *a.* Which contains or affords alum.

Alu'miniform, *a.* Having the form of alumina.

Alu'minite, *n.* (*Min.*) A reniform massive mineral, of an earthy taste and white color, occurring in connection with beds of clay in the Tertiary formation. *Comp.* alumina 29·8, sulphuric acid 23·2, water 47·0 = 100.

Alu'minous, *a.* Relating to, or consisting of alum.

Alu'minum, and **Alumin'ium,** *n.* [Lat.] (*Chem.*) A white malleable metal, nearly resembling zinc in color and hardness; it may be rolled into very thin foil, and admits of being drawn into fine wire; after being rolled, it becomes much harder and more elastic. It is remarkably sonorous and emits a clear musical sound when struck by a hard body. When heated in the form of foil with a splinter of wood in a current of oxygen, it burns with a brilliant bluish-white light. Nitric acid is without action upon it, but it is attacked rapidly by hydrochloric acid, forming chloride of aluminium, whilst hydrogen is disengaged. *A.* readily forms alloys with copper, silver, and iron, but not with lead. The alloys with copper are very hard, and susceptible of a high polish; one of these, a beautiful alloy of a golden-yellow color, containing about 10 per cent. of aluminium, is manufactured under the name of *aluminium bronze.* Sp. gr. 2·5 to 2·67. *Symbol,* Al.—*History. A.* was first obtained from its oxide by Wöhler in 1827, and more perfectly in 1845, but it was not until 1854 that it was produced by Deville in a nearly pure state, and its properties dis-

(CONTINUED IN SECTION II.)

Alum'na, *n.*, pl. ALUMNÆ, feminine form of *Alumnus* and *Alumni.*

Alum'nus, *n.*; *pl.* ALUMNI. [Lat.] A pupil; applied to a graduate of a college or other seminary of learning.

Alum-slate, *n.* (*Min.*) A variety of shale or clay-slate containing iron pyrites.

Al'um-stone, *n.* See ALUNITE.

Al'unite, and ALUMINILITE, *n.* (*Min.*) A rhombohedral, white metal, known also under the name of alumen de Tolpha, alum-stone, and alum de Rome. It forms seams in trachytic and allied rocks, where it has been formed as a result of the alteration of the rock by means of sulphurous vapors. *Comp.* sulphuric acid 38·53, alumina 37·13, potash 11·34, water 13·00 = 100.

Alu'nogen, *n.* (*Min.*) A hydrous sulphate of alumina, occurring in delicate masses or crusts. It has a vitreous, silky lustre, and white color. Its taste is like that of common alum. Found as an efflorescence in numerous places in the United States. *Comp.* alumina 15·4, sulphuric acid 36·0, water 48·6 = 100.

Aluta'ceous, *a.* [Lat. *aluta,* a soft leather.] Being of a pale brown color, as that of tanned leather.

Alu'teres, *n. pl.* (*Zoöl.*) A gen. of fishes, family *Plectognathi,* q. v.

Al'va, or **Al'ba,** FERDINAND ALVAREZ DE TOLEDO, duke of, the greatest general of his age, B. in Spain, 1508. He was present at the battle of Pavia, at the siege of Tunis, and in the attack on Algiers. He defeated and made prisoner the elector of Saxony at the battle of Mühlberg, in 1547, and assisted at the siege of Metz. In 1577 he was sent, with the title of Vicar-General of the Austrian dominions in Italy, to oppose the French there, and invade the States of the Church; but he was compelled to make peace and beg pardon of the Pope. He is chiefly notorious for the merciless rigor which characterized his dictatorial power in the Netherlands, where he was sent in 1567, to carry out the plans of Philip II. Under his rule, 18,000 persons were sent to the scaffold, and a revolt provoked which only ended, after nearly 40 years of war, in the independence of the United Provinces. Alva's overweening pride was shown in the erection of a statue of himself in the citadel of Antwerp, with nobles and people at his feet, and a false, bombastic inscription in his own praise. He was recalled in 1573, by his own wish, and after a temporary disgrace and exile, was sent to command in Portugal and rapidly conquered it. It is said that in 60 years of warfare he was never beaten, nor taken by surprise. D. at Lisbon, 1582.

Al'va, a village and parish of Scotland, in Stirling co., 7 m. S.E. of Stirling; *pop.* 3,283.

Alvamari'na, *n.* [Lat. *alga marina,* sea-weed.] (*Com.*) Dried sea-weed with which mattresses are stuffed.

Al'van, in *Pennsylvania,* a hamlet of Jefferson co.

Alvara'do, PEDRO, one of the Spanish conquerors of Mexico. He accompanied Grijalva to Central America, in 1518, and in the following year took part in the expedition of Cortez, was present at all the battles of the campaign, and greatly contributed to its success. He explored California, and was killed during an expedition against the Indians of Xalisco, in 1541.

Alvara'do, ALPHONSO D', a Spanish adventurer, who accompanied Pizarro in his expedition to Peru; and was equally distinguished for his bravery and his cruelty. D. 1553.

Alvara'do, a small town of Mexico, near the mouth of the river of the same name, 40 m. S.S.E. of Vera Cruz; lat. 18° 34′ 18″ N.; lon. 65° 39′ 15″ W. The bar at the mouth of the river renders it inaccessible for vessels drawing more than 10 or 12 feet of water. *Pop.* abt. 5,000.

Alvara'do, in *California,* a thriving village of Alameda co., on Alameda creek, 10 m. S. of San Leandro, 5 m. from the bay of San Francisco.

The collection of salt is the principal industry.

Alvara'do, in *Texas,* a city of Johnson co., 26 m. by rail S. of Ft. Worth. *Pop.* 1,543.

Alvar'ez de Luna, the favorite and first minister of John II., king of Castile. After enjoying the splendor of royal favor for more than forty years, he fell into disgrace and was beheaded for high treason in 1453.

Alvar'ez, DON JOSÉ, a Spanish sculptor, B. near Cordova, 1768. A statue of *Ganymede,* which he executed in 1804, whilst studying at Paris, placed him in the first rank of modern sculptors. His studio was twice visited by Napoleon I., who presented him with a gold medal. Subsequently, he chiefly resided at Rome, and became court sculptor to Ferdinand VII., of Spain, for whom, in 1818, he executed his famous group of *Antilochus and Memnon.* D. at Madrid, 1826.

Al'veated, *a.* That has a prismatic cellular structure, as a honey-comb.

Alvensle'ben, PHILIP KARL, Count of, a distinguished Prussian diplomatist in the service of Frederick the Great and his successor; B. 1745; D. 1802.

Alve'olar, ALVE'OLARY, *a.* Pertaining to the alveoli, or sockets of the teeth.

Alve'olate, *a.* (*Bot.*) Having deep angular cavities, separated by thin partitions, as the receptacle of the cotton-thistle.

Alve'olites, *n. pl.* [Lat. *alveus,* a cavity, and Gr. *lithos,* a stone.] (*Pal.*) A gen. of fossil corals formed in the cretaceous and tertiary strata.

Al'verson, in *Michigan,* a village of Ingham co.

Al'verstoke, a parish in Hants, on the Solent and Portsmouth harbor, England. It embraces Gosport, Anglesey, forts Monckton and Blockhouse. *Pop.* 17,000.

Al'vens, *n.* [Lat., a cavity.] A boat, formed from the trunk of a tree hollowed out, in use among the ancients, and in one of which, according to Ovid, Romulus and Remus were exposed.

(*Anat.*) A canal or duct, as the *A. ampullosceus,* which conveys the chyle to the subclavian vein.

—The bed of a river. (R.)

Alvia'no, BARTOLOMMEO, an eminent Venetian general, whose exploits in the war against the emperor Maximilian, in 1508, caused the republic to decree him triumphal honors. B. 1455; D. 1515.

Al'vine, *a.* [Fr. *alvin,* from Lat. *alvus,* belly.] Relating or belonging to the lower belly or intestines; as, *alvine* discharges.

Alvi'ra, in *Pennsylvania,* a post-office of Lycoming co.

Alvi'so, in *California,* the shipping-port of Santa Clara co., located at the junction of the Alviso Slough with the Guadalupe river, about 3 m. from the bay of San Francisco, in Alviso township. *Pop.* of township 588.

Alvi'to, a town of Southern Italy, prov. of Caserta, 6 m. S.E. of Sora. *Pop.* 4,242.

Al'war, or MACHERY, a state of Rajpootana, India, under English control. *Area,* 3,573 sq.m. Lat. between 27° 4′ and 28° 13′ N.; Lon. between 76° 71′ and 77° 14′ E. *Pop.* about 778,600.—*Alwar,* the capital, stands on an eminence of 1,200 feet above the surrounding country.

Al'ways, *adv.* [From *all* and *way; pl.* ways.] Perpetually; throughout all time; opposed to *sometimes,* or to *never.*

"Man never is, but *always* to be blest."—*Pope.*

—Constantly; without variation; opposed to *sometimes,* or to *now and then.*

"He is *always* great, when some great occasion is presented to him."—*Dryden.*

—This adverb is sometimes written *alway,* but in poetry only.

Alyeæ'us, son of Sciron, who was killed by Theseus. A place in Megara was named after him.

Aly'mon, the husband of Circe.

Alyp'ius, a geographer, who was employed by the emperor Julian in rebuilding the temple of Jerusalem. Lived in the 4th century. He has left a geographical description of the world, printed at Geneva in 1628.

Alyp'ius, bishop of Tagasta, Africa, and the friend of St. Augustine, with whom he was baptized at Milan in 388. He opposed the Donatists and Pelagians with great zeal; D. 430.

Alys'sidæ, *n. pl.* [Gr. *a* priv., *lussa,* rage.] (*Bot.*) A tribe of plants of the order *Brassicaceæ;* so called because the ancients supposed that some species of this tribe allayed anger.

Alys'sum, *n.* (*Bot.*) A gen. of plants, tribe *Alyssidæ.* Two species are cultivated in gardens. 1. *A. saxatile,* rock alyssum, a pretty perennial plant, 1 foot high, giving in April numerous yellow flowers in close corymbose bunches. 2. *A. maritimum,* sweet alyssum, a sweet-scented plant, 1 foot high, with fine leaves and small white flowers.

A'lyth, a town and parish of Scotland, in Perth co., 12 m. W. of Forfar. *Pop.,* 2,134.

Al'zey, in *Rheinhessen Prov.,* Ger., a town on the Selz, 18 m. S.S.W. of Mayence. *Pop.,* 5,663.

Am, a frontier stronghold of Afghanistan, 50 m. N. of Attock.

Amacet'ta, in *Virginia,* a village of Wayne co.

Amaerat'ic, *a.* [Gr. *ama,* together, and *cratos,* power.] Applied to a certain kind of lens, styled also *amasthenic lens,* which unites the chemical rays of light into one focus.

Amadava'de. See AMADINA.

Amadded'dlat, the founder of the Persian dynasty, was the son of a fisherman. He and his two brothers took Persia Proper, Persian Irak, and Caramania, which they divided amongst them. *A.* settled at Shiraz in Persia Proper, in 933; D. 947.

Amade'us V., THE GREAT, count of Savoy, succeeded to the sovereignty of that State in 1287, to the exclusion of his nephew Philip, the rightful heir. He immortalized his name by the defence of Rhodes against the Turks, on which occasion he added to his arms the cross of the order of St. John of Jerusalem; D. 1323.

AMADE'US VI., count of Savoy, one of the most warlike princes of his age. He assisted John, king of France, against Edward, king of England, and in 1366 passed into Greece to the assistance of the emperor John Paleologus; D. 1383.

AMADE'US VIII., *the Peaceful,* Count and first duke of Savoy, B. 1383, succeeded his father Amadeus VII. in 1391. In 1434 he resigned his sovereignty and retired to a monastery, where he instituted an order of knighthood by the name of the Annunciata. On the deposition of Pope Eugenius IV., *A.* was chosen to succeed him, and took the name of Felix V. The schism thus created lasted ten years, and ended with the second retirement of *A.* in 1440. D. 1451.

AMADE'US IX., *the Blessed,* duke of Savoy, succeeded his father Louis in 1465. He was feeble in health and mind, and a regency was intrusted to his duchess Yolande, daughter of Charles VII. of France. *A.* was famed for his benevolence and care for the poor; D. 1472.

AMADE'US, duke of Aosta, 2d son of Victor Emmanuel, king of Italy, B. 1845. In 1870, he was chosen king of Spain, and so reigned until 1873, when, finding himself unacceptable to the Spanish nation, he abdicated the throne and returned to Italy. D. Jan. 17, 1890.

Amadi'na, *n.* (*Zoöl.*) A gen. of birds belonging to the sub-fam. *Fringillianæ,* and containing the Java-sparrow and amadarada or amadurat, pretty Indian birds, which are without song, and delicate to rear.

A'madis de Gaul, the hero of an old romance of chivalry, written in Spanish prose by Vasco Lobeira, toward the end of the twelfth century. It was afterward corrected and edited in more modern Spanish by Garcia Ordoñez of Montalvo, about the beginning of the sixteenth century, and became a very popular book in Italy and France; it was translated into French by D'Herberay, and printed in 1555, with many additions, under the title of *Amadis des Gaules.* The *Amadis* is considered as one of the most interesting works in the whole library of chivalry and romance. There are also several other Spanish romances concerning Amadis and his family, which are, however, deservedly forgotten. Bernardo Tasso, the father of Torquato, wrote a poem on the subject of the Amadis de Gaula, which he called *Amadigi di Francia.* This poem has never been held in great esteem in Italy.

Amador', in *California,* a northern county, measuring 52 m. in length, and 10 in breadth. The Mokelumne river separates it from Calaveras in the S. Formerly this county extended into and beyond the high Sierra, but since the erection of Alpine county in 1864, it barely reaches to the E. of the base of the great snowy range. The eastern portion is, nevertheless, very rugged and broken. Among the lower foot-hills of *A.* are some of the richest agricultural valleys in the State. A belt of auriferous earth and rocks about 12 m. wide, runs entirely across its lower and most populous part, and has for years been profitably worked, yielding good returns. Many mines have been opened in this belt, of which a considerable number have proved productive. Small diamonds have frequently been picked up at Fiddletown, Volcano and other places. As in California generally, however, agriculture gives the best promise for the future of the country, and much attention is being paid to the cultivation of the soil. County seat, Jackson. *Pop.* (1890), 10,490.

Amador', in *Minnesota,* a post-village in Chicago co., in Amador township, on the St. Croix river, abt. 50 m. N.N.E. of St. Paul,

Amador', in *Nevada,* a village of Lander co., 7 m. N. of Austin.

Amador' City, in *California,* a post-village of Amador co., on Amador creek, 8 m. N.W. of Jackson.

Al'va, in *Oklahoma,* the cap. of Woods co. *Pop.* (1897) abt. 1,000.

Amadon', *n.* [Fr.] A kind of tinder made chiefly from the fungus called *Polyporous fomentaria,* which grows on the ash and cherry-trees, &c. The fungus is dried, steeped in a strong solution of saltpetre, and cut into thin slices. When thick, it is beaten with a mallet or hammer. *A.* is obtained also from other species of fungi.

Amagansett, in *New York,* a large village in East Hampton township, Suffolk co., 25 m. from Riverhead.

Amain', *adv.* [From Lat. *magnus.*] With vehemence or vigor; fiercely; violently.—It is used for any action performed with precipitation, when resulting from fear, conrage, or any violont effort.

(*Naut.*) Suddenly; at once; as, "*Lower amain!*" "*Let go amain!*" &c.

A'mak, or AMAGER, a Danish island to the S. of Copenhagen, on which its suburb Christianshaven is built; *pop.* abt. 8,000.

Amako'sa, or KOSAS, a tribe of the Caffres, settled in Cape Colony, Africa. They are shepherds and hunters.

Amakn'tan, one of the Kuriles islands, *q. v.*

A'mal, a town of Sweden, 50 m. from Weversborg. Its harbor is on Lake Weser, and its trade consists principally of deals, iron, and steel. *Pop.* 11,500.

Amal'aric, or AMAURY, tho last Visigoth king of Spain, son of Alaric II. He succeeded his grandfather Theodoric in 526, and married Clotilda, the daughter of Clovis, king of France, whom he barbarously used to make her embrace Arianism. She complained to her brother Childebert, king of Paris, who in 531 marched against him and defeated him in a battle fought in Catalonia. He fled to a church and was slain.

Am'alek, son of Eliphaz by his concubine Timna, grandson of Esau, and a chieftain of Edom. If he be not the actual father of the Amalekites, he has at least given his name to this people, so ancient that they were called the first of all the nations.

Amal'ekites, a tribe of Edomite Arabs, who were the first to oppose the Israelites after the passage of tho Red sea (Exod. xvii. 7–16), at the battle of Rephidim, B. C. 1491. Saul overcame them (1 Sam. xv. 8) B. C. 1093; and their descendants were exterminated by the Simeonites, about B. C. 725 (1 Chron. iv. 42, 43).

Amal'fi, or AMALPHI, a city and seaport of Southern Italy, prov. of Citra, on the Gulf of Palermo. It was in the middle ages a small republic of considerable eminence. Conquered by Robert Guiscard in 1035, it regained its independence in 1196, submitted to the king of Sicily in 1131, and was sacked by the Pisans in 1135. It is the birthplace of Masaniello, and of Flavio Givia, the inventor or improver of the mariner's compass. *Pop.* once of 50,000, it is now abt. 8,000.

Amal'gam, *n.* [Fr. *amalgam,* from Gr. *ama,* together, and *gameo,* to marry.] (*Chem.*) A combination of mercury or quicksilver with other metals. Many of these crystallize definitely, and may be separated from the excess of mercury with which they are surrounded. They are mostly brittle and soft. Tin and mercury unite by mere rubbing; it has a high reflecting surface, and is used for the back of looking-glasses. *A.* for the electrical machine is composed, of mercury 4 parts, zinc 2 parts, and 1 part tin. These, when smelted and rubbed up with a little lard, are fit for use.

(*Min.*) Named also *natürlich A., mescure argental, A. natif* It is an isometric mineral, opaque, and of a silver-white color. It is said to occur when veins of mercury and silver intersect each other. *Comp.* The property of tho two metals is variable.—*Gold amalgam.* The California variety occurs in yellowish-white, four-sided prisms; the Columbia var., in small white grains as large as a pea, easily crumbling. *Comp.* The proportion of gold varies from 38·39 to 41·63 per cent.

Amal'gam, *v. n.* To form an amalgam; to amalgamate.

Amal'gama, *n.* A mixture of different ingredients. (R.)

Amal'gamate, *v. a.* [Fr. *amalgamer.*] To compound or mix, as quicksilver with another metal. To mix, so as to make a compound; to unite.

"Ingratitude is indeed their four cardinal virtues compacted and *amalgamated* into one."—*Burke.*

—*v. a.* To unite in an amalgam; to blend with another metal, as quicksilver.—To coalesce, as a result of growth; as, two organs or parts *amalgamate.*

Amalgama'tion, *n.* [Fr.] The act or practice of amalgamating metals; a mixture of different things or races.

(*Chem.*) Tho process of extracting gold and silver from their matrix by means of mercury. When gold or silver exists in a native state, as in ore, all that is necessary is to triturate one part of the ore deprived of rocky matter with 2 parts of mercury, in a mortar of greater or lesser dimensions. The excess of mercury is poured off, the amalgam strained through leather, and distilled in a retort, the mercury being condensed in water. But for amalgamating sulphuret of silver, chloride of silver, and similar poor ore, the earths are triturated with water in a wide shallow cylinder, in a similar manner to clay at a pottery, and then dried; from 1 to 5 per cent. of common salt is then added to it, according to its purity, and the whole triturated. Sulphate of copper, in tho proportion of ½ lb. to 1 lb., is next added, and the whole triturated; 6 times as much quicksilver is now added as the ore contains, which is done at three different times, and trituration performed. The amalgam is washed and distilled.

Ama'lia. See AMELIA.

Amal'ic Acid. (*Chem.*) A weak acid, obtained by acting on caffeine with chlorine. *Form.* $C_{12}N_2H_7O_8$.

Amal'ric, or ARNAULD, a Spanish military churchman, who distinguished himself by his cruelties against tho Albigenses. In 1209, he laid siege to Beziers, and commanded 60,000 of its inhabitants to be slaughtered after the town had surrendered. "How are we to distinguish the Catholics from the heretics?" inquired one of his officers. "Kill them all—God knows his own," replied Amalric. D. 1225.

Amalthæ'a. (*Myth.*) The name of a goat in Crete, which suckled Jupiter when his mother concealed him there through fear of Saturn. From this goat came the horn of plenty, which Jupiter gave to the daughters of Melissus, who assisted Rhea, with the power of obtaining from it everything necessary for their subsistence; called *cornu Amalthææ* (the same as *cornu copiæ,* the horn of plenty). According to some, *A.* was the name of the nymph who watched this goat. The Cumæan sibyl also bore this name.—See SIBYLLINE ORACLES.

A'man. [Heb., gathering-place.] (*Anc. Geog.*) A city in the S. of Judæa, named with Shema and Moladah in Joseph. xx. 26 only.

A'man, the minister of Ahasuerus. See HAMAN.

Am'ana, and AM'ANUS, a chain of lofty mountains separating Cilicia from Syria. This name was given by the Greek and Roman geographers, and is also sometimes applied by modern geographers to the branch of mount Taurus, which, beginning at the mountain of Cape Hynzyr, on the Gulf of Scanderoon, runs in a N.E. direction into the interior.

Am'ana, in *Iowa,* a township of Iowa co., on the Iowa river.

A'mand, MARC ANTOINE GERARD, SIEUR DE ST., a French poet, B. at Rouen, 1594; D. 1661. His poems, which are chiefly comic, were printed in 8 vols., 1647, at Paris.

A'mand, St., a town of France, cap of an arrond. in the dep. of the Cher, at the confluence of the Cher with the Marmande, 26 m. from Bourges. It is the most commercial of the department. There are forges, cannon foundries, and porcelain manufactories in the neighborhood. *Pop.* 8,607.—There are several other towns of this name in France, but none of them has a pop. over 3,000, neither is there anything remarkable to be said about them.

A'mand, St., a town and parish of Belgium, on the Scheldt, 15 m. from Antwerp; *pop.* 3,000.

Aman'da, in *Kentucky,* a village of Greenup co., on the Ohio river, 138 m. E.S.E. of Frankfort.

Aman'da, in *Ohio,* a township of Allen co., 10 m. W.S.W. of Lima.

—a village of Butler co., in Lemon township, 12 m. N.E. of Hamilton.

—a post-village and township of Fairfield co., 8 m. S.W. of Lancaster.

—a township of Hancock county, about 10 miles S. E. of Finley.

Aman'daville, in *Georgia,* a post-office of Hart co., about 90 m. N.W. of Augusta.

Aman'dine, *n.* [Fr. from *amande,* almond.] A kind of cold cream, prepared from almonds, for chapped hands, &c.

A'mand-les-eaux, St., a town of France, in the dep. Du Nord, 7 m. N.W. of Valenciennes. It is situated in a rich, well-cultivated country, where the flax is produced (*lin ramé*) of which the finest laces are manufactured in the town. This place is visited for its thermal baths. *Pop.* 10,210.

Amaranta'ceæ, *n. pl.* [From Gr. *amaranthus,* unfading.] (*Bot.*) An ord. of plants of the *Chenopodales* alliance. Herbs or shrubs remarkable for the dry colored scales of which all their bracteæ and floral envelopes are composed; a character by which they are principally

Fig. 98.—AMANTHUS POLYGAMUS.

1. A calyx and bracteæ, with stamens. — 2. The same with the pistillum. — 3. The pistillum. — 4. A seed.—5. The embryo.—6. A seed cut down, shewing the opening embryo;—all unmagnified.

known from other chenopodals. Their essential distinction is briefly this: calyx, dry, colored, not falling away; petals, wanting; stamens, five or more; ovarium, quite simple, superior; fruit, a utricle, containing a single seed, which has an embryo curved round a central farinaceous albumen; leaves, destitute of stipules. They are found chiefly in tropical countries. The cock's-comb, the globe-amaranth, the prince's-feather, the love-lies-bleeding, of our gardens, belong to this order. Several species of the gen. *Amaranthus* are remarkable for the durability of their blossoms.

Aman'itine, *n.* [Gr. *amanitai,* a sort of fungi.] (*Chem.*) The poisonous principle of some mushrooms,—unexamined.

Aman'tea, a seaport-town in Southern Italy, prov. Cosenza, 14 m. S.W. of Cosenza. It is supposed to occupy the site of the ancient *Nipezia.* There are hot springs in the vicinity. It was taken by the French in 1806, after an obstinate defence. *Pop.* 4,077.

Amanuen'sis, *n.; pl.* AMANUENSES. [Lat., from *ab,* and *manus,* hand.] A person who writes what another dictates, or copies what another has written.

Amapal'la, a town of Central America, prov. of Nicaragua. It gives name to a large gulf of the same name, 220 leagues S.E. of Guatemala.

Amapon'da, a tribe of the Caffres, South Africa.

Amar'a, WELL OF, a caravan-station of Arabia, on the E. coast of the Gulf of Suez; lat. 27° 35′ N.; lon. 32° 55′ E. It is thought to be the Marah of Holy Writ, the waters of which were rendered wholesome in answer to the prayer of Moses.

Amaran'te, a town of Portugal, prov. of Minho, on the Tamega, 35 m. N.E. of Oporto. *Pop.* 5,500.

Am'aranth, *n.* [Fr. *amaranthe,* from Lat. *amaranthus,* unfading.] A color inclining to purple.

(*Poet.*) An imaginary flower, supposed, according to its name, never to fade.

(*Bot.*) See AMARANTUS.

Amaran'thine, *a.* Relating to, or consisting of amaranth;—never fading, as the amaranth of the poets;—having a purplish color.

Am'arantus, *n.* (*Bot.*) A gen. of plants, ord. *Amarantaceæ,* q. v.

Amari'ah, high-priest in the reign of Jehoshaphat, (2 Chr. xix. 11,) son of Azariah, and the seventh in descent from No. 1. (1 Chr. vi. 11.)

Amar'itude, *n.* [Lat. *amaritudo.*] Bitterness. (O.)

Amaribo', or MANA', a river in French Guiana, rising in about lat. 30° 35′ N., and falling into the Atlantic after a course of 146 m.

Amarapu'ra, AMARAPURA, or UNMARAPURA, formerly the cap. of the Burman empire, 6 m. N.E. of Ava; lat. 25° 55′ N.; lon. 96° 7′ E.—In 1800, the *pop.* was estimated at 175,000, but the seat of government having been transferred to Ava in 1807, it has since rapidly declined. Near the city is a temple, much frequented by devotees, containing the celebrated bronze statue of Guadama, brought from Aracan in 1784.

Amaryl'leæ, *n. pl.* (*Bot.*) A tribe of plants, ord. *Amaryllidaceæ. Diagnosis:* Bulbs, without a coronet in the flower.

Amarylli'daceæ, *n. pl.* (*Bot.*) The amaryllids, an ord. of plants, of the Narcissales alliance. *Diagnosis:* Hexapetaloideous, much imbricated flowers, 6 or more stamens with the anther turned inward, and the radicle next tho hilum. They are generally bulbous plants,

Fig. 99.

sometimes fibrous-rooted, occasionally with a tail, cylindrical woody stem. They are found in countless numbers in South America, West and East Indies; some species of the genera narcissus and galanthus only are

found in northern countries. This is one of the few monocotyledonous ord. in which poisonous properties occur. They are principally apparent in the viscid juice of the bulbs of *Hæmanthus toxicarius*, in which the Hottentots are said to dip their arrow-heads, and *amaryllis Hippeastra*, which is employed for poisoning in the West Indies.—The ord. is divided into the tribes *Amaryllieæ*, and *Narcisseæ*, *Alströmerieæ*, and *Agaveæ*, q. v.

Amaryl'lis, the name of a country woman in Virgil's Eclogues. Some commentators have supposed that the poet spoke of Rome under this fictitious name.

(*Bot.*) A gen. of plants, tribe *Amaryllieæ*, including numerous beautiful species, many of which are highly poisonous

Amaryn'thus. (*Myth.*) A village of Eubœa, whence Diana is called Amarysia, and her festivals in that town, Amarynthiæ.

Am'asa. [Heb., *burden.*] Son of Ithra or Jether, by Abigail, David's sister. He was pardoned by David, though he had fought against him in the army of Absalom, and appointed Joab's successor. Joab afterwards stabbed him with his sword, which he held in his left hand. (2 Sam. xx. 10.)

Am'asai. [Heb., *burdensome.*] Chief of the captains of Judah and Benjamin, who joined David at Ziklag. (1 Chr. xii. 18.)

Amasi'ah, son of Zichri, and captain of 200,000 warriors of Judah, under Jehoshaphat. (2 Chr. xvii. 16.)

Ama'sieh, or AMASIYEH, the ancient *Amasia*, a town of Turkey in Asia, cap. of a sanjiac of same name, in the E. part of Natolia, on the Jekil-Irmak or Yeskil-Irmak, 95 miles N.W. of Sivas; lat. 40° 32′ N.; lon. 36° 26′ E. Great quantities of silk and wine are produced in the surrounding country, and some branches of the silk manufacture are carried on in the town, which has a considerable trade. It was anciently the capital of the kings of Pontus. It is the birthplace of the king Mithridates, and of the geographer Strabo. *Pop.* about 25,000.

Amass', *v. a.* [Fr. *amasser.*] To collect together into a heap or mass; —in a figurative sense, to add one thing to another.

Amassette', *n.* [Fr.] (*Paint.*) An instrument of horn used for collecting painters' colors on the stone, &c.

Amass'ment, *n.* A heap collected; an accumulation.

Amasthen'ic, *a.* [Gr. *ama*, together, *sthenos*, force.] The same as AMACRATIC.

Amatem'bu, or TAM'BOUKIS, a tribe of the Caffres, South Africa.

Amateur', *n.* [Fr. from Lat. *amator*, a lover.] A person having a taste for a particular art, yet not professing, nor being dependent upon it.

Amateur'ship, *n.* The quality or character of an amateur.

Ama'thus. (*Anc. Geog.*) A city on the S. side of the island of Cyprus, especially dedicated to Venus. The island is sometimes called Amathusia. *A.* is now named Limmesol.

Ama'ti, ANDREA and ANTONIO, father and son, eminent as violin-makers. Andrea lived in the 16th, and Antonio in the 17th century, at Cremona, Italy. Their instruments, named *Amati* or *Cremonas*, now bear a high price.

Am'ative, *a.* Full of love; amorous; amatory.— *Webster.*

Am'ativeness, *n.* [From Lat. *amare*, to love.] (*Phren.*) The organ of sexual desire; propensity to love.

Amat'lan, a district of Central America, with a rich and fertile soil. Cochineal is produced here. It is 20 miles from Guatemala.

Ama'to, GIOVANNI ANTONIO D', a distinguished Neapolitan painter, B. 1475; D. 1555.

Amato'rial, *a.* [Lat. *amatorius.*] Relating to love: as *amatorial* sonnets.

—Produced by illicit intercourse; as, *amatorial* progeny.— *Webster.*

(*Anat.*) A term given to the muscle of the eye, by which that organ is moved in ogling.

Amato'rially, *adv.* In an amatorial manner.

Amato'rian, *a.* Pertaining to love; amatory.

Amato'rious, *a.* [Lat. *amatorius.*] Pertaining to love. (o.)

Am'atory, *a.* Relating to love; causing love; as, *amatory* potions.

Amatri'ci, a town of Southern Italy, prov. of Aquila, 22 m. N. of Aquila; *pop.* 5,725.

Amauro'sis, *n.* [Fr. *amaurose*, from Gr. *amauros*, dark.] (*Med.*) A disease of the eye, named also *Gutta serena* (drop serene), and *Amblyopia*, attended with a diminution or total loss of sight, without any visible injury to the organ, and arising from a paralytic affection of the retina and optic nerve. It arises generally from compression of the optic nerves, *amaurosis compressionis;* from debility, *amaurosis atonica;* from spasm, *amaurosis spasmodica*; or from poisons, *amaurosis venenata.*—The symptoms of amaurosis are noted for being very irregular. In many cases, the pupil is very much dilated, immovable, and of its natural black color. Sometimes, however, in the most complete and incurable cases, the pupil is of its natural size, and the iris capable of free motion. In some cases the pupil has a dull, glassy, or horny appearance. Sometimes its color is greenish, occasionally whitish and opaque, so as to be liable to be mistaken for an incipient cataract. The blindness produced by amaurosis is generally preceded by an imaginary appearance of numerous insects, or substances like cobwebs, interposing themselves between objects and the eye. The origin of a cataract, on the other hand, is usually attended with a simple cloudiness of vision. Violent contusions of the head, apoplectic fits, flashes of lightning, frequent exposure to the rays of the sun, severe exercise, strong passions, drunkenness, and other causes of paralytic affections, are enumerated as producing this complaint. The disorder is generally difficult to be removed.

Amau'ry I., king of Jerusalem, succeeded his brother Baldwin III., in 1162. He was a courageous and enterprising prince, but these qualities were sullied by avarice and cruelty. D. 1173.

AMAURY II., king of Jerusalem, succeeded his brother, Guy de Lusignan, in 1174, and married Isabella, second daughter of Amaury I. The Saracens having taken his capital, he applied for assistance to the European princes; but before their succor arrived, he died, in 1205.

Am'ausite, *n.* A variety of felspar or ALBITE, *q. v.*

Amaxi'chi, a seaport town, cap. of Santa Maura, one of the Ionian islands. It is separated from the strong castle of Santa Maura by a lagoon a mile wide. It is the see and residence of a bishop of the Greek Church. *Pop.* 7,000.

Amaze', *v. a.* [From *a* and *maze*, perplexity.] To confuse with terror and astonishment.

"Yea, I will make many people *amazed* at thee, and their kings shall be horribly afraid of thee." — *Ezek.* xxxii. 10.

—To put into confusion with wonder.

"Go, heav'nly pair . . . . *amaze* and charm mankind." — *Smith.*

—To put into perplexity.

"That cannot choose but *amaze* him. If he be not *amazed*, he will be mocked; if he be *amazed*, he will every way be mocked."—*Shak.*

Amaze', *n.* Used in poetry as a synonym of AMAZEMENT, *q. v.*

"Then casting back his eyes with dire *amaze*,
Sees, on the Punick shore, the mounting blaze!" — *Dryden.*

Amaz'edly, *adv.* Confusedly; with amazement; with confusion. (R.)

Amaz'edness, *n.* The state of being amazed; astonishment; wonder; confusion.

Amaze'ful, *a.* Full of amazement.

Amaze'ment, *n.* Such a confused apprehension as does not leave to reason its full force; extreme fear; horror.

"But look! *amazement* on thy mother sits:
O step betweeu her and her fighting soul." — *Shaks.* (*Hamlet.*)

—Extreme dejection.

"He ended, and his words impression left
Of much *amazement* to th' infernal crew." — *Milton.*

—Height of admiration.

"Had you, some ages past, this race of glory
Run, with *amazement* we should read your story." — *Waller.*

—Astonishment; wonder at an expected event.

"They were filled with wonder and *amazement* at that which had happened unto him." — *Acts* iii. 10.

Amazi'ah, son of Joash I., and eighth king of Judah, succeeded his father at the age of 25. He blended idolatry with the worship of God. With the assistance of the Israelites, he defeated the Edomites in the valley of salt; but afterwards commenced war on his allies, by whom he was taken prisoner. Slain by his own subjects, 810 B. C.

Amaz'ing, *a.* Wonderful; astonishing.

Amaz'ingly, *adv.* To an amazing degree; wonderfully.

Am'azon, *n.* [Fr. *amazone*, from Gr. *a*, priv., and *mazos*, the breast.] One of the AMAZONS, *q. v.*—A warlike woman; a virago.—In French fashions, the name *A.* is also applied to a long dress worn by ladies when riding; and extensively to lady-equestrians themselves.

Am'azon, in *Illinois*, a village of Boone co., abt. 15 m. N.E. of Belvidere.

Am'azons, *n. pl.* A race of female warriors, of Scythian origin, dwelling on the banks of the Thermodon, in Cappadocia. In order to use their weapons with greater force and precision, their right breasts were burned off or destroyed at an early age. They are mentioned by Homer and Herodotus, but all accounts concerning the *A.*, although repeated by many authors, have been rejected as fabulous.—The name of *A.* is now given to the female body-guard of the king of Dahomey, in W. Africa, *q. v.* They are remarkable for the valor and ferocity they exhibit when engaged in warfare.

Am'azons, AMAZON, or MARAÑON, the largest river in the world, not only for the length of its course, but also for the extent of country watered by its noble stream, and great tributaries. It rises in *Lake Lauricocha*, 14,000 feet above the sea, in 10° 30′ S. Lat., near the town of Cerroda Pasco, in Peru. Under the name of *Upper Marañon* or *Tunguragua*, it runs N.N.W. through a longitudinal valley of the Cordilleras, up to about 5° of S. Lat., or 350 m. The direction of its course is then changed to the N.E. for about 50 or 60 m., and in this part of its course, the river descends from the high valley of the mountains to the E. plain, by the long rapid called the *Pongo de Manseriche*. On entering the plain, the *Tunguragua* receives from the right, the *Huallaga* or *Guallaga*, and between the 4th and 5th degree of S. Lat. the waters of the river are increased from the left by the two rivers *Pastuga* and *Tigre*. Then the Tunguragua meets at *St. Joaquim de Omaguas*, its rival the *Ucayali*, which rises near the 14th S. parallel, and is considered the true source of the Amazon by those who think that the stream which runs furthest from the mouth has the best claim to the honor of being considered its source.—From its junction with the Ucayali, the Tunguragua is called Amazon or Marañon. The river running then nearly in an E. direction, enters the Brazil at Tabatinga, and receives from the north the *Napo*, the *Putumayo*, and the *Rio Negro*, which is, by far, the largest of the northern tributaries of the *A.* river. Its whole course is about 1,400 m., and it may well be compared with the Mississippi before its junction with the Missouri. To the E. of the Rio Negro, a few other rivers fall into the *A.* on its north side. They rise in the mountains of French Guiana, but have a comparatively short course. From the S. the *A.* receives the *Yavari*, a small river, but of political importance, as forming the boundary between Brazil and the republic of Peru, the *Putuia*, the *Purus*, the *Tefe*, the *Purus*, the *Madeira*, the *Topayos*, and the *Xingu*. All the country between the rivers Ucayli and Turus may be considered as unknown; but the Madeira, the largest of the tributaries of the *A.*, is pretty well known, even in its upper branches. Its whole course extends to upward of 1,800 m., and is navigable almost in its entire length. Toward its embouchure, the *A.* divides into two branches, of which the northern is by far the broadest, and retains its name. The southern, called *Jagypura*, runs south of the island *Marajo*, and joins on the eastern side of the island the river *Tocantins*, q. v., which after this junction is called the river *Para*. The width of the channel between the island and the continent is about 18 m., widening toward its mouth to 30 m. The two branches of the *A.*, united to the river Para, terminate by a mouth upward of 150 m. in width. The width of the *A.* averages from one to two m. in the upper part of its course; but lower down it grows much wider, and after its junction with the Xingu it is hardly possible to perceive its opposite banks.—From the sea to the mouth of the Rio Negro, the depth of the main channel is nowhere less than 30 fathoms; higher up, it varies from 10 to 12; and up to the basin of Omaguas, near the junction of the Tunguragua with the Ucayali, there is depth of water for vessels of almost every description. Higher up, those vessels only can proceed with safety, which do not draw more than 5 or 6 feet water.—The shoals of the river are very numerous, and the navigable channels in many places narrow, winding, and subject to continual changes. The banks of the river being low, are subject to be under water, owing to freshets and great overflow in the rainy season; when these happen, the country is inundated for many miles on each side of the river, the whole of the innumerous islands are covered with water, and often either change their situation, or are formed into new ones. The islands of the *A.* are almost innumerable, and of all sizes; many are from 12 to 15 m. in circumference, and some from 30 to 36 m. The most remarkable are the islands of *Tupinambas*, *Marajo*, and *Caviana*, q. v. The tide which enters the river may be observed as far as the town of Obidos, 400 m. from its mouth. When it begins to ebb, and the sea-water receding liberates the imprisoned current of the river, the *A.* pours out with increased force and velocity into the ocean, and as it here meets, at no great distance from the land, the current which from Cape *St. Roque* runs along the N.E. coast of Brazil, it gives rise to that phenomenon called by the Indians *Pororoca*. The river and the current, having both great rapidity, and meeting nearly at right angles, come into contact with great violence, and raise a mountain of water to a great height. The shock of these two bodies of water is so powerful, that its sound is heard for miles around. It may be said that the river and the ocean contend for the empire of the waves, but yet they seem to come to a compromise, for the sea current continues its way along the coast of Guiana, and the current of the river is still observable in the ocean at a distance of 500 nautical miles from its mouth. The whole course of the *A.* from Lake Lauricocha to the sea is upward of 3,300 m.—The mouth of the *A.* was discovered in 1500, by Vincent Yanez Pinçon. In 1537, Francisco d'Orellana, a Spanish adventurer, having embarked on the Rio Napo, one of its remote tributaries, followed the current and was carried down the stream to its embouchure. Having reported that armed women were met with on its banks, it thence obtained its popular name of *A.*—The origin of the name Marañon is probably derived from that of an Indian nation inhabiting some parts of its banks. The *A.* was first described by M. de la Condamine, a French traveller, who having embarked upon it, in 1743, near Jaen, and followed the current to its mouth, gave an interesting account of the expedition, with a map of the river; Paris, 1745. The *A.* was explored in 1799 by Humboldt, and in 1867 by the illustrious naturalist Agassiz, who has made us familiar with the course of the river as far as Tabatinga. His attention was principally directed to the till then unknown Ichthyology of the Amazonian valley, and about 1,900 new species of fishes were discovered and ascertained by him. The valley of the *A.* was again explored in 1870 by Prof. F. C. Hartt, of Cornell University. In the month of June, 1865, the Peruvian government sent a steamer up the Ucayli, and its tributary the Pachitea, with the view of ascertaining if it would be possible to establish an easy communication by a watery road, up to the town of Mayro, at the bottom of the Andes of Upper Peru, E. from Lima. This expedition resulted in the death of two officers, killed and eaten by the natives, on the banks of the Pachitea. A second expedition, sent some months after for the purpose of avenging the death of the officers, was more successful. The Indians were chastised, and the steamer, by pursuing its way up the Pachitea, and the Palcazu, has proved the navigability of those rivers up to Mayro. From Mayro to Lima, a distance supposed to be about 400 m., a road is to be opened, which will put the valley of the *A.* in direct communication with the shores of the Pacific ocean. The country immediately on the banks of the *A.* is very low, subject to be inundated, and therefore unfit for cultivation; but further from the banks it rises and is much diversified with low hills covered with tall trees. The mature growth of these trees, the hardness of their wood, and their vigorous vegetation, bear unequivocal testimony to the richness of

soil in which they grow. But it is almost entirely without culture, and, with the exception of a few spots where the Portuguese and Spaniards have settled, it is only inhabited by the native savages, who roam about in the immense forests, and live by hunting. The mineral wealth of the Amazonian valley is absolutely unexplored. In 1867, the emperor of Brazil opened the river to the free navigation and trade of the world, a liberal and politic step, from which it may be foretold that the basin of the *A.* will date its æra of civilization. Great encouragement is also given to foreign immigration. But it would be dangerous for foreign companies to compete with the Brazilian steamers, which receive large subsidies from the government, and in other ways it remains to be experienced, whether or not the white race is able to perform agricultural labor under the tropical sun of the *A.* From the difficulty, if not impossibility of enslaving its immense and tempestuous waters; from the indolence of the natives, the intense heat of the climate, and the price of manual labor, it may be predicted that centuries will pass away before the Valley of the *A.* may compete in civilization and wealth with the temperate valley, watered by its northern rival, the Mississippi. Of late years the Amazon has attracted much attention, and exploring parties from the U. S. and other countries have added considerably to our knowledge of this great river and its capabilities.

Fig. 100.—PASHUIBA PALM. *(Iriartea exorhiza.)*

Amazo'nian, *a.* Like an amazon; of masculine manner; warlike;—specially applied to women.

(Geog.) Belonging to the river Amazons, or to its valley.

Ama'zula, or ZULUS, a tribe of Caffres, South Africa. They inhabit the territory between Natal and the Portuguese frontier at Delagoa Bay.

Amb-. [Lat. *ambi, amb;* A.S. *emb.*] A prefix found in words derived from the Latin, and signifying about; around.

Amba'ges, *n. pl.* [Lat. from *ambi*, and *agere*, to drive.] A circuit of words; a circumlocutory form of speech; a multiplicity of words; an indirect manner of expression.

"They gave these complex ideas names, without long *ambages* and circumlocutions."—*Locke.*

Ambag'ious, AMBA'GIOUS, and AMBIG'ITORY. [Lat. *ambagiosus.*] Circumlocutory; perplexed; tedious; indirect. (R.)

Ambala'ga, a town in the island of Madura, Malay Archipelago; *pop.* 4,000.

Ambarva'lia. [Lat. from *ab ambiendis arvis*, going around the fields.] Processions round ploughed fields, celebrated by the Romans in April and July, in honor of Ceres, the goddess of corn. They went three times round their fields, crowned with oak-leaves, singing hymns to Ceres, and entreating her to preserve their corn. A sow, a sheep, and a bull, called *A. hostiæ*, were afterwards immolated, and the sacrifice has sometimes been called *suovetaurilia*, from *sus, ovis,* and *taurus.*

Ambas'sador, *n.* [A. S. *ambeht;* Fr. *ambassadeur.*] The name most commonly given to every kind of diplomatic minister or agent sent by one sovereign power to another to treat upon affairs of state. *A.* were employed in very ancient times. Moses sent messengers to the king of Edom to request a passage through his territories (Num. xx. 14-21), B. C. 1452; and David made war upon the Ammonites because their king ill-used his messengers and treated them as spies (2 Sam. x.) B. C. 1058. Embassies were anciently sent only on particular occasions, but with the progress of commerce and civilization, the intercourse between States became so great, and their interests so complicated, that it was found expedient, and therefore customary, for one power to have its *A.* residing constantly at the court of another. The ordinary functions of an *A.* are, to conduct negotiations on behalf of his country, according to the powers intrusted to him, and to watch over the accomplishment of all existing engagements. He has also duties to perform toward private individuals of his own nation; such as to provide them with passports; to protect them from violence and injustice, and secure for them the full benefit of the laws. It is a duty between nations at peace with each other to receive reciprocally their *A.* and insure to them perfect security. A refusal to receive an *A.* properly accredited, if made without sufficient cause, is considered a gross insult to the power he represents. The more essential privileges of an *A.* are, that no legal process can affect him, in his person or property, so much of his property, at least, as is connected with his official character, such as his furniture, equipage, &c., &c., but the title of Extraordinary being considered more exalted, is now usually bestowed even upon those who are regularly resident. The rank and pomp attached to the office of *A.* being attended with considerable expense, it was found expedient to employ ministers under other denominations, who, though inferior in point of dignity, should be invested with equal power. The chief difference by which all the lower orders of diplomatic agents are distinguished from *A.* properly so called, is, that they are the representatives, not of the personal dignity of their sovereign, or of an executive power, but merely of the affairs and interests of their country. To this order belong envoys, ordinary and extraordinary, and the ministers-plenipotentiary. The United States is now represented by an *A.* at the courts of Great Britain, France, Germany, and Italy, each of which nations sends an officer of equal rank to Washington.

Ambassado'rial, *a.* Belonging to an ambassador.

Ambas'sadress, *n.* A woman sent on an embassy. The wife of an ambassador.

Ambat'iki, an island in the S. Pacific, of the Feejee group; Lat. 17° 47′ S.; Lon. 179° 11′ W. It attains an elevation of 750 feet, in the form of a dome. *Pop.* 500.

Amba'to, a town in the rep. of Ecuador, S. America, near the foot of Mount Chimborazo, 8,837 feet above sea-level; *pop.* 13,000.

Am'be, *n.* [Gr., an edge.] *(Anat.)* A superficial eminence on a bone.

(Surg.) An old instrument once used for reducing dislocations of the shoulder. Its invention is imputed to Hippocrates.

Ambela'kia, a town of Turkey in Europe, in Thessaly, on the W. declivity of Mount Ossa, near the Peneus, 15 m. N.N.E. of Larissa; *pop.* about 4,000.

Am'ber, or **Succinite.** [Fr. *ambre*, from Ar. *ambar.*] *(Min. and Chem.)* A beautiful fossil resin of trees belonging to the ord. *Conifera*, now extinct. It occurs in beds of lignite, in Germany, France, &c.; but the greatest portion of it comes from the S. coast of the Baltic sea. It takes a good polish; when rubbed, it becomes electrical, and the word *Electricity* is derived from the Greek name of amber, *Electron.* It is a hard, brittle, tasteless substance, at times perfectly transparent, but mostly semi-transparent or opaque, and of a glossy surface. It occurs of all colors, but chiefly yellow or orange, and microscopic fungi and insects are often found preserved in it. Its fracture is even, smooth, and glossy. When rubbed or heated, it gives a peculiarly agreeable smell, particularly when it melts, that is at 550°. Projected on burning coals, it burns with a whitish flame, but gives very little soot, and leaves brownish ashes. It is soluble in sulphuric acid, and is precipitable from it by water. Nitric acid converts it into a resinous substance, and dissolves it totally. *Density*, from 1·065 to 1·070. *Comp.* carbon 80·59; hydrogen 7·31; oxygen, 6·73; ashes (lime, silica, alumina) 3·27; loss 2·10 = 100.—*A.* is employed for ornamental purposes in the manufacture of necklaces, &c. It is used also for preparing amber varnish, for obtaining a peculiar oil used in medicine, and yields succinic acid employed in chemical investigations.

Am'ber, *a.* Consisting of amber.

—*v. a.* To scent with amber.

Am'ber Drink, *n.* Drink of the color of amber.

Am'berg, a town of Bavaria, on the Vils, 31 m. N.N.W. of Ratisbon. It was formerly the capital of the Upper Palatinate. *Manf.* fire-arms, earthenware, tobacco, iron, and woollen and linen fabrics. Lat. 49° 25′ N.; Lon. 11° 50′ E. *Pop.* 12,942.

Amber'ger, CHRISTOPH, a German painter, B. at Nüruberg, 1490. His principal work is the "History of Joseph," in 12 pictures; D. 1568 or 1569.

Am'bergris, *n.* [Eng. *amber*, and Fr. *gris*, gray.] *(Chem.)* An ashen-gray, light, soft substance, which is found floating in water; spec. grav. ·78 to ·92; smell, agreeable; taste, insipid; soluble in alcohol and depositing crystals. It is a concretion apparently formed in the stomach or intestines of the *Physeter macrocephalus*, or spermaceti whale. The best kind comes from the coasts of Madagascar, Surinam, and Java. It is occasionally found in large masses, sometimes of the weight of upwards of 200 lbs. When first found floating in the sea, it is soft, and of a very strong smell; this diminishes by degrees, as it hardens by exposure to the air, and ultimately becomes highly aromatic. The active principle contained in *A.* is chiefly used as a perfume, generally in the form of an alcoholic solution. The Orientals use it as an aphrodisiac, and esteem it highly. It has also been used in nervous diseases.

Am'bergris Key, an island in the Bay of Honduras. 30 m. from Belize, about 30 m. long, and 3 broad. Lat. 18° 50′ N.; Lon. 87° 48′ W.

Am'ber Seed, *n.* The seed of the *Hiliscus abelmoschus.* It resembles millet, is brought from the West Indies and Egypt, is of a bitterish taste, with a flavor resembling that of musk. It is also called musk-seed.

Am'berson's Valley, in *Pennsylvania*, a post-office of Franklin co.

Am'ber-tree, *n (Bot.)* See ANTHOSPERMUM.

Am'bert, a town of France, cap. of an arrond. in the dep. of Puy de Dôme, 36 m. S.E. of Clermont. From 50 to 60 mills are employed in fine printing and engraving. *Pop.* 7,661.

Am'ber-weeping, *n.* Distilling amber.

Ambidex'ter, *n.* [Lat. *ambo*, both, and *dexter*, the right hand.] One who can use both hands with equal facility, and for the like purposes that the generality of people do with their right hands. A person acting with both sides.

(Law) A juror who takes bribes from both parties to influence his verdict.

Ambidexter'ity, and **Ambidex'trousness,** *n* The quality of being able to use both hands; double-dealing.

Ambidex'trous, *a.* Having with equal facility the use of either hand; double-dealing; practising on both sides.

Am'bient, *a.* [Fr. from Lat. *ambiens.*] Surrounding; accompanying; investing. Thus, the air is frequently called an *ambient* fluid, in consequence of being diffused round all terrestrial bodies.—This word is sometimes found used by old authors as a noun; as, "Air is a perpetual *ambient.*"

Ambig'enal, *a.* [Lat. *ambo*, both, and *genu*, knee.] *(Math.)* A term applied to a hyperbole of the third order, one of whose infinite branches is tangent to the asymptote within, and the other without the angle which the asymptotes form with each other.

Am'bign, *n.* [Fr.] An entertainment, consisting of a medley set on the stage at the same time.

Ambigu'ity, *n.* [Fr. *ambiguité*, from Lat. *ambiguus.*] The quality or state of being ambiguous; doubtfulness of meaning; uncertainty of signification; double meaning.

"We can clear these *ambiguities*,
And know their spring, their head, their true descent."—*Shaks.*

Ambig'uous, *a.* [Fr. *ambigu*, from Lat. *ambigere*, to wonder about.] That quality of an expression which leaves us in doubt which of two ways to take in it, and, by an extension of meaning, which leaves us in doubt generally; equivocal; doubtful; conjectural.

Ambig'uously, *adv.* In an ambiguous manner; doubtfully; with a dark meaning.

Ambig'uousness, *n.* The quality of being ambiguous; uncertainty of meaning; duplicity of signification.

Ambile'vous, *a.* [Lat. *ambo*, both, and *lævas*, on the left side.] Left-handed on both sides;—opposed to *ambidextrous.*

Ambi'orix, a king of the Ebnrunes, in Gaul. He was a great enemy to Rome, and was killed in a battle with Cæsar, in which 60,000 of his countrymen also fell.

Am'bit, *n.* [Lat. *ambitus*, circuit.] The compass or circuit of anything; the line that encompasses anything.

(Geom.) The perimeter or periphery of a plain figure. (R.)

Ambi'tion, *n.* [Fr. *ambition;* Lat. *ambitio*, from *ambire*, to go about, as they did in ancient Rome when canvassing for office.] A tendency to self-raising, which may be either moderate or immoderate; aspiration; emulation; appetition.

Ambi'tionless, *a.* Devoid of, or without ambition.

Ambi'tious, *a.* [Lat. *ambitiosus;* Fr. *ambitieux.*] Seized or touched with ambition; desirous of advancement, eager of honor, power, distinction, &c.; aspiring.

"The neighb'ring monarchs, by thy beauty led,
Contend in crowds, *ambitious* of thy bed."

—Indicating ambition; as, an *ambitious* style.

Ambi'tiously, *adv.* In an ambitious manner.

Ambi'tiousness, *n.* The quality of being ambitious.

Am'bitus, *n.* [Lat.] The external edge or border of a thing, as the border of a leaf, or the outline of a bivalve shell;—circumference; circuit.

(Arch.) The open space round a building.

(Hist.) In ancient Rome, the act of setting up for some magistrature or office, and formally going round the city to solicit the interest and votes of the people.

(Mus.) The particular extent of each tone, or modification of grave and sharp.

Am'ble, *v. n.* [Fr. *ambler*, from Lat. *ambulare*, to walk.] To move upon an amble; to pace quickly.

—In a ludicrous sense, to walk affectedly.

"I am rudely stampt, and want love's majesty,
To strut before a wanton, *ambling* nymph."—*Shaks.*

Am'ble, *n.* [Fr.] A pace or movement in which a horse removes both legs on one side; thus, on the off side he removes his fore and hinder leg at the same time, whilst the legs on the near side stand still: and when, in turn, the off legs are upon the ground, the fore and hind legs on the near side are removed, and the off-side legs are still. An *amble* is the first pace for young colts, which they quit when they get strength enough to trot. There is no *amble* in the manege; riding-masters allow of walk, trot, and gallop only. A horse may be put from a trot to a gallop without stopping; but cannot be put from an *amble* to a gallop without a stop, which interrupts the justice of the manege.

Am'bler, *n.* A horse which ambles; a pacer.

Am'bler's Mills, in *Virginia*, a hamlet of Louisa co.

Am'bletense, a small maritime town of France, dep. of Pas de Calais, 6 m. N. of Boulogne. It was formerly a sea-port of importance: and both Louis XIV. and Napoleon endeavored, by improving its harbor, to regain for it some portion of its ancient consequence. But owing to the accumulation of sand, their efforts have had no permanent influence, and the town is almost deserted. *Pop.* 600.

Am'bling, *n.* The motion of a horse that ambles.

—*p. a.* Moving with an amble.

Am'blingly, *adv.* With an ambling movement.

Am'blygon, *n.* [Gr. *amblys*, obtuse, and *gonia*, angle.] *(Geom.)* An obtuse-angled triangle.

Amblyg'onal, *a.* Having an obtuse angle.

Amblyg'otine, *n. (Min.)* A triclinic mineral, having a pearly lustre, and generally a pale mountain or sea-green color. It contains alumina, lithia, and fluorine. It is found in *Maine*, at Hebron.

Amblyrhyn'chus, *n. (Zoöl.)* A gen. of lizards resembling the iguanas, found in the Galapagos islands. They are very ugly animals, but harmless.

Am'boise, BUSSI D'. See BUSSI.

Am'boise, GEORGE D', a French cardinal, and minister of state, B. 1460. He became successively bishop of

Montauban, archbishop of Narbonne, and of Rouen. Louis XII. made him prime-minister. He was one of the wisest statesmen France ever had. He reformed the church, remitted the people's burdens, and conscientiously labored to promote the public happiness. D. 1510.

Am'boise, AYMERIE D', a famous French admiral, and brother of George d'Amboise, *q. v.* He became, in 1503, Grand-Master of the Knights of St. John in Rhodes, and gained a splendid victory over the Sultan of Egypt, in 1510. D. 1512.

Am'boise, a town of France, dep. of Indre-et-Loire, on the left bank of the Loire, 15 m. S.E. of Tours. It stands on the foot of a hill on whose summit there is an ancient fortress celebrated in French history. This castle, which is of vast extent, was commenced under Hugues Capet, and finished under Charles VII. It was a favorite residence of Louis XI., and in it Charles VIII. was born in 1470, and D. 1498. It is famous as the birthplace of the conspiracy, called the *Conjuration d'Amboise*, against the Guises, concocted in 1560. It was here too, as some say, that the Calvinists, in 1568, were first called Huguenots, a term which, though applied to them contemptuously, signifies only confederates. It suffered very much during the religious wars. The views from the towers and battlements are superb. *Pop.* of the town, 4,570.

Am'boor, a town of Hindostan, in the Carnatic, district S. Arcot, 108 m. W.S.W. of Madras. Lat. 12° 50′ N.; Lon. 78° 46′ E.

Am'boy, in *Illinois*, a flourishing city of Lee co., on Green river, 95 m. W. by S. of Chicago. *Pop.* 2,257.

Am'boy, in *Iowa*, a village of Washington co., 32 m. W.S.W. of Muscatine.

Am'boy, in *Michigan*, a township of Hillsdale co.; *pop.* (1890), 1,232.

—a post-village in the above township, on Silver creek, abt. 35 m W.S.W. of Adrian.

Amboy, in *New York*, a post-township of Oswego co., abt. 17 m. S.E. of Pulaski.

Amboy, in *Ohio*, a post-village of Ashtabula co., abt. 30 m. W.S.W. of Erie city.

—a township of Fulton co.

Amboy Centre, in *New York*, a post-village of Oswego co., in Amboy township.

Amboy'na, the principal of the Molucca or Spice islands, in the Eastern seas. Lat. 3° 46′ S.; Lon. 127° 59′ E. Its length is about 32 m., and its average breadth 10 miles. Its S.W. coast is indented by a bay so deep, that the island is nearly divided by it into two unequal levels, which are connected by a narrow isthmus. *A.* is mountainous, and abundantly furnished with trees and underwood. It is considered healthy, notwithstanding the great heat of the climate. It was first discovered by the Portuguese in 1515. It was taken by the Dutch in 1607, and in 1615 by the English, who, soon after expelled by the Dutch, captured the island a second time in 1796, and restored it at the peace of Amiens. They recaptured it in 1810, but it was finally restored to Holland by the treaty of Paris in 1814.—The main object of the different European powers, who endeavored to possess themselves of *A.*, was to monopolize the trade in cloves, the cultivation of which spice forms the principal object of industry with the natives. With the desire of keeping the cultivation of the clove-tree completely within their power, the Dutch caused it to be extirpated from every island with the exception of *A.*, where they provided for a sufficient production of the spice, by obliging every native family to rear a certain number of clove-trees. The cloves are collected twice a year; the average quantity produced in the island exceeds 600,000 lbs. The sago-tree grows in *A.*, which also produces all the vegetables and fruits commonly found in that quarter of the globe. The woods contain great numbers of deer and wild hogs, the flesh of which forms a principal article of food with the natives. Buffaloes, cows, horses, sheep, and goats, have been introduced by the Portuguese and Dutch from Java and Celebes.—*A.* is inhabited by four different races of people, the Aborigines, the Amboynese, Chinese, and Europeans. The first of these races, called Horaforas, wild and savage, are now much reduced. The Amboynese are the descendants of Malays, and were found on the island when the Portuguese first landed there: the greater part of them profess the religion of Mohammed; a few have been converted to the Catholic faith by the Portuguese, or to Lutheranism by the Dutch. The Chinese settled at Amboyna are not numerous; but they are very industrious and enterprising traders. Still fewer are the European race of inhabitants. They are principally Dutch, and the descendants of Dutchmen, many of them being the offspring of Amboynese mothers. *Pop.* about 50,000.

Amboy'na, or AMBOINA, the principal town of the above island, on the S.E. side of the bay of Binnen, near Fort Victoria, in 3° 40′ S. Lat. and 128° 75′ Lon. It is clean, neat, and regularly built. *Pop.* 8,966.

Amboy'na Wood, a beautiful mottled and curled wood, varying in color from orange to a chestnut-brown; said to be obtained from the *pterospermum Indicum.*

Amboynese', *n. sing. and pl.* (*Geog.*) The natives, or a native, of Amboyna.

—*a.* Relating to Amboyna or its inhabitants.

Amboy, Perth. See PERTH AMBOY.

Ambo'zes, three small islands on the coast of Benin. Lat. 40° 15′ N.

Ambra'cius Sinus, a bay of the Ionian sea, near Ambracia, about 35 m. long, narrow at the entrance, but within, about 12 m. in breadth.

Am'breate, *n.* (*Chem.*) A salt formed by the combination of ambreic acid with a base.

Ambre'ic Acid. (*Chem.*) Obtained by heating ambreine with nitric acid, in yellow or white plates or masses, having a peculiar odor. It reddens litmus. Solid at 212°, it forms salts with bases. It is used as a perfume in the form of tincture. Composition uncertain.

Am'breine, *n.* [Fr.] (*Chem.*) Colorless needles, a white, brilliant, insipid solid, with an agreeable smell; obtained by digesting ambergris with hot alcohol. It distils without alteration. *Comp.* C. 83·37, H. 13·32, O. 3·31.

Am'brim, one of the islands of the New Hebrides, Pacific ocean: Lat. 60° 9′ 30″ S.; Lon. 167° 5′ E. It is about 50 m. in circumference.

Ambriz', a small African kingdom, S. of Guinea, with a port on the Atlantic, at the mouth of the Ambriz river, 70 m. N. of Loando. It has an extensive trade in gums, ivory, &c. *Cap.* Quebranza.

Ambriz', a town of S. Africa, prov. of Angola, belonging to the Portuguese. A Catholic church has lately been built at this place.

Ambrizette', a small kingdom of Africa, in South Guinea, between the rivers Congo and Ambrizette, with a town on the Atlantic, about 30 m. N. of Ambriz.

Ambro'cia. (*Anc. Geog.*) A city of Epirus, near the Acheron, the residence of king Pyrrhus. Augustus, after the battle of Actium, called it Nicopolis.

Ambroix', St., a town of France, in the dep. of Gard, 11 m. N.N.E. of Alais. *Pop.* 4,060.

Ambro'nes, a warlike nation of Gaul, who lived near the Alps, between Switzerland and Provence. They accompanied the Cimbri and Teutones in their invasion of the Roman territories, and were routed with great slaughter by Marius, 101 B. C. Their women, after a futile attack upon the Roman soldiers, who were following in pursuit of the flying foe, offered to yield on the condition that their chastity should be preserved. This proposition being rejected, they first slew all their children, and then themselves.

Am'brose, St., the son of a prætorian prefect of Gallia Narbonensis, who became governor of Liguria and Æmilia, and in 374 was consecrated archbishop of Milan, after a contest between the Arians and Catholics. In 383, he was deputed by the emperor Valentinian to prevail upon the tyrant Maximus not to enter Italy, and was successful in his mission. Subsequently, however, Maximus entered Italy, made himself master of the Western empire, and entered Milan in triumph. Valentinian sought refuge with Theodosius, who defeated Maximus, and restored the fugitive monarch to his throne. While Theodosius was in Italy, an insurrection arose in Thessalonica, in which the emperor's lieutenant was slain. Theodosius, out of revenge, put to death a great number of people in cold blood; soon after this massacre he came to Milan, and was about to enter the great church, when he was met on its threshold by Ambrose, who refused him admittance as a homicide; and it was not until a year afterward, and upon his showing tokens of repentance, that the prelate would admit him to Christian communion. B. at Treves, 340; D. 397. The best edition of the works of St. Ambrose is that of Paris, in 2 vols. fol., 1691. He composed that noble hymn, *Te Deum laudamus.*

Am'brose, in *Oregon*, a village of Jackson co., on Rogue river, about 10 m. N.N.W. of Jacksonville.

Ambro'sia, *n.* [Gr. from *ambrosios* immortal.] (*Myth.*) Festivals held in honor of Bacchus in cities of Greece, the same as the Brumalia of the Romans. The food of the gods was called *Ambrosia*, and their drink *Nectar.* It had the power of bestowing immortality on those who ate of it. It was sweeter than honey, and of a most odoriferous smell. It had also the power of healing wounds. Apollo, in Homer's Iliad, saves Sarpedon's body from putrefaction by rubbing it with ambrosia: and Venus heals the wounds of her son, in the Æneid of Virgil, with the same.

(*Bot.*) A gen. of the ord. *Asteraceæ.* They are herbaceous plants with mostly opposite leaves, and unsightly flowers. The species hog-weed (*A. artemisiæfolia*) is a common and troublesome weed of the gardens, fields, &c. It gives in Aug. and Sept. barren flowers, small, green in terminal racemes; the fertile ones settle about the axils of the upper leaves.

Ambro'sia, in *Iowa*, a hamlet of Lee co.

Ambro'sial, *a.* Partaking of the nature or qualities of ambrosia; fragrant; delicious; delectable.

Ambro'sialize, *v. a.* To render ambrosial. (R.)

Ambro'sially, *adv.* In an ambrosial manner.

Ambro'sian, *a.* Relating to, or resembling ambrosia.—Pertaining to St. Ambrose.

Ambrosian chant. The choral music introduced by St. Ambrose from the Eastern into the Western church. It was superseded by the Gregorian chant about the year 600.

Ambrosian library. See MILAN.

Ambro'sius Aure'lianus, king of the Bretons. He came from Armorica to assist in expelling the Saxons, who had been invited over; and on the death of that monarch, the sovereignty was vested in him. D. 508.

Am'brotype, *n.* [Gr. *ambrotos*, immortal, and *typos*, impression.] (*Photog.*) A picture taken on a plate of prepared glass, in which the lights are represented on silver, and the shades are produced by a dark background visible through the unsilvered portions of the glass.

Am'bry, *n.* [O. Fr. *ambrey.*] A place in which are deposited all utensils necessary for housekeeping.—In the ancient abbeys and priories there existed an office under this denomination, wherein were laid up all charities for the poor.

Ambrys'sus. (*Anc. Geog.*) A city of Phocis, destroyed by the Amphictyons, rebuilt and fortified by the Thebans before the battle of Chæronea, and taken by Quintus Flaminius in the Macedonian war. Its ruins may be seen near the village of Dystomo.

Ambs-ace', *n.* [Lat. *ambo*, both, and *ace*, q. v.] A double ace, two aces turned up at the same time by two dice.

Ambuba'jæ, or AMBUBALÆ, dissolute women of Syria, resembling the modern almè, who were in the habit of attending the festivals and public assemblies of Rome, as minstrels. Their name is derived either from the Syriac word *abub*, a flute, or from *am*, round, and *Baiæ*, the place which they generally frequented.

Ambula'cra, *n. pl.* [Lat. *ambulacrum*, an alley.] (*Zoöl.*) Prominences or perforations in the shell of the *Echinus*, or sea-urchin, from which extend the tentacles or spines used for prehension or locomotion.

Ambula'cral, *a.* Belonging to ambulacra.

Am'bulance, *n.* [Fr.] (*Mil.*) A flying hospital, so organized as to follow an army in its movements, and intended to succor the wounded with all haste.—A two or four-wheeled vehicle for conveying the wounded from the field; also, a similar vehicle used in cities, usually in hospital service or by police surgeons

Am'bulant, *a.* [Fr. from Lat. *ambulare*, to walk.] Moving from place to place.

Ambula'tion, *n.* [Lat. *ambulation.*] The act of walking. (R.)

Am'bulator, *n.* One who walks about.

(*Surv.*) An instrument for measuring distances; called also *perambulator.*

Am'bulatory, *a.* [Fr. *ambulatoire*, from Lat. *ambulatorius.*] That which has the power or faculty of walking; as, an *ambulatory* animal.—That which happens during a journey or walk. (R.)

"He was sent to conduct hither the princess Maria, of whom his majesty had an *ambulatory* view in her travels."—*Wotton.*

—Movable; as, an *ambulatory* court: a court which moves from place to place for the exercise of its jurisdiction.

(*Law.*) Movable; changeable; that which is not fixed.

Am'bury, *n.* See ANBURY.

Ambuscade', *n.* [Fr. *ambuscade;* L. Lat. *emboscata;* It. *imboscata;* Sp. *emboscada;* O. Sp. *embosques*, from *bosque*, a wood.] Literally, in the woods. (*Mil.*) A place where soldiers may lie concealed, till they find an opportunity to surprise the enemy;—an ambush. The purpose of an ambuscade may be to capture a post, a cantonment, a patrol, a drove of cattle, or a convoy of military stores or merchandise; or to seize upon some of the inhabitants, especially an important personage; also, to make a reconnoissance; or, again, to fall upon a troop, which is either upon a march, or already engaged in a combat.

Ambusca'do, *n.* Same as AMBUSCADE. (O.)

Am'bush, *n.* [Fr. from *en*, in, and *bois*, a wood.] Any mode of concealment adopted for purposes of stratagem; applied both in the literal and metaphorical sense.

—*v. a.* To place in ambush.

—*v. n.* To lie insidiously hidden.

Am'bushed, *p. a.* Placed in ambush.

Ambus'tion, *n.* [Lat. *ambustio.*] A burn or scald.

Amebe'an. See AMŒBEAN.

Ameer', *n.* See EMIR.

A'meilhon, HUBERT PASCAL, a learned Frenchman, B. 1730; author of the *History of the Commerce and Navigation of the Egyptians under the Ptolemies.* D. 1811.

Am'el, *n.* See ENAMEL.

Amelan'chier, *n.* (*Bot.*) A gen. of plants, ord. *Pomaceæ.* The *A. canadensis* is a small tree or shrub rarely exceeding 35 feet in height, found in woods in the United States. Its flowers, large, white, in terminal racemes, appearing in April and May, render the tree

Fig. 101.—AMELANCHIER CANADENSIS.
1 and 2. Flower and fruit—natural size.

quite conspicuous in the yet naked forest. The fruit, ripe in June, is not to be despised, either when eaten in a raw state, or cooked in tarts, pies, and puddings.

Am'el-corn, *n.* A species of corn used for making starch.

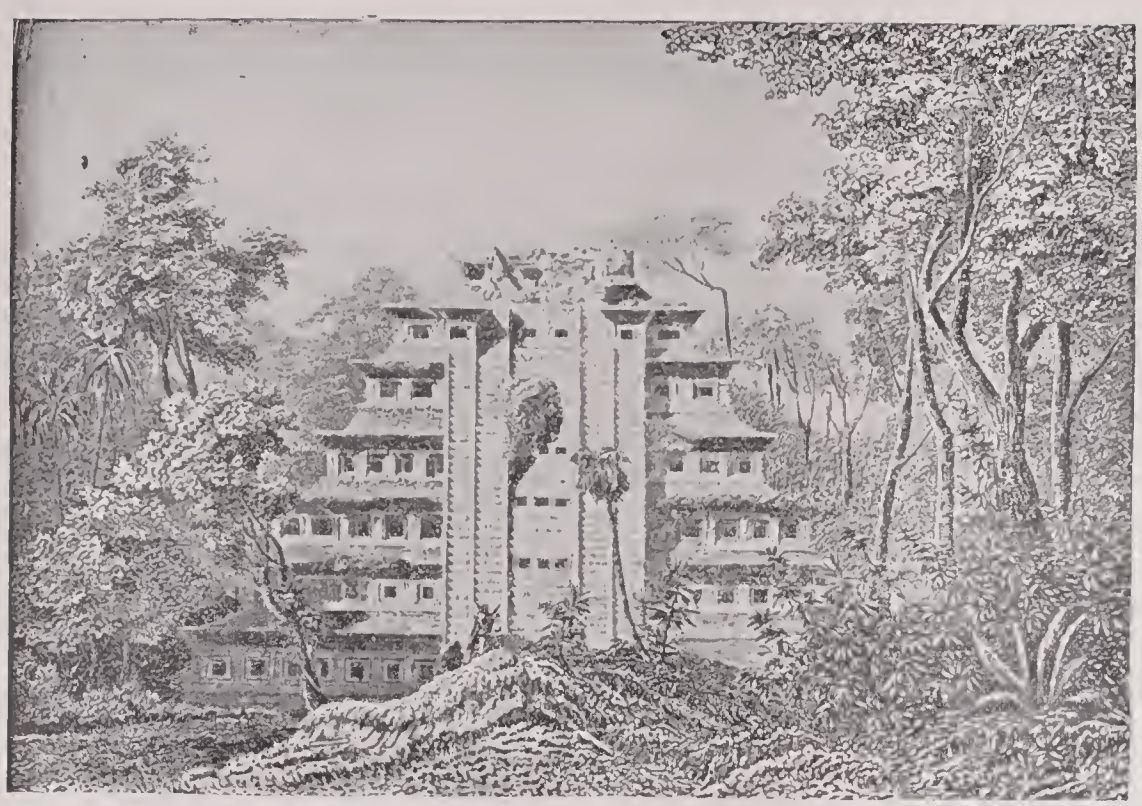
Am'eles. (*Myth.*) A river of hell, whose waters no vessel could contain.

Amelia, the wife of the duke of Saxe-Weimar, who, at an early age, lost her husband, but managed to preserve her little State intact during some of the most troublous times of the Continental wars. She resided in the city of Weimar, and invited the most distinguished men of letters to her capital. Wieland, Herder, Schiller, and Gœthe settled here, and enjoyed her patronage as well as her society. D. 1807.

Ame'lia, a town of Italy, prov. of Perugia, 23 m. S.W. of Spoleto. It is the anc. *Ameria*, one of the most considerable and ancient cities of Umbria. *Pop.* 7,024.

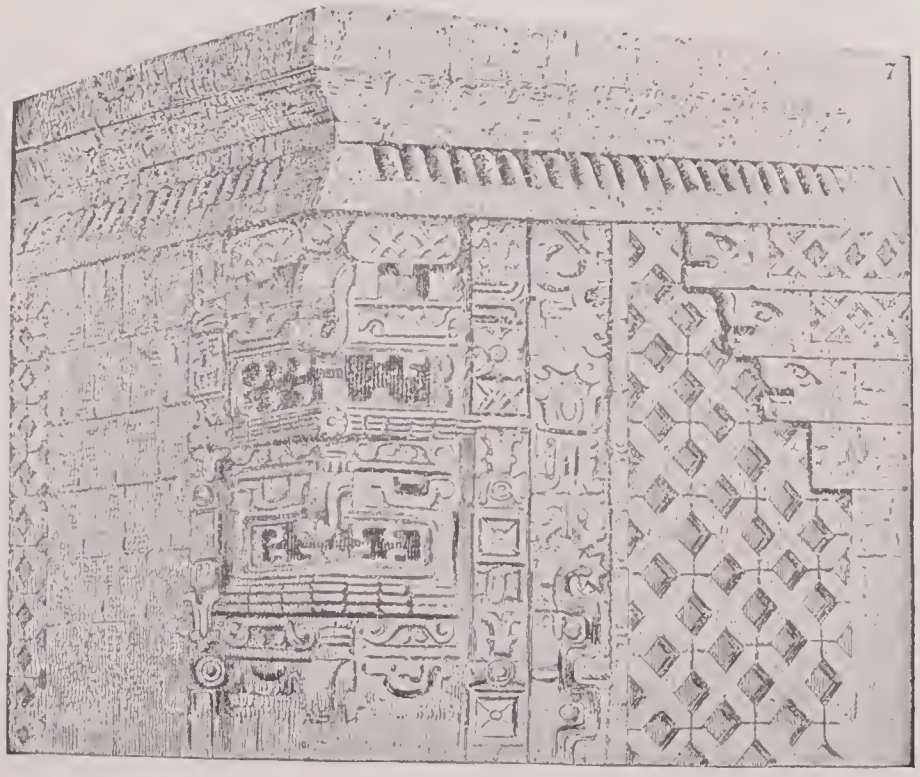
Ame'lia, an island on the N.E. coast of *Florida*, from which it is separated by a narrow channel; 40 m. N. of St. Augustine, between St. Mary's and Nassau rivers. Lat. 30° 28′ N. It is 20 m. in length, by 2 m. in breadth, and is fertile. Chief town, Fernandina.

Ame'lia, in *Ohio*, a post-village of Clermont co., in Batavia township, 25 m. E. by S. from Cincinnati.

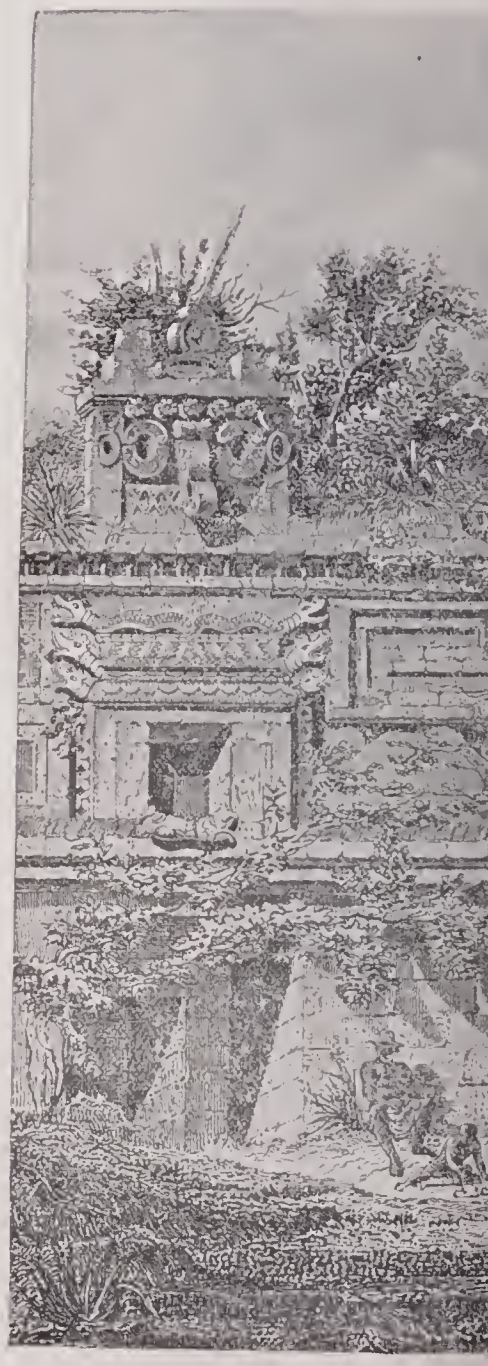


1

4



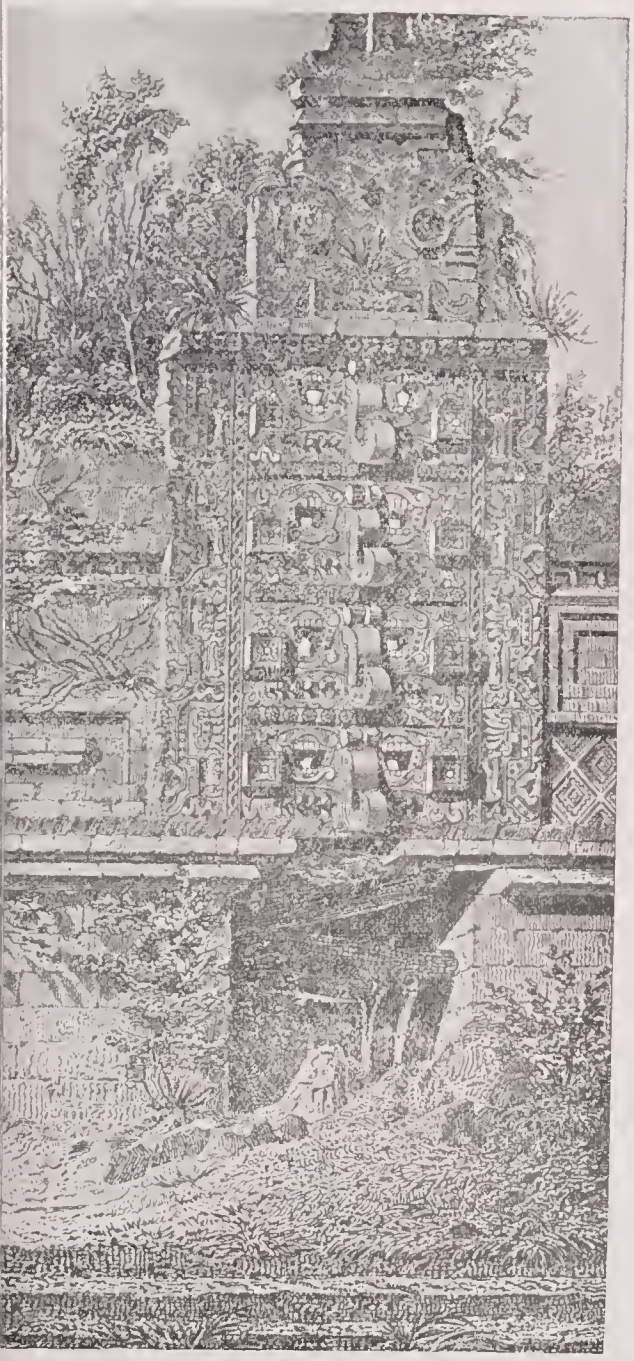
7



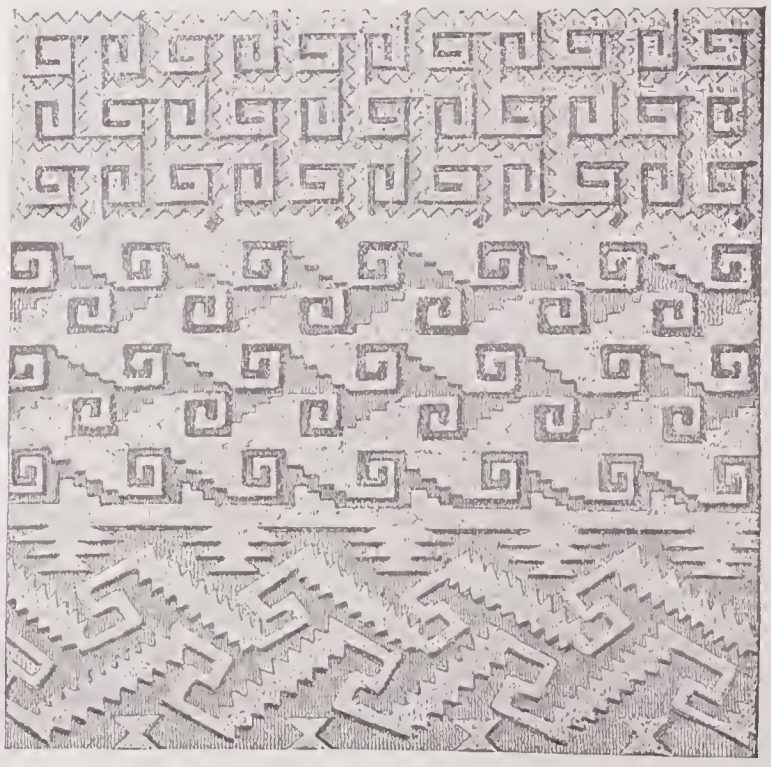
ABORIGINAL AMERICAN ARCHITECTURE.

1. Teocalli at Papantla, Vera Cruz. 2. Corner of a Teocal
7. Corner of the Palace de las Monjas, Uxmal, Mex. 8.

3



6



8

Xochicalco, Mex. 3. Gate at Labnah, Mex. 4. Teocalli at Tuspan, Mex. 5. Ruins of a palace at Uxmal, Mex. 6. Teocalli at Tehuantepec.
1 Decoration of a Hall in a palace at Mitla. Mex.

Ame'lia, in *Virginia*, a S.E. county, organized in 1734; *area*, 300 sq. m. It is drained by Namazine, Flat, and Deep creeks, and by the Appomattox river, which encircles it. The surface is somewhat diversified. *Cap.* Amelia Court-House.

Amelia Court-House, in *Virginia*, a post-village, cap. of Amelia co., 47 m. S.W. of Richmond.

Amel'iorable, *a.* That which may be ameliorated.

Amel'iorate, *v. a.* [Fr. *améliorer*, from Lat. *ad*, and *meliorare*, to make better.] To improve; to raise; to make better; to meliorate.—In present usage, ameliorate seems to be confined to such material improvement of men's condition as is closely dependent on a corresponding moral or mental state. Thus, we do not speak of ameliorating an individual by knowledge, but of ameliorating the condition of the people by education.—*v. n.* To grow better; to meliorate.

Ameliora'tion, *n.* [Fr. *amélioration.*] The act of ameliorating, or the state of being ameliorated; a making or becoming better; improvement; melioration; an amelioration of land.

Amel'iorative, *a.* Which produces amelioration, or improvement.

Amel'iorator, *n.* One who ameliorates.

A'men', *adv.* and *n.* [Heb., firm, true, truth.] A word used in strong asseveration, fixing as it were the stamp of truth upon the assertion which it accompanies, and making it binding as an oath. Examples of its use are numerous in the Bible. When the priest has declared to the woman suspected of adultery the effect of the water of jealousy, "the woman shall answer, *Amen, amen.*" (*Numb.* v. 22.) When curses are pronounced against the wicked, (*Deut.* xxvii. 15,) all the people are ordered to repeat, *amen.*—The word *amen* concludes all the gospels, and almost all the epistles; it is repeated at the end of the 41st, the 72d, the 89th, and the 106th Psalms.—In many churches, the word *A.* is pronounced aloud by the people: this was the ancient practice of the Christian world, and St. Jerome relates, that when the congregated people at Rome pronounced *amen*, the sound was like that of a clap of thunder. They possibly attributed great efficacy to the loudness of their voices, after the example of the Jews, who imagined that this word, shouted forth with great force, had power to open the gates of heaven.—*A.* is often used by our Saviour at the beginning of a discourse, as an impressive particle, which in our version is rendered "verily." In the Gospel of St. John, the word is always repeated.—In one instance this word is used as an adjective, meaning certain, fixed. "For all the promises of God in him are yea, and in him *Amen.*" (2 *Cor.* i. 20.) In one other instance the word denotes our Saviour. "These things saith the *Amen.*" (*Rev.* iii. 14.)

Amenabil'ity, Ame'nableness, *n.* The state of being amenable; liability to answer for; answerableness.

Ame'nable, *a.* [O. Eng. *amesnable*, from Fr. *amener quelqu'un*, to oblige one to appear and answer a charge exhibited against him.] Responsible; subject to be liable to inquiries or accounts.—It indicates also voluntariness of subjection; as, "*amenable* to reason."

Ame'nably, *adv.* In an amenable manner.

Amend', *v. a.* [Fr. *amender*, from Lat. *ex*, and *mendum*, fault.] To correct; to change anything that is wrong into something better; to improve; to mend;—to reform one's life, or give up wickedness.

"*Amend* your ways and your doings, and I will cause you to dwell in this place."—*Jerem.* vii. 3.

—*v. n.* To grow better.—To *amend* differs from to improve, in that, to improve supposes, or does not deny that the thing is good already; while, to amend implies something wrong.

—When used as neuter it has a general, when as active, a particular or detailed force: thus, "His character or condition has *amended* in general."—"He takes pains to *amend* his ways," implies specific attention to the counteracting of certain faults.

Amend'able, *a.* That which may be amended.

Amend'atory, *adv.* Supplying amendment; corrective.

Amende', *n.* [Fr.; see *amend.*] In French, this word signifies a fine, by which reparation is supposed to be made for a fault committed. Its English synonym is the word AMENDS, q. v.

A. honorable. [Fr.] An infamous kind of punishment formerly inflicted in France and in England on traitors, parricides, or sacrilegious persons, who were to go naked to the shirt, with a torch in their hand, and a rope about their neck, into a church or a court, to beg pardon of God, the court, and the injured party.—The modern acceptation of the term indicates that an open apology is made for an offence or injury done.

Amend'er, *n.* One who amends.

Amend'ful, *a.* Full of improvement. (o.)

Amend'ing, *n.* The act of correcting, or of making better.

Amend'ment, *n.* [Fr. *amendement.*] A change from bad for the better;—reformation of life.

(*Legislation.*) An alteration proposed to be made in the draught of any bill, or in the terms of any motion under discussion.—When amendments are made in either House of Congress upon a bill which passed the other, the bill, as amended, must be sent back to the other house. The Senate may amend money bills passed by the House of Representatives, but cannot originate such bills. Art. 5 of the United States Constitution contains a provision for its amendment.

(*Law.*) A correction of any errors in actions, suits, or prosecutions. They are of two sorts: those affecting the substance of the case; and those relating to the parties. The courts are very liberal in permitting the amendment of a bill; but a defendant is of course entitled to make a new defence to any *A.* of the plaintiff's bill.

Amends', *n. sing. and pl.* [From Fr. *amende.*] The filling up of any defect in obligations toward another; compensation; satisfaction; atonement; reparation.

"If I have too austerely punished you,
Your compensation makes *amends.*"—*Shaks.*

(*Law.*) A satisfaction given by a wrong-doer to the party injured, for a wrong committed.

Ame'nia, in *New York*, a post-village and township of Duchess co., 88 m. N.N.East of the City of New York.

Ame'nia Union, in *New York*, a post-village of Amenia township, Duchess co., 25 m. E.S.E. of Poughkeepsie.

Amen'ity, *n.* [Fr. *amenité*, from Lat. *amœnus*, pleasant.] Pleasantness; mildness; blandness; graciousness; geniality;—applied to physical influences, as climate, and to demeanor.

"This climate has not seduced by its *amenities.*"—*W. Howitt.*

A men'sa et tho'ro. [Lat., from board and bed.] (*Old Law.*) It was a partial divorce, which caused the separation of the husband and wife only, but did not annul the marriage, so that neither of them could again marry in the lifetime of the other. Such partial divorce exists in France under the name of *Separation de corps et de biens.* It is effected by sentence of the courts in the cases of cruelty of the husband, or adultery of either of the parties.—See DIVORCE.

Am'ent, *n.* [Lat. *amentum*, a strap.] (*Bot.*) A catkin, or inflorescence, consisting chiefly of scales arranged along a thread-like receptacle, as in *Fig.* 102.

Fig. 102.—BETULA PAPYRACEA.
(The Paper Birch.)

Amenta'ceæ, *n. pl.* [See AMENT.] (*Bot.*) The name formerly given by De Jussieu to the plants of the ord. *Betulaceæ*, q.v.

Amenta'ceous, *a.* (*Bot.*) Producing or bearing aments.

Amen'tia, *n.* [Lat. *a*, priv., and *mens, mentis*, mind.] (*Med.*) Imbecility of intellect, by which the relations of things are either not perceived, or not recollected. It is a nervous disease. When it originates at birth, it is called *amentia congenita*, natural stupidity; when from the infirmities of age, *amentia senilis*, dotage or childishness; and when from some accidental cause, *amentia acquisita.*

Amen'tum, *n.*; *pl.* AMENTA. [Lat.] (*Bot.*) The same as AMENT, q. v.

A'merbach, JOHANN, a celebrated Swiss printer of Basle, in the 15th century, was the first who used the Roman type instead of Gothic and Italian. He was a man of learning, piety, and wealth, and spared no labor or expense in the production of his edition, the first published, of the complete works of St. Ambrose. D. 1515.

Amerce', *v. a.* [O. Fr. *amercier*, to impose a fine; from Lat. *merces*, penalty.] To punish with a pecuniary penalty; to exact a fine; to mulct.

"But I'll *amerce* you with so strong a fine,
That you shall all repent the loss of mine."—*Shaks.*

Amerce'able, *a.* Liable to amercement.

Amerce'ment, *n.* [O. Fr. *amerciment*, from A. Lat. *amerciamentum.*] (*Law.*) A pecuniary punishment imposed on offenders at the mercy of the court. Amercements differ from fines, inasmuch as the latter are defined, and the former are proportioned to the fault, or more properly at the discretion of the court. *A.* have been disused for a long time past. In some of the United States, however, the sheriff may be amerced, by statutory provision, for making a return contrary to the provision of the statute.

Amer'cer, *n.* One who amerces.

Amer'ciament, *n.* The same as AMERCEMENT. (o.)

Ame'ria. (*Geog.*) See AMELIA.

Amer'ica. The New World, or the Western Hemisphere, one of the great divisions of the Earth, and, with the exception of Asia, the largest.

I. HISTORY.—During the latter part of the 15th century, an ardent spirit of discovery existed in Europe, the principal object of which was to find a passage by sea to the E. Indies. The States of Venice and Genoa concentrated the commerce of Italy, but the overland trade with India was engrossed by Venice. In this state of things a project was formed by Christopher Columbus, a citizen of the rival State of Genoa, to sail westward to the Indies, an idea showing Columbus' knowledge of the figure of the earth to have been superior to the general notions of his age. He offered his services, for this purpose, to the government of Genoa, France, England, and Portugal, by whom the proposal was successively rejected; but after the expiration of eight years, his offer was accepted by Ferdinand and Isabella, king and queen of the united kingdoms of Castile and Aragon. The expedition, consisting of three vessels, sailed from Spain on the 3d of August, 1492; and on Friday, the 12th of October following, an island was descried upon which Columbus

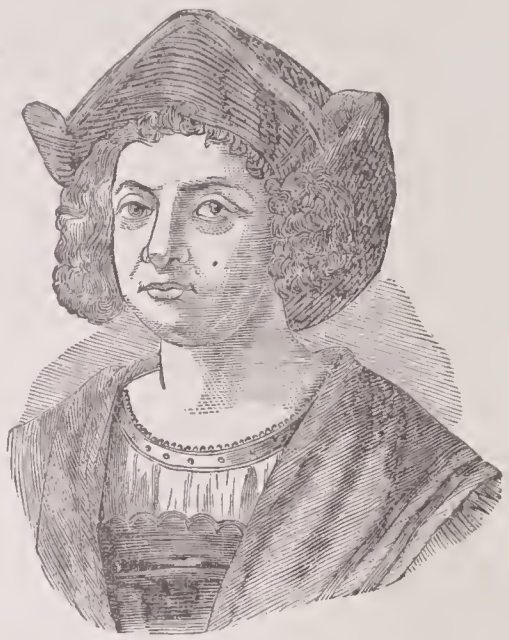


Fig. 103.—CHRISTOPHER COLUMBUS.

landed on the same day. This island was named by him San Salvador, and is now otherwise known as Gnanahain, one of the Bahama islands. Columbus then proceeded to Cuba and Hayti, to which latter he gave the name of Española, or Hispaniola. Here he left a few of his companions to form the groundwork of a colony, and returned to Spain to procure reinforcements. During this voyage, he had acquired a general knowledge of the islands in the seas between North and South America, but he had no notion of there being an ocean between them and China; they were considered as part of India, from whence arose the appellation of West Indies, as well as that of Indians, which has ever since been given to the original inhabitants of the whole continent of *A.*—In three subsequent expeditions, Columbus discovered the islands of Jamaica and Trinidad, visited the mouth of the river Orinoco, and landed on the coasts of South America which now form part of Colombia. After having thus discovered the continent of *A.* and made settlements on the islands, it was the hard fate of Columbus to be sent home in irons, and treated with great indignity,—owing to the machinations of his enemies, (see COLUMBUS.) The success of Columbus soon gave encouragement to private adventurers to the New World, one of the first of whom was Alonzo de Ojeda, who, in 1499, followed the course of Columbus to the coast of Paria, and, standing to the west, ranged along a considerable extent of coast beyond that on which Columbus had touched, and thus ascertained that this country was part of an entire continent. Amerigo Vespucci, a Florentine gentleman, accompanied Ojeda in this voyage, and having had a chief share in the direction of it, and published an account of it on his return, the country of which he was supposed to be the discoverer came gradually to be called by his name, and by universal usage the name of *America* has been bestowed on this new division of the globe; an injustice which has received the sanction of time.—In 1497, Sebastian Cabot, a Venetian, visited Newfoundland.—In 1500, Gaspar Cortoreal, a Portuguese, touched at Labrador; and Brazil was accidentally discovered by a Portuguese fleet under Cabral. The coast of the province of Tierra Firma, from Cape de Vela to the Gulf of Darien, was first visited by Bastidas, a Spaniard, in 1501. Yucatan was discovered by Diaz de Solis and Pinzon in 1508, and Florida by Ponce de Leon, in 1513. The Pacific, or Southern ocean, was first seen from a mountain-top near Panama, by Vasco Nuñez de Balboa, in 1513; and, two years afterward, a landing was effected on the south-east coast of South *A.*, about the mouth of the Rio de la Plata, by De Solis, who, as well as several of his crew, was killed, roasted, and eaten by the natives. When *A.* was first discovered, it was inhabited by a multitude of peoples, differing in origin, language, and destiny; some of whom had attained to a material civilization, to which the monuments they have left bear witness; but none of them possessed a written language, and they only retained confused traditions of their past history. In colonizing *A.*, Europe doomed to apparent extermination its aboriginal inhabitants, whom it crushed with all the superior force of its civilization. To conquer the empire of Mexico, Hernando Cortez (see CORTEZ) required only 600 men and 18 horses; Pizarro (see this name) destroyed the empire of Peru with even feebler resources. These two countries were at once the most populous and the most civilized of the New World; but their inhabitants disappeared so quickly before the Europeans, that it is doubtful if one half of their present populations, respectively, are of the indigenous race. The savage tribes experienced no better fate, wherever the colonists settled: and, after the lapse of two centuries, not a single inhabitant of the ancient race remained in the Antilles. This native depopulation proceeded to such an extent, that hands had to be sought and brought

from elsewhere, in order to cultivate the soil of *A.*; hence arose the slave-trade. One hundred thousand slaves were annually imported from Africa, to fertilize with their sweat the American plantations. It was by such means that Spain succeeded in creating a wonderful empire, embracing one-half of both Americas. This empire lasted for three centuries, and was divided into the vice-royalty of Buenos Ayres, Chili, Peru, and New Granada; the captain-generalcy of Caracas; and the vice-royalty of Mexico. The Portuguese, following the example of the Spaniards, conquered and civilized a portion of the basins of the Amazon, and Paraña, which they called Brazil; but to effect this, they were obliged to exterminate, or drive into the interior, the natives, a very small number of whom agreed to remain among them. The Portuguese and Spaniards were at first the sole rulers of *A.*; but soon after them came the other sea-faring nations. The first English colony settled in Virginia in 1607. The first French settlements were those of Canada in and after 1604. These colonies, purely agricultural in their character, were founded in territories occupied by savage and warlike tribes, who had either to be exterminated, or pushed back into the interior wilds. The French settled mainly in the lower basins of the Mississippi and St. Lawrence, (Louisiana and Canada;) the English occupied the entire watershed of the Alleghanies; and these two nations likewise shared with the Spaniards the possession of the Antilles. Rivals in Europe, they were perpetually at war in *A.*; these contentions were terminated in 1763, when France ceded to England, Canada, all her possessions on the left bank of the Mississippi, the islands of the Gulf of St. Lawrence, and several of the West India islands, &c. The power of Great Britain thus became preponderant throughout North *A.*; but her colonies having attained a high degree of prosperity, and wishing to shake off the trammels imposed on their trade by the mother-country, thirteen of the provinces revolted in 1776, and in 1783 succeded in accomplihing their independence, and getting acknowledged as the newly established Federal Repnblic of the United States. This new State gained constant accessions of territory at the expense of the indigenous tribes, obtained Louisiana from the French, Florida from the Spaniards, Texas and California from the Mexicans, Alaska from the Russians, and its population being increased by a constant influx of European emigrants, it has attained a prodigious development, and is now the first power of the New World.—In 1826, France acknowledged the independence of St. Domingo, which, after passing through numerous revolutions, had ended, in 1822, by establishing the republics of Hayti and San Domingo.—The emancipation of the British colonies aroused those of Spain, which, through the decay of the mother-country, had fallen into a state not far removed from barbarism. The provinces of Venezuela and Caracas commenced the revolution in 1808; Peru, Chili, and Mexico followed their example; but twenty years of anarchy, civil war, atrocity, and misery of every description, were required to secure the independence of these colonies, which are split up into a multitude of republics, some of which lack stable goverunments. All that remains to Spain are the islands of Cuba and Porto Rico. In 1821, Brazil declared its independence, formed

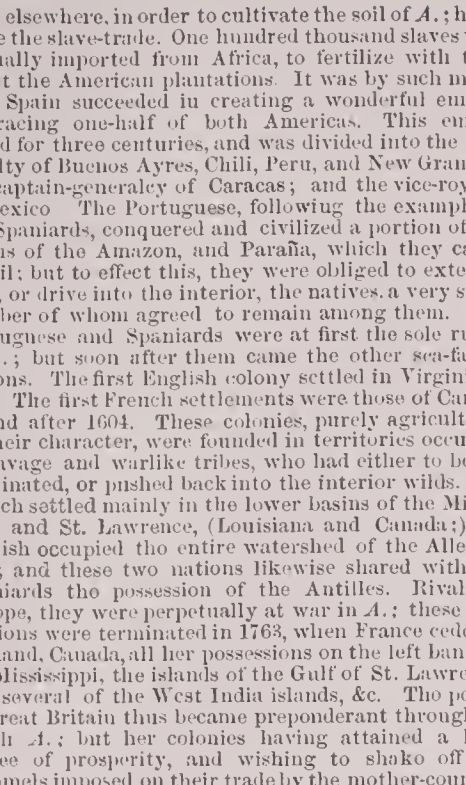
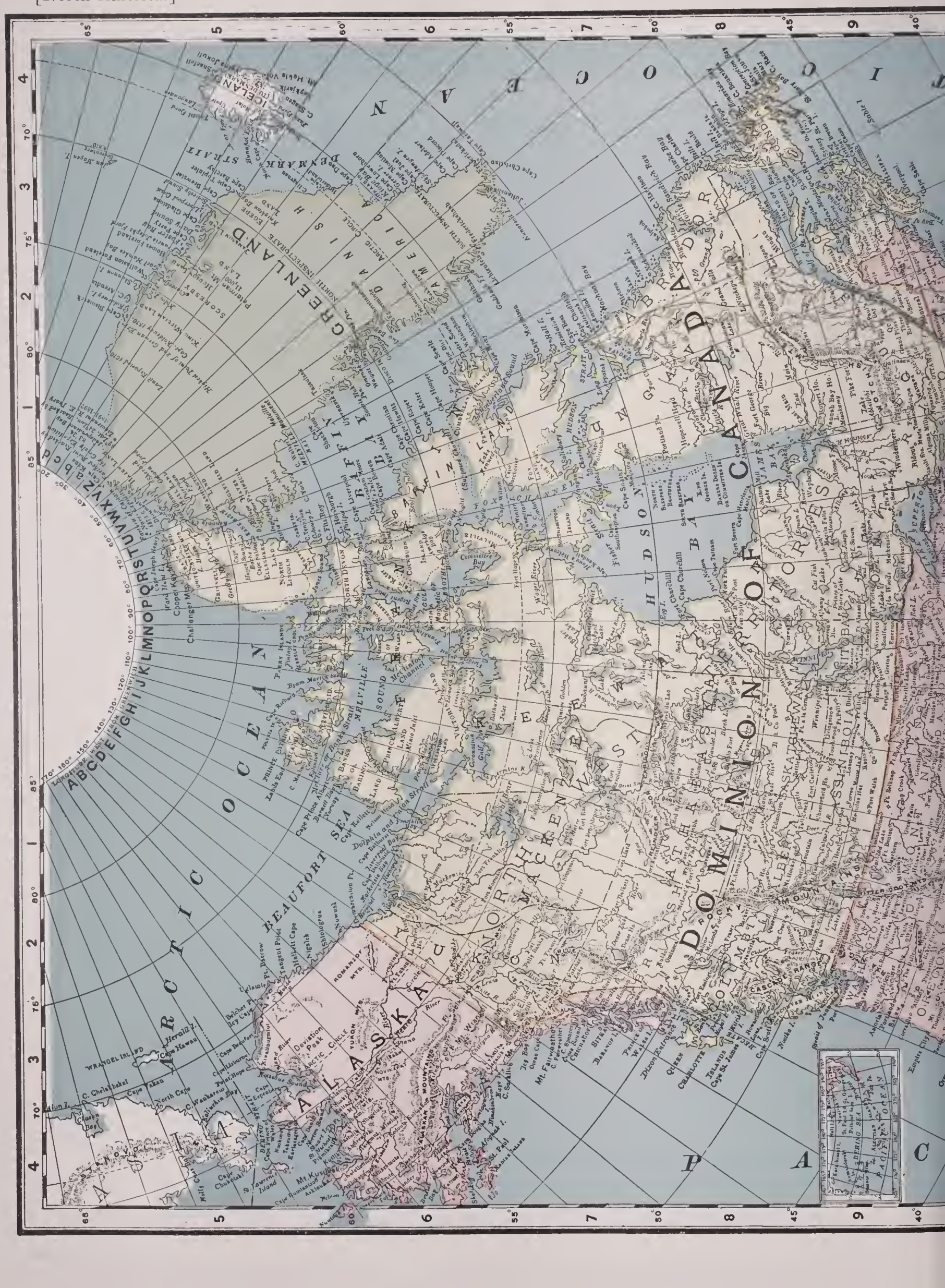
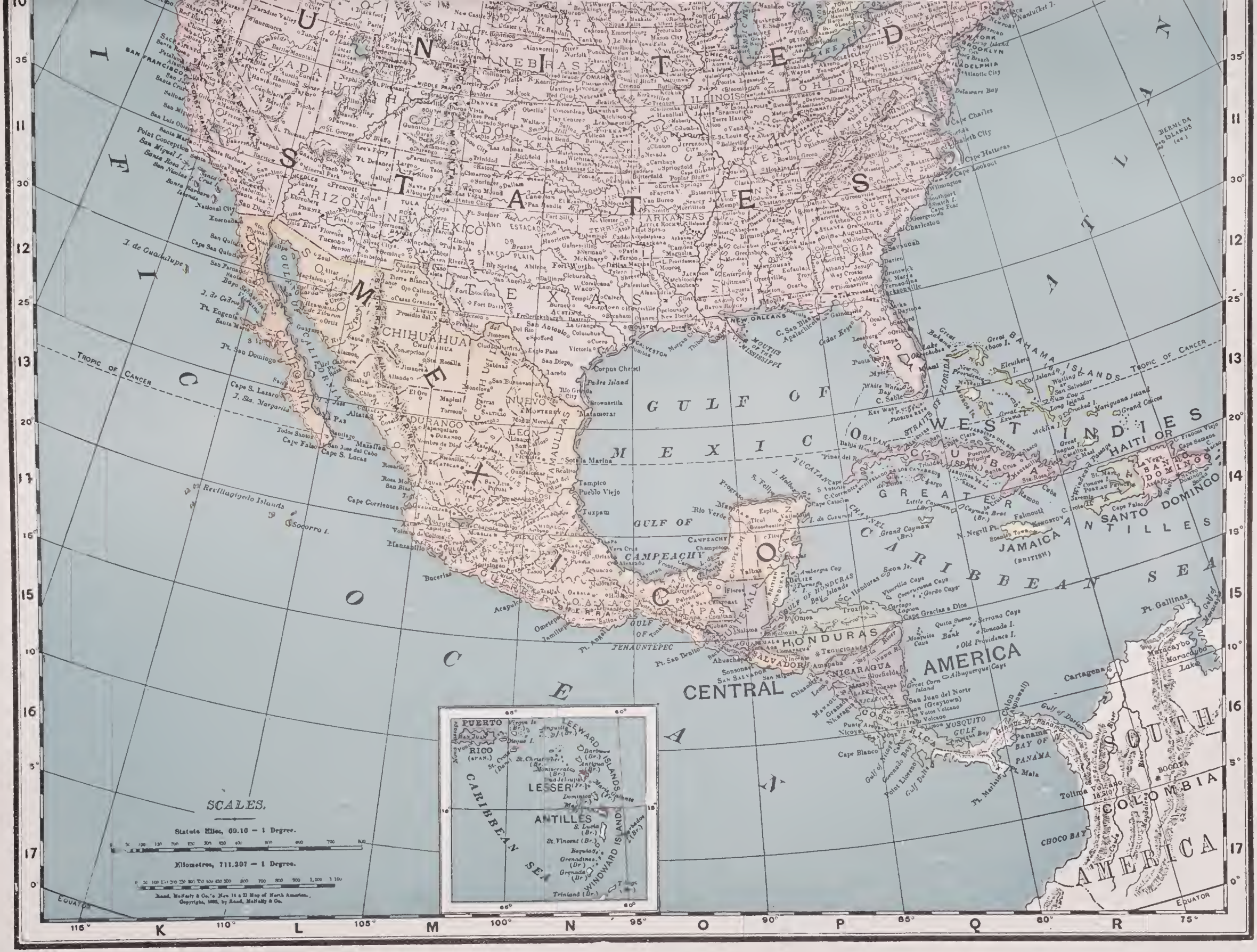


Fig. 104.—A SPANISH SHIP, (15th cent.)
(From *Epistola Cristoferi Colom.*, &c., 1495.)

itself into an empire, and elected Dom Pedro, the son of the king of Portugal, as its sovereign. The S. American provinces which had, previous to the overthrow of the Spanish power in the New World, formed the vicercyalty of Buenos Ayres, became, after the revolutionary year 1808, divided into a number of indepeudent States under the name of the Confederatiou of La Plata or Argentine Republic, Urnguay or Banda Oriental, Paragnay, and Bolivia. All of these respective countries have since passed through almost a periodicity of civil wars and revolutions, after the example of Mexico, Peru, and the Hispaño-American countries between the tropics. An attempt in 1864, to found a permanent empire in Mexico upon the European model, by Maximilian of Austria, with the support of France, led, after the withdrawal of the French army of occupation in 1867, to a civil war, which ended in the downfall of the imperial power, with the violent death of Maximilian (*q. v.*), and the reëstablishment of a republic which has since attained a stable and prosperous condition.

II. TOPOGRAPHY.—This vast continent is bounded on the E. by the North and South Atlantic oceans, which separate it from Africa and Europe; and on the W. by the North and South Pacific oceans, separating it from Asia and Australia. It consists of two peninsulas and a central part, named, respectively, North and South, and Central America; and as Africa is joined to Asia by a narrow neck of land called the Isthmus of Suez, so the two great divisions N. and S. of this continent are connected by the Isthmus of Panama, or Darien, which at its narrowest point is 28 m. in width. Where broadest, N. America, excluding Greenland, is not less than 3,500 m. across, and S. America, not less than 3,200 miles.—Its *area* is about 14,950,000 sq. miles; stretching N. and S. a distance of about 9,000 miles, or from about the 72d degree of N. lat. to Cape Forward, in about 54° S. lat.—In *A.*, nature appears on the grandest scale of magnificence and sublimity. Whether we regard her mountains, cataracts, rivers, lakes, forests, or plains, she is distinguished by a vastness unapproached in any other part of the globe. Out of the 270 active volcanoes, the estimated number on the face of tho earth, 190 are on the shores and islands of *A.*; and although in height some of the peaks of the Asiatic Himalayas surpass those of the Andes, in extent the range of the former is inferior to that of the latter.—The form of N. America has sometimes been compared to that of a triangle, with the vertex terminating at the Isthmus of Panama, and the base determined by the shores of the frozen ocean. She is more indented than any other of the great divisions of the globe, with immense gulfs and arms of the sea. One of the principal of these, in the N.E. part of the continent, consists of what Balbi has called the sea of the Esquimaux, including the two great divisions, Davis' Straits, and Baffin's Bay, separating Greenland from the rest of the continent and Hudson's Bay, lying more to the S. and W., but connected with the former by numerous channels, some of which have been only recently discovered. The next great inlet of the sea on the *A.* coast is the gulf of St. Lawreuce, so called from the great river of that name, which falls into its S.W. extremity. Passing over the nnmerous inlets and noble bays on the coast of the United States, we come to the Gulf of Mexico, and the Caribbean sea. If tho islands that in an irregular line lie stretched in front of the Gulf of Mexico and the Caribbean sea were united with one another and with the main land—a state of things that we have no difficulty in imagining to have once existed—we should have a large internal sea analogous to the Mediterraneau. If it be doubted if this sea was ever closed like the Mediterranean, we cannot doubt that the islands which now line its eastern limits have been hacked and broken into smaller pieces by the action of the ocean. Between the tenth degree of north latitude, which is near the island of Trinidad, and the twenty-fifth of north latitude, (the southern extremity of Florida,) we find the eastern limits of this great inland sea; but as we advance into it toward the west, we find it scooped out into various basins, each of which, with their winds and currents, will require a separate description. The Gulf of Mexico is on the N.W.; and on the south, tho Gulf of Honduras, and what is sometimes called the Caribbean Gulf or Sea, comprehending the Bay of Darien and the deep indentations of the northern coast of South America. The Archipelago, which the great inland sea of the Americas presents, is one of the most extensive and interesting in the world. The Gulf of Mexico, hemmed in by the peninsulas of Florida and Yucatan, and by the western side of the island of Cuba, is the most important part of this inland sea.—The W. coast of N. America presents no very deep and extensive indentations. The most important is the immense Gulf of California, abt. 800 m. in length, and from 60 to 80 m. in average width, formed by the mainland and the long narrow peninsula of California.—S. America bears a striking resemblance in the form of its coasts to Africa. It is much more compact than N. America, and is comparatively but little indented by arms of the sea. The great rivers, Amazons, La Plata, Para, Orinoco, &c., may, however, be looked upon as a species of inland seas. The W. coast, from the proximity of the Andes, has but few gulfs, and is, in great part, all but destitute of harbors. The S. extremity of S. America, or the country of Tierra del Fuego, is properly an archipelago, being separated from the continent by the narrow and winding strait of Magellan.—*Mountains.* All the elevations of *A.* belong to that great chain which, under different denominations, extends from one of its extremities to the other, along its W. coast, over a space of not less than 10,000 m. The mountains of *A.* may, however, be divided into 8 systems, 3 of which belong to S. America, 3 to N. America, and one each to the W. Indian and Arctic archipelagos. 1st. The *system of the Andes*, or *Peruvian system*, extending from Cape Horn to the Bay of Panama; its culminating points being Chimborazo, near Quito, 21,424 ft., and Aconcagua, in the Chilian Andes, 23,910 ft. above the level of the sea, or more than 6,500 ft. above the height of Mont Blanc. See ANDES. 2d. The system of *La Parima*, or Guiana, embraces the mountains scattered over the immense islands formed by the Orinoco, Cassiquiare, Rio Negro, and Amazons. The Pic of Duida, 8,280 ft., is the culminating point. See LA PARIMA. 3d. The Brazilian system, embracing the mountains lying between the Amazons, Paraguay, and Rio de la Plata, culminating in Serra do Piedada, about 6,000 ft. high. See BRAZIL. 4th. In N. America, the Mexican Alps, and Rocky Mountains, whose culminating point is believed to be Mt. Logan, on the Canadian border of Alaska, estimated at 19,500 feet in height. 5th. The *California Maritime Alps*, which, parallel to the Rocky Mountains, runs N. from the Peninsula of California till it is lost in Alaska; culminating point, Mount St. Elias, 19,500 ft. high. 6th. The mountains E. of the Mississippi, called the *Alleghany or Appalachian* system, extending in a N.E. by N. direction from Alabama to the banks of the St. Lawrence, the culminating points being Mount Mitchell, N. C., 6,688 feet, and Mount Washington, 6,293 feet. See APPALACHIAN MOUNTAINS. 7th. The *Arctic system*, embracing all the mountains that already are, or may hereafter be, discovered within the Arctic archipelago, the culminating known point being the Cour du Cerf, in Greenland, about 8,000 ft. above the level of the sea. 8th. The system of the Antilles, embracing the mountains in the archipelago of the same name, the culminating points of which are the Antonsepo in Hayti, and the Sierra de Cobre in Cuba, about 9,000 ft. in height.—*Plateaux.* The most remarkable for their elevation are, the plateau of Titicaca, divided between Bolivia and Peru, comprising an area of about 18,000 sq. m., with a mean elevation of 13,000 ft.; the plateau of Quito, which is elevated about 9,600 ft.; and the extensive table-land of Anahuac, in Mexico, from 6,000 to 9,000 ft.—*Volcanoes.* They are numerous, and some of them are among the most elevated volcanic mountains in the world. The most remarkable are, Cotopaxi, Sanguay, and Pichincha, in the Colombian rep. of Ecuador; Pasto, Sorate, and Purace, in that of New Grenada; Guagua-Plitiua, or the volcano of Arequipa, and Scharna, in Peru; the volcanoes of Copiapo, Chilan, Antoro, and Peteroa, in Chili; those of Socomusco, Guatemala or Fuego, Agna, Pacaya, San Salvador, Granada, and Telica, near St. Leon de Nicaragna, in Central America; Popocatapetl, or the volcano of Orizaba, the volcano of Colima, and that of Xorullo, in the Mexican territory; St. Elias and Fairweather, in the Californian Alps; the two volcanoes of the peninsula of Alaska, and those of the Alentian Islands; with Hecla, and others in Iceland.—*Plains.* In N. America, the immense space from the outlet of the Mackenzie river to the delta of the Mississippi, and between the central chain of the Mexican system and the Rocky Mountains, and the Alleghany, forms the largest plains, not only of *A.*, but of the world. In S. America, the great plain of the Amazons comprises more than half Brazil, with S.W. Colombia, the E. part of Peru, and the N. of Bolivia. The plains or *pampas* of the Rio de la Plata extend from between the Andes, and their principal branches, and the mountains of Brazil, to the Atlantic ocean and the Straits of Magellan.—*Rivers.* They are on a much larger scale than those of any other portion of the globe, affording facilities of internal communication quite unequalled anywhere else. The principal are, in N. America, the Mississippi, (the second largest river in tho world,) with its tributaries, the Missouri, which receives the Yellowstone and the Platte; the Arkansas, which receives the Red River, and the Illinois and Ohio, which receive the Tennessee. These drain the great valley of the Mississippi. The Mackenzie, with its tributaries, Peace river and the Athabaska, the Coppermine and the Back. These run north. The St. Lawrence, with its tributary the Ottawa; the Nelson, with its tributary the Saskatchewan; and the Churchill, with its tributary the Beaver, all run east. The St. John, the Hudson, the Delaware, and the Susquehanna drain the country east of the Alleghanies; the Rio del Norte drains the country east of the Mexican mountain range; the Oregon, with its tributary the Snake; the Colorado, and the Sacramento, drain the country west of the Rocky Mountains. The Frazer takes its course through British Columbia. In S. America, the Amazons (the largest river in the world) with its affluents the Napo, Putumayo, Yapura, Rio Negro, Yavari, Madeira, Topajos, Xingu, and Tocantins; the Rio de la Plata, formed by the Parana, and the Uruguay; the Orinoco, the Magdalena, and the San Francisco.—*Lakes.* No part of the world has so many lakes as N. America, especially that portion between 42° and 67° lat. It presents not only the greatest masses of fresh water on the surface of the globe, but so many smaller lakes and lagoons, that their enumeration is almost impossible. The principal are those of Superior, Huron, Michigan, Erie, and Ontario, the total length of these five being 1,534 m., with an area of upward of 90,000 sq. m.; Great Slave Lake, Winnipeg, Great Bear Lake, Champlain, Little Winnipeg, Deer Lake, Athabaska, Lake of the Woods, and Great Salt Lake. The limited size of the lakes of S. America strikingly contrasts with the dimensions of those in N. America. The lake of Titicaca, the largest and most celebrated, near the N.W. frontier of Bolivia, is elevated 12,870 ft. above sea-level.—*Islands.* A multitude of islands belong to *A.* The principal are in the *Arctic ocean*, Greenland, Iceland, Cockburn, Southampton, Melville, Bathurst, and Cornwallis. In the *Atlantic*, Newfoundland, Prince Edward, and Cape Breton; and the West Indies, composed of the Bahamas, the Bermudas, and the Greater and Lesser Antilles. In the *Pacific*, the Patagonian archipelago, Chiloe, Juan Fernandez, Galapagos, Vancouver's, Queen Charlotte's, Prince of Wales, Sitka, and the Aleutian islands. In the *Antarctic* are, Tierra del Fuego, Staten, Desolation, S. Georgia, the S. Orkneys, the S. Shetlands, Graham's Land, and Trinity


GREENLAND
ARCTIC OCEAN
ATLANTIC OCEAN
PACIFIC OCEAN
ALASKA
CANADA
HUDSON BAY
NEWFOUNDLAND
DOMINION
Arctic Circle
Baffin Land
Hudson Bay
Davis Strait
Beaufort Sea
Mackenzie
Yukon
Saskatchewan
Manitoba
Ontario
Quebec
Labrador
Nova Scotia
Vancouver I.
Prince Edward I.
Anticosti I.
Greenland
Iceland
Jan Mayen I.
Spitzbergen
Bering Sea
Aleutian Is.
Alaska Peninsula
Mt. St. Elias
Mt. Logan
Mt. Kosciusko
Rocky Mts.
Cascade Range
Selkirk Mts.
Coast Range
Great Slave L.
Great Bear L.
Lake Winnipeg
Lake Athabasca
Lake Superior
Lake Michigan
Lake Huron
Lake Erie
Lake Ontario
Lake Nipigon
Lake Manitoba
Lake Winnipegosis
Lake of the Woods
Lake Abitibi
Lake St. John
Lake Temiscamingue
Lake Nipissing
Lake Simcoe
Lake Champlain
Lake Memphremagog
Lake Timiskaming
Lake Kootenay
Lake Okanagan
Lake Shuswap
Lake Babine
Lake Stuart
Lake Trout L.
Lake Dease
Lake Aylmer
Lake Melville
Lake Mistassini
Lake Kaniapiskau
Lake Petitsikapau
Lake Michikamau
Lake Attikamagen
Lake Manicouagan
Lake Mingan
Lake Pashashibou
Lake Nichicun
Lake Albanel
Lake Chibougamau
Lake Waswanipi
Lake Matagami
Lake Kenogami
Lake Abitibi
Lake Mistassibi
Lake Metabetchouan
Lake Kenogamissi
Lake Nipissing
Lake Temiscamingue
Lake Timiskaming
Lake Kootenay
Lake Okanagan
Lake Shuswap
Lake Babine
Lake Stuart
Lake Trout L.
Lake Dease
Lake Aylmer
Lake Melville
Lake Mistassini
Lake Kaniapiskau
Lake Petitsikapau
Lake Michikamau
Lake Attikamagen
Lake Manicouagan
Lake Mingan
Lake Pashashibou
Lake Nichicun
Lake Albanel
Lake Chibougamau
Lake Waswanipi
Lake Matagami
Lake Kenogami
Lake Abitibi
Lake Mistassibi
Lake Metabetchouan
Lake Kenogamissi
Lake Nipissing
Lake Temiscamingue
Lake Timiskaming



[North America.]

NORTH AMERICA

BAHAMAS . . S 12
(British Colony)
Area, 5,450 sq. m.
Pop. 47,565

BARBADOS . . O 16
(British Colony)
Area . . . 166 sq. m.
Pop. 182,306

BERMUDA . . U 11
(British Colony)
Area . . . . 20 sq. m.
Pop. 15,844

CANADA . . . O 6
(British Colony)
Ar. 3,456,383 sq. m
Pop. 4,829,411

COSTA RICA Q 15
(Republic)
Area, 23,233 sq.m.
Pop. 243,205

CUBA . . . . . R 13
(Spanish Colony)
Area, 36,013 sq.m.
Pop. 1,631,687

GUATEMALA O 14
(Republic)
Area, 46,800 sq.m.
Pop. 1,460,017

HAITI . . . . . S 13
(Republic)
Area, 10,204 sq.m.
Pop. 960,000

HONDURAS . P 15
(Republic)
Area, 46,400 sq.m.
Pop. 431,917

HONDURAS,
BRITISH . P 14
(British Colony)
Area, 7,562 sq. m.
Pop. 31,471

JAMAICA . . . R 11
(British Colony)
Area, 4,221 sq. m.
Pop. 639,491

MEXICO . . . . M 13
(Republic)
Area, 767,005 sq.m
Pop. 11,614,913

NEW FOUND-
LAND . . . V 8
(British Colony)
Area, 42,200 sq.m.
Pop. 202,000

NICARAGUA P 15
(Republic)
Area, 49,500 sq.m.
Pop. 380,000

PUERTO RICO
M 15
(Spanish Colony)
Area, 3,550 sq. m.
Pop. 806,708

SALVADOR . P 15
(Republic)
Area, 7,255 sq. m.
Pop. 664,513

SANTO DO-
MINGO . S 14
(Republic)
Area, 18,045 sq.m.
Pop. 610,000

UNITED STATES
N 10
(Republic)
Ar. 3,602,990 sq.m.
Pop. 62,622,250

Longitude West from Greenwich.

A 80° B 75° C 70° D 65° E 60° F 55° G 50° H 45° I 40° J 35° K

CARIBBEAN SEA
GREAT CAYMAN (Britain)
CUBA
KINGSTON
JAMAICA
GREATER ANTILLES
HAITI
SANTO DOMINGO
PORT AU PRINCE
SAN DOMINGO
SAN JUAN
PUERTO RICO (SPANISH)
VIRGIN ISLANDS
ANGUILLA I. (BRITISH)
GUADALOUPE I. (FRENCH)
DOMINICA (BRITISH)
LESSER ANTILLES
MARTINIQUE I. (FRENCH)
ST. LUCIA (BRITISH)
BARBADOS (BRITISH)
WINDWARD ISLANDS
GRENADA (BR.)
TOBAGO I. (BR.)
TRINIDAD (BR.)
Port of Spain
Serpent's Mouth
DELTA OF THE ORINOCO RIVER
Point Moconioco
GEORGETOWN (BR.)
New Amsterdam
LEEWARD ISLANDS (OF THE SPANISH)
Los Roques
CURAÇAO (DUT.)
ORUBA (DUT.)
DUTCH ASTE ISLAND (DUT.)
CARACAS
Puerto Cabello
La Guayra
Cumana
Barcelona
Maturin
Merecural
Barrancas
Onoto
Calaboco
Sta. Maria
S. Carlos
Guanare
Barquisimeto
Trujillo
Merida
Valle Dupar
Barranquilla
Santa Marta
Cartagena
Maracaibo
Gulf of Maracaibo
Gulf of Venezuela
Point Gallinas
GOAJIRA PENINSULA
Capatarida
Altagracia
Tocuyo
Coro
Paraguana Peninsula
Lakes Maracaibo
Lake Valencia
Barinas
S. Fernando
Orinoco
Ciudad Bolivar or Angostura
Guaciparl
Anaparia
Cupuni
Roraima Mt. 7,000 feet
Parima Mts.
Mt. Duida
Esmeralda
Maroa
Sta. Rosa
Yumariquin
Tapirapeco
Marauia
Trombetas
Tumuc-Humac Mts.
Jean Pierre
Cayenne
Cape Orange
St. Louis
Maraca I.
PARAMARIBO
Sinnamarce
Mana
Surinam R.
Coppename R.
Corentyne R.
Courantyne R.
Essequibo River
Demerara R.
Berbice R.
Pomeroon R.
Waini R.
Barima R.
Aruka R.
Moruca R.
Amacuro R.
Guarapiche R.
Manamo R.
Caroni R.
Cuyuni R.
Yuruari R.
Caratal
Castillo
Aroa
Tocuyo
Yaracuy R.
Portuguesa R.
Apure R.
Arauca R.
Meta R.
Guaviare R.
Inirida R.
Vaupes or Uaupes R.
Isana or Cuduiari R.
Casiquiare
Rio Negro
Cassiquiare
Atabapo R.
Orinoco R.
Ventuari R.
Caura R.
Paragua R.
Caroni R.
Paru R.
Jary R.
Curua R.
Trombetas R.
Nhamunda R.
Madeira R.
Tapajos R.
Xingu R.
Iriri R.
Curua R.
Tocantins R.
Araguay R.
Manoa or Barra do Rio Negro
Solimoes R.
Japura R.
Iça R.
Jutay R.
Jurua R.
Tarauacá R.
Purus R.
Aquiry R.
Abuna R.
Madre de Dios R.
Beni R.
Mamore R.
Guaporé R.
Paraguay R.
Jauru R.
Cuyaba R.
Sepotuba R.
Arinos R.
Paranahyba R.
Grande R.
Preto R.
Corrente R.
Rio de Contas
Jequitinhonha R.
Mucury R.
Doce R.
Parahyba R.
Pardo R.
Belmonte
Porto Seguro
Ilheos or San Salvador
Maracu
Olivença
Jacobina
Carinhanha
Salgado
Pilao Arcado
Corumba
Goyaz
Bomfim
Santa Cruz
Parnahyba
Piauhy R.
Gurupy
Tocantins
Alcantara
Para or Belem
Cametá
Gurupa
Santarem
Almeirim
Montealegre
Obidos
Manaos or Barra do Rio Negro
Moura
Coary
Tefe or Teffe
Fonte Boa
Ega
Loreto
Olivença
Tabatinga
Borba
Crato
Balsamão
Fort S. Antonio
Falls of the Madeira
Guajara
Concepcion
Exaltacion
Trinidad
L. Rogagua
Matto Grosso
Diamantino
Cuyaba
Villa Maria
Miranda
Santa Cruz
S. Miguel
S. Jose
Tarija
Mollendo
Camana
Arequipa
Puno
Lake Titicaca
Cuzco
Arequipa
Acari
Port S. Juan
Nasca
Pisco
Ica
Chincha Islands (Guano)
Callao
LIMA
Huacho
Huaura
Supe
Paramonga
Pativilca
Huarmey
Casma
Chimbote
Santa
Huanchaco
Trujillo
Salaverry
Guanape Is.
Pacasmayo
Eten
Chiclayo
Payta
Sechura
Aguja Pt.
Point Parina
Gulf of Guayaquil
Machala
Tumbez
Puna I.
Guayaquil
Babahoyo
Yaguachi
Bodegas
Naranjal
Naranjo
Pueblo Viejo
Vinces
Quevedo
Daule
Balzar
Palenque
Baba
Montalvo
Urdaneta
Catarama
Ventanas
Pimocha
Palenque
Quito
Cotopaxi Vol.
Tungurahua Vol.
Sangay Vol.
Archidona
Napo
Canelos
Pastaza
Macas
Sucua
Gualaquiza
Loja
Cariamanga
Oran
Nauta
Pebas
Iquitos
Yurimaguas
Moyobamba
Chachapoyas
Huambo
Huancabamba
Jaen
Tabonilla
Urarinas
Sarayacu
Tarapoto
Lamas
Juanjui
Tocache
Pozuzo
Huanuco
Cerro de Pasco
Tarma
Jauja
Huancayo
Huancavelica
Ayacucho
Abancay
Andahuaylas
Cuzco
Urubamba
Ollantaytambo
Machupicchu
Sicuani
Yauri
Lampa
Ayaviri
Juliaca
Puno
Lake Titicaca
Desaguadero R.
Oruro
Corocoro
La Paz
Sorata
Illimani Mt.
Illampu Mt.
Cochabamba
Tapacari
Mizque
Sucre
Potosi
Tupiza
Tarija
Yacuiba
Villa Montes
Bermejo
Pilcomayo R.
Paraguay R.
Asuncion
Concepcion
Villa Rica
Caapucu
Villa Real
Villa Rica
Encarnacion
Itapua
Pilar
Humaita
Curuguaty
Salto
Corrientes
Goya
Esquina
Bella Vista
Empedrado
Itati
Mercedes
Curuzu Cuatia
Monte Caseros
Uruguay R.
Paraguay R.
Paraná R.
Iguassu R.
Iguassu Falls
Paranapanema R.
Tieté R.
Pardo R.
Grande R.
Sapucahy R.
Mogy Guassu R.
Mogy Mirim R.
Pardo R.
Sapucahy
Rio Pardo
Cuyaba
Corumba
Miranda
Nioac
Bodoquena
Albuquerque
Dourados
Ivinhema R.
Amambay
Ypane R.
Apa R.
Miranda R.
Aquidauana R.
Taquary R.
Negro R.
Sta. Anna
Coxim
Camapuan
Sta. Anna do Paranahyba
Rio Verde
Jatahy
Meiaponte
Bomfim
Santa Cruz
Parnahyba
Piauhy R.
Gurupy
Tocantins
Alcantara
Para or Belem
Cametá
Gurupa
Santarem
Almeirim
Montealegre
Obidos
Manaos or Barra do Rio Negro
Moura
Coary
Tefe or Teffe
Fonte Boa
Ega
Loreto
Olivença
Tabatinga
Borba
Crato
Balsamão
Fort S. Antonio
Falls of the Madeira
Guajara
Concepcion
Exaltacion
Trinidad
L. Rogagua
Matto Grosso
Diamantino
Cuyaba
Villa Maria
Miranda
Santa Cruz
S. Miguel
S. Jose
Tarija
Mollendo
Camana
Arequipa
Puno
Lake Titicaca
Cuzco
Arequipa
Acari
Port S. Juan
Nasca
Pisco
Ica
Chincha Islands (Guano)
Callao
LIMA
Huacho
Huaura
Supe
Paramonga
Pativilca
Huarmey
Casma
Chimbote
Santa
Huanchaco
Trujillo
Salaverry
Guanape Is.
Pacasmayo
Eten
Chiclayo
Payta
Sechura
Aguja Pt.
Point Parina
Gulf of Guayaquil
Machala
Tumbez
Puna I.
Guayaquil
Babahoyo
Yaguachi
Bodegas
Naranjal
Naranjo
Pueblo Viejo
Vinces
Quevedo
Daule
Balzar
Palenque
Baba
Montalvo
Urdaneta
Catarama
Ventanas
Pimocha
Palenque
Quito
Cotopaxi Vol.
Tungurahua Vol.
Sangay Vol.
Archidona
Napo
Canelos
Pastaza
Macas
Sucua
Gualaquiza
Loja
Cariamanga
Oran
Nauta
Pebas
Iquitos
Yurimaguas
Moyobamba
Chachapoyas
Huambo
Huancabamba
Jaen
Tabonilla
Urarinas
Sarayacu
Tarapoto
Lamas
Juanjui
Tocache
Pozuzo
Huanuco
Cerro de Pasco
Tarma
Jauja
Huancayo
Huancavelica
Ayacucho
Abancay
Andahuaylas
Cuzco
Urubamba
Ollantaytambo
Machupicchu
Sicuani
Yauri
Lampa
Ayaviri
Juliaca
Puno
Lake Titicaca
Desaguadero R.
Oruro
Corocoro
La Paz
Sorata
Illimani Mt.
Illampu Mt.
Cochabamba
Tapacari
Mizque
Sucre
Potosi
Tupiza
Tarija
Yacuiba
Villa Montes
Bermejo
Pilcomayo R.
Paraguay R.
Asuncion
Concepcion
Villa Rica
Caapucu
Villa Real
Villa Rica
Encarnacion
Itapua
Pilar
Humaita
Curuguaty
Salto
Corrientes
Goya
Esquina
Bella Vista
Empedrado
Itati
Mercedes
Curuzu Cuatia
Monte Caseros
Uruguay R.
Paraguay R.
Paraná R.
Iguassu R.
Iguassu Falls
Paranapanema R.
Tieté R.
Pardo R.
Grande R.
Sapucahy R.
Mogy Guassu R.
Mogy Mirim R.
Pardo R.
Sapucahy
Rio Pardo
Cuyaba
Corumba
Miranda
Nioac
Bodoquena
Albuquerque
Dourados
Ivinhema R.
Amambay
Ypane R.
Apa R.
Miranda R.
Aquidauana R.
Taquary R.
Negro R.
Sta. Anna
Coxim
Camapuan
Sta. Anna do Paranahyba
Rio Verde
Jatahy
Meiaponte

COLOMBIA
VENEZUELA
BRITISH GUIANA
DUTCH GUIANA
FRENCH GUIANA
ECUADOR
PERU
BOLIVIA
BRAZIL
PARIMA MTS.
CORDILLERA REAL
CORDILLERA GERAL
MARSH
BANANAL OR Grande
ANNA ISLAND
Lake

EQUATOR
Pichincha
P. Vicho
Cape S. Lorenzo
Esmeraldas
Cape San Francisco
Buenaventura
Choco Bay
Tumaco
Barbacoas
Ipiales
Pasto
Popayan
Cali
Buga
Neiva
Honda
Girardot
Ambalema
Mariquita
Ibague
Manizales
Armenia
Cartago
Buga
Palmira
Cali
Popayan
Timana
Neiva
Honda
Girardot
Ambalema
Mariquita
Ibague
Manizales
Armenia
Cartago

Gulf of Darien
Gulf of Uraba
Gulf of Dulce
Bay of Panama
Pt. Mala
Cosba I.
Point Mariato
Puerto Quemado
Citara or Quibdo
Cape Corrientes
Nipipi
Tuyra
Lorica
Momposina
Ocaña
Pamplona
Bucaramanga
Moreno
Honda
Girardot
Ambalema
Mariquita
Ibague
Manizales
Armenia
Cartago
Buga
Palmira
Cali
Popayan
Timana
Neiva

Mosquito Gulf
Mosquito Coast
Tuno Bellum
Mosquito Cape Gracias a Dios
Mosquito Coast
Mosquito Gulf
Mosquito Coast
Tuno Bellum
Mosquito Cape Gracias a Dios
Mosquito Coast
Mosquito Gulf
Mosquito Coast
Tuno Bellum
Mosquito Cape Gracias a Dios
Mosquito Coast

Inset: Galapagos Is. (To Ecuador)
Albemarle I.
Indefatigable I.
Chatham
Charles I.
Jame I.

[South America.]

SOUTH AMERICA

ARGENTINE REPUBLIC D 10
(Spanish-American Republic)
Ar.1,125,086 sq.m.
Pop.....4,086,492

BOLIVIA .....D 7
(Spanish-American Republic)
Ar. 567,360 sq. m.
Pop.....2,019,549

BRAZIL .....G 6
(Portuguese Republic)
Ar.3,209,878 sq.m.
Pop.....14,002,335

CHILE .....C 10
(Spanish-American Republic)
Ar. 293,970 sq. m.
Pop.....2,665,926

COLOMBIA ...C 3
(Spanish-American Republic)
Ar. 504,773 sq. m.
Pop.....3,878,600

ECUADOR ...B 4
(Spanish-American Republic)
Ar. 120,000 sq. m.
Pop.....1,270,361

GUIANA (British).....F 3
(British Colony)
Ar. 109,000 sq. m.
Pop. 278,295

GUIANA (French)..G 3
(French Colony)
Area 46,697 sq. m.
Pop. 25,796

PARAGUAY..F 8
(Spanish-American Republic)
Area 91,970 sq. m.
Pop. 430,000

PERU.....C 6
(Spanish-American Republic)
Ar. 463,747 sq. m.
Pop.....2,621,844

SURINAM (Dutch Guiana)....F 3
(Dutch Colony)
Area 46,060 sq. m.
Pop. 57,388

URUGUAY ..F 10
(Spanish-American Republic)
Area 72,110 sq. m.
Pop. 648,290

VENEZUELA..D 2
(Spanish-American Republic)
Ar. 597,960 sq. m.
Pop. 2,295,054

Land.—*Climate.* If we except a limited space along the W. shores of *A.*, protected by the Andes, Rocky Mountains, and Maritime Alps, the temperature in the same latitude is everywhere inferior to that of the Old World. Countries which, from their geographical position, we should suppose would be mild and temperate, are exposed to long and severe winters. Thus, in the 45th parallel, on the N. side of the Canadian lakes, frost is continuous for more than six months. Every variety of temperature is, nevertheless, to be found, in accordance with the difference of latitude and elevation. The temperate zone is subject to sudden and violent changes, and the torrid, to the extremes of wet and drought; but as this feature will be particularly noticed under the different countries composing the American continent, it is unnecessary here to do more than indicate the characteristics of the climate. The discussion of the causes of the difference of mean temperature between the New and the Old worlds will be found under the name UNITED STATES, which comprehends the largest portion of the habitable part of N. America. — The climate of S. America is variable. In Peru, rain scarcely ever falls, and along the lower parts of the tropical countries it is exceedingly unhealthy. On the coast of the Caribbean sea, yellow fever prevails, and frightful hurricanes sweep over the Pampas. The southern part of S. America is both cold and dry, but as two thirds of the peninsula lie within the tropics, it has a higher temperature than N. America.

III. MINERALS. The mineral riches of *A.* are probably superior to those of any of the other great divisions of the globe. The discovery of the mines of Mexico and Peru effected an entire revolution in the value of precious metals; and another revolution, in the same sense, followed the discovery of the mines of California. Mines of silver are successfully worked in several territories of the United States. Besides gold and silver, most other metals are found in lesser or greater abundance. Chili and Cuba have some of the richest copper mines in the world. Lead is found in the greatest plenty in different parts of the United States, as also antimony, mercury, &c. Diamonds are found extensively in Brazil, and also in the United States. Iron is extremely abundant in the U. States, and in many other parts of the continent; salt also is very widely diffused; and coal, including anthracite, is found in vast and indeed all but inexhaustible deposits in different parts of the U. States, in British America, and in Chili.

IV. BOTANY. Stretching from the Arctic to the Antarctic Circle, and possessing soil of every elevation and quality, *A.* is necessarily rich in vegetables of every description. Her forests and pastures are unrivalled for extent, luxuriance, and magnificence. The forests consist generally of very heavy timber, including many species of pines and larches unknown in Europe, with an endless variety of oaks, maples, cypresses, tulip-trees, mahogany trees, logwood, Brazil wood, &c., &c. The Old World owes to *A.* potatoes, tobacco, maize or Indian corn, millet, cocoa, vanilla, pimento, copaiba, chinchona or bark, jalap, sassafras, nux-vomica, &c. The cactus cochinilifi, which furnishes the cochineal, is also peculiar to *A.*, and the sugar-cane is indigenous to the West Indies. *A.* is indebted to the other hemisphere for wheat, barley, oats, rice, oranges, peaches, &c., and for the coffee-plant, now one of her staple products.

Fig. 105.—SUGAR-CANE.

V. GEOLOGY. The continuous belt of high mountains traversing the W. border of *A.*, from Behring's Straits to Tierra del Fuego, forming the most uninterrupted extent of primitive mountains known, appears to be chiefly granitic in the Rocky Mountains, while in the Cordilleras of Mexico, and the Andes of S. America, the primitive strata are, for the most part, covered with immense accumulations of transition porphyries, trachytes, and lavas, — presenting numerous volcanoes, many of which are in constant activity. The wide expanse of low, and generally plain country, which immediately on the W. succeeds to the above-mentioned mountain-zone, consists of immense deposits of newer rocks, over which is everywhere strewn, like a mantle, the alluvial formation, or a covering of sand and gravel, with which are intermingled rolled masses of rocks. — The principal masses, and highest points of the chain of mountains of lower elevation, which forms the eastern boundary to the low country, are composed of granite. The clusters of islands of the West Indies are almost without exception of volcanic origin. The geological character of *A.* partakes of the simplicity observable in her great mountain ranges, which obey highly uniform laws of arrangement, and are, in a measure, free from those interruptions which occur in Europe, arising out of its numerous chains, whose irregular and often contradictory structure it is frequently difficult to reconcile or explain. The two continents agree in the prevailing primitive character of their northern extremities, and in the prevalence of volcanoes about their equatorial and southern regions; and an investigation of their geological relations affords no grounds for the common opinion, that the New World is of a more recent origin than the Old.

VI. ZOÖLOGY. *A.* contains a great variety of wild animals, and, since its discovery, the various domestic animals of Europe have been introduced, and are now found in great numbers. In comparing animals of the same species, in the two continents, it has been found, in a majority of instances where a difference of size has been ascertained, that the American animal is larger than that of the eastern continent. The Llama, which bears a considerable resemblance to the camel, inhabits Peru. The buffalo, or American ox (*Bos Americus*), the largest native quadruped of the New World, is principally found on the prairie lands near the Rocky Mountains. The musk-ox (*Bos moscatus*) is found only to the W. of Hudson's Bay. The Rocky Mountain goat, remarkable for the fineness of its wool, is a habitat from Mexico to the extremity of that range. The reindeer is found chiefly in Greenland. The best variety of the *A.* dog is the *Canis familiaris*, found in Newfoundland. The beaver was once very common in the N.W. parts of North *A.*; but the high price obtained for its fur has nearly led to a total extirpation of this animal in the more accessible parts of the country. The coypou or neutra, and the chinchilla, are found in South *A.* The beasts of prey are not very numerous. The jaguar (*Felix onca*), found in S. America, is the most formidable. The puma (*Felix discolor*) is found in both Americas. A number of bears inhabit the shores of the Arctic sea, and are found as far south as the Rocky Mountains. Tropical *A.* possesses a great variety of apes: here, also, is found the vampire bat, which attacks the largest animals, and even man himself when asleep. Reptiles are numerous, the largest being the rattlesnake and the true *boa-constrictor*, which is found in enormous size in the lagoons and swamps of tropical countries. Insects also abound, and in many parts are very offensive. — The birds are exceedingly numerous: they are generally more beautiful in plumage than those of Asia and Africa, but their notes are less melodious. The condor, which frequents the Andes of S. America, holds, on account of its size, strength, and rapidity of flight, the pre-eminence over the feathered creation. The American waters are remarkable for the variety and abundance of their fish.

VII. SPECIES OF MEN. Of the 125 millions making up the total population of *A.*, about 15 millions only are of indigenous race, and these 15 millions speak in upward of 400 different langnages. These 400 different tribes are the remnants of great nations destroyed by the colonization of the New World. The principal of them will be found under their own peculiar names, or under those of the countries which they inhabit. See, more especially, the word INDIANS. — Of the other 85 millions of inhabitants, about 65 are of European origin, 10 of Negro race, and 10 of a mixed race of white, black, and indigenous or red men.

Fig. 106.—AMERICAN INDIAN.
(Sac Chief.)

VIII. RELIGION. Before its colonization by Europeans, all the natives of *A.* were idolaters. Christianity is now professed by the great majority of the population: it is only the most barbarous tribes that have not adopted it, and remain heathen. Catholicism and Protestantism divide almost equally the Christian population of the New World.

IX. POLITICAL DIVISIONS, POPULATION, and FOREIGN POSSESSIONS. The following account of the different American States and Foreign Possessions, and of their respective population in 1890, has been carefully compiled from the latest and best authorities.

	STATES.	POPULATION.
North.	United States of America, Republic,	62,622,750
	Mexico, ... " .	11,632,924
Central and South.	Guatemala, . " .	1,452,003
	San Salvador, . . . " .	777,859
	Nicaragua, . . . " .	312,845
	Honduras, . . . " .	431,917
	Costa Rica, . . . " .	243,985
	Colombia, . . . " .	3,878,600
	Bolivia, . . . " .	2,333,350
	Equador, . . . " .	1,004,651
	Venezuela, . . . " .	2,323,527
	Peru, ... " .	2,971,844
	Chili, ... " .	3,115,815
	Argentine Republic, . " .	4,064,654
	Brazil, ... " .	14,002,335
	Uruguay, . . . " .	683,943
	Paraguay, . . . " .	332,000
	Patagonia and Falkland Islands, .	100,000
W. Indies.	Hayti, . . . Republic,	960,000
	San Domingo, . . " .	416,871
	FOREIGN POSSESSIONS.	
England.	In North America: Canada, Newfoundland, and Labrador, . . .	5,026,746
	In W. Indies and S. America: Bahamas, Turk's Island, Jamaica, Bermuda, Virgin Islands, St. Christopher or St. Kitts, Nevis, Antigua, Montserrat, Dominica, St. Lucia, St. Vincent, Barbadoes, Grenada, Tobago, Trinidad, British Honduras, and British Guiana, . .	1,690,070
France.	In W. Indies and S. America: Martinique, Guadaloupe, Maria-Galande, Desiderada, Saintes, a part of St. Martin, and French Guiana.—In Newfoundland: St. Pierre, and Miquelon, .	377,000
Spain.	In W. Indies: Cuba, and Porto Rico,	2,328,400
Holland.	In W. Indies and S. America: Curaçoa, St. Eustatius, St. Martin, and Surinam or Dutch Guiana, . . .	146,300
Denmark.	In W. Indies: St. Thomas, Santa Cruz, and St. John, ...	113,208
Sweden.	In W. Indies: St. Bartholomew,	4,898
		123,346,461

The most conservative estimate placed the total population of *A.* slightly above 127 millions on Jan. I, 1898.

Amer'ica, in *Indiana*, a post-village of Wabash co.

Amer'ica City, in *Kan.*, a post-village of Nemaha co.

Amer'ican, *n.* A native of America;—in a restricted sense, an inhabitant of the United States.

—*a.* Belonging to America;—or, in a restricted sense, to the United States.

Amer'ican, in *Cal.*, a twp. of Sacramento co.

Amer'ican Creek, in *California*, Marin co.; falls into the Pacific ocean.

Amer'ican Fork, in *Utah*, a t. of Utah co.

American Revolution, see UNITED STATES.

Amer'ican River, in *California*. It rises in the Sierra Nevada, flows for about 100 m. in a W.S.W. direction between Placer and El Dorado cos., receives at the W. extremity of the latter co. the waters of a south fork coming from Lake Bonpland, and after flowing S.W. for about 30 m., falls into the Sacramento river, near the city of Sacramento.

Amer'icanism, *n.* Any word, phrase, or idiom, in general use among the inhabitants of the United States, which deviates from the English standard. Every living language is subject to continual changes; and it is not to be expected that a large community, in a state of social and political activity, who are daily developing new and characteristic features, will fail to exercise their share of influence upon that which they naturally consider as a part of their inheritance. Indeed, the number of new words, or of words now used in America in a different sense from that which they have in England, is but small among our good writers, and some of them have already been adopted in the mother-country. Although the lash of ridicule has been unsparingly applied to the American pronunciation, there is much greater uniformity in the U. S. than in Great Britain, and the general standard is certainly higher. In many places, as for example Philadelphia, the pronunciation is at least as good as in any place in the British dominions. See Bartlett's *Dict. of A.*

Amer'icanize, *v. a.* To render American; to naturalize in America.

Amer'icus Vespucius, properly AMERIGO VESPUCCI, an eminent navigator, B. at Florence, 1451. After receiving a liberal education, he was sent by his father

to Spain for the purpose of conducting his commercial affairs; and being at Seville when Columbus was making preparations for his second voyage, he resolved to enter on a career of maritime discovery. His first expedition to the new continent was in 1499, under the command of Ojeda, a year after the discovery and examination of the coast of Darien by Columbus. He made a second voyage in the following year. After this, he entered the service of king Emanuel of Portugal, and made two voyages in Portuguese ships; the first in 1501, the second in 1503. The object of this last voyage was to find a westerly passage to Malacca. He arrived at Brazil, and discovered the bay of All-Saints. In 1505, he again entered the service of the king of Spain, but made no more voyages, as appears from memoranda showing that he was at Seville till 1508, at which time he was appointed principal pilot His duties were to prepare charts, and prescribe routes for vessels in their voyages to the New World, which soon received his name. This honor certainly belonged to Columbus, rather than to Amerigo, for the prior discovery of the continent by the former is not to be questioned. D. at Seville, Feb. 22, 1512.

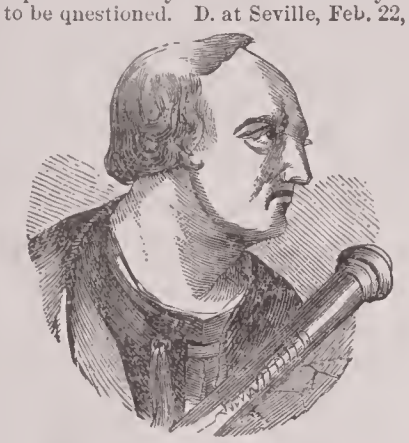


Fig. 107. — AMERICUS VESPUCIUS.

Amer'icus, in *Georgia*, a city, the capital of Sumter co., on the Muckalee creek, 71 m. S.W. of Macon; was was incorporated in 1822. *Pop.* (1890), 6,398.

Amer'icus, in *Indiana*, a post-village of Tippecanoe co., on the Wabash river, 10 m. N.E. of Lafayette.

Amer'icus, in *Kansas*, a post-village and township of Lyon co., 10 m. N.W. of Emporia.

A'merkote, a town of India, territory of Scinde, in the desert, 85 m. E. of Hyderabad; Lat. 25° 20′ N.; Lon. 69° 49′ E. The emperor Akbar was born here in 1541.

A'mersfort, a town of the Netherlands, prov. of Utrecht, on the Eem, 12 m. E.N.E. of Utrecht; *pop.* 12,700.

Am'ersham, a town and parish of England, in Buckingham co., near the Colne, 26 m. W.N.W. of London; *pop.* 3,350.

Ames', FISHER, an American publicist, orator, and statesman; B. in Mass., 1758. Entering at an early age upon the practice of the law, he soon became distinguished for his forensic powers, and achieved a still more extended reputation as an author of political essays. He was a member of the convention for ratifying the Federal Constitution in 1788, and was afterward returned to Congress for the district which at that time included Boston. Like the great English orator, Edmund Burke, he denounced the excesses of the first French Revolution, and almost rivalled him in the fervid eloquence of his speeches. D. 1808.

Ames', JOSEPH, the historian of English Typography, B. at Yarmouth, 1689; D. 1759. He was a ship-chandler at Wapping, in London, which business he carried on until his death, notwithstanding his antiquarian pursuits. He published a work entitled *Typographical Antiquities; being an Historical Account of Printing in England, &c.*, 4to. By the labors of subsequent editors, this work has been improved and extended to 4 vols.

Ames', in *New York*, a post-village in Canajoharie township, Montgomery co., about 13 m. from Fonda.

Ames', in *Ohio*, a post-township of Athens co., about 30 m. W. of Marietta.

Ames'-ace, *n.* The same as AMBS-ACE, *q. v.*

Ames'bury, or **Ambres'bury,** a town and parish of England, in the co. of Wilts, on the Avon, 7 m. N. of Salisbury. It is the birthplace of Addison. *Pop.* 1,138.

Ames'bury, in *Massachusetts*, a post-township of Essex co.

Ames'bury Mills, in *Massachusetts*, a village of Essex co., in the above township; 4 m. N.W. of Newburyport.

Ames'tratus. (*Anc. Geog.*) A town of Sicily, (now Mistretta, in the Val de Demona.) It held out against the Romans seven months; but was obliged to yield after a third siege, when the inhabitants were sold as slaves.

Ames'ville, in *Illinois*, a post-village of Boone co., 70 m. W.N.W. of Chicago.

Ames'ville, in *New York*, a village of Ulster co.

Ames'ville, in *Ohio*, a post-village in Ames township, Athens co., 11 m. N.E. of Athens.

Ametabo'lia, *n. pl.* (*Zoöl.*) A division of insects which do not undergo any metamorphosis.

Ametabo'lian, *n.* [From Gr. *a*, priv., and *metaballein*, to change.] (*Zoöl.*) An insect that does not undergo any metamorphosis.

A'methie, a town of British India, in the district of Partabgurah, Onde; Lat. 26° 8′; Lon. 82° 2′; *pop.* 10,000.

Am'ethyst, *n.* [Gr. *amesthystos*, a remedy against drunkenness, so called because, according to Plutarch, one was not intoxicated by drinking liquors from out of an amethystine cup.] (*Min.*) A variety of *Quartz*, *q. v.* Its clear purple or bluish-violet color is due to manganese, or to a compound of iron and soda. — The Oriental *A.* is a precious variety of *Sapphire*, distinguished by its purple color.

(*Her.*) A violet color, used instead of *purpure*, in emblazoning the arms of the English nobility only.

Amethys'tine, *a.* Having the color, or composed of, the amethyst.

Am'e-walk, *n.* A small settlement and Friends' meeting-house, on the eastern boundary of Yorktown, West Chester co., N. Y.—The post-office near is named Hallock's Mills.

Am'ga, a river of Siberia, rising in the mountains of Yablonoi-Krebet, and after a course of 466 m., falling into the Aldan, in lon. 135° E.

Amha'ra, an independent kingdom of Abyssinia; Lat. between 10° and 14° N.; Lon. between 35° 10′ and 38° 30′ E.

Amhar'ic, *n.* The chief language spoken in Abyssinia. The name comes from Amhara, where it is spoken in its greatest purity. A knowledge of the *A.* enables a traveller to make himself understood in nearly every part of Abyssinia.

Am'herst, JEFFERY, *Lord*, a distinguished British officer, B. 1717. He entered the army at an early age, and ultimately became major-general. Sent over to America, he captured Louisbourg, and followed it up by the reduction of Forts Duquesne, Niagara, and Ticonderoga, which paved the way for the entire conquest of Canada. In 1763, *A.* was made governor of Virginia, and created Baron Amherst of Holmesdale in 1776. He was appointed commander-in-chief of the British army in 1778, in which capacity he took a most active, but humane part in suppressing the London riots of 1780. Upon resigning his chief command in 1795, he was made a field-marshal. D. 1798.

Fig. 108.— LORD AMHERST.

Am'herst, WILLIAM PITT, *Earl*, nephew of the above; appointed British ambassador-extraordinary to the Court of Pekin, in 1816. He was not allowed to penetrate into the interior of China, and refusing to conform to the prescribed etiquette of the court, obtained his letter of recall. *A.* was subsequently appointed governor-general of India, and created an Earl. D. 1857.

Am'herst, a seaport town and spacious harbor of British Burmah, on a point of land in the N.E. angle of the Gulf of Martaban, facing the month of the Tchantweng and the isle of Balu to the N. Lat. 16° 4′ 48″ N.; Lon. 97° 45′ 24″ E. *Pop.* 6,580.

Am'herst, a northern district of Tenasserim, British Burmah. *Pop.* (1895) 235,738. Capital, Maulmain.

Am'herst, in *Maine*, a post-township of Hancock co., 25 m. E. of Bangor.

Am'herst, in *Massachusetts*, a town of Hampshire co., on a branch of the Connecticut river, 82 m. W. of the city of Boston. Near the town is situated *Amherst College*, an institution founded in 1821, and now one of the most flourishing in America. It possesses a cabinet of natural history, and an astronomical observatory.

Am'herst, in *Minnesota*, a township of Fillmore county.

Am'herst, in *New Hampshire*, a post-township of Hillsborough co., on the Souhegan river, 23 m. S. of Concord.

Am'herst, in *New York*, a township of Erie county.

Am'herst, in *Ohio*, a village of Allen co.

—A township of Lorain county.—In this township is a post-village of the same name, 33 m. S.W. by W. of Cleveland.

Am'herst, in *Virginia*, a county bounded on the S.W. and S. by James river, and on the N. by the Blue Ridge. Formed from Albemarle in 1761. *Area*, 418 sq. m. The soil is fertile, and the scenery picturesque. The passage of the James river through the Blue Ridge is especially noted.—*Prod.* Tobacco, corn, wheat, and oats. *Cap.* Amherst Court-House. *Pop.* in 1880, 18,705; in 1890, 17,551.

Am'herst, in *Wisconsin*, a post-village and township of Portage co., 12 m. E. of Stanton.

Am'herstburg, a town of Ontario, Canada, 3 miles above the entrance of the river Detroit into Lake Erie. *Pop.* (1890), 2,279.

Am'herst Court-House, in *Virginia*, a post-village, cap. of Amherst co., abt. 15 m. N. by E. of Lynchburg.

Amherst Four-Corners, in *Ohio*, a village of Amherst township in Lorain co., 35 m. S.W. by W. of Cleveland.

Am'herstieæ, *n. pl.* (*Bot.*) A tribe of plants, subord. *Cæsalpinieæ*.

Am'ia, *n.* (*Zoöl.*) A small malacopterygious fish, found in the rivers of South America. It belongs to the fam. *Clupeidæ*.

Amiabil'ity, *n.* The quality or state of being amiable; amiableness.

A'miable, *a.* [O. Fr. *amiable*, from Lat. *amiabilis*; Fr. *aimable*.] Lovely; pleasant; worthy of love;—generally applied to persons.

A'miableness, *n.* The quality of being amiable; lovingness; amiability.

A'miably, *adv.* In an amiable manner.

Am'ianth, *n.* (*Min.*) See AMIANTHUS.

Amian'thiform, and AMIAN'THOID, *a.* [From *amianthus*, and *form*.] Resembling amianthus.

Amian'thium, *n.* (*Bot.*) A gen. of plants, ord. *Melanthaceæ*. They are herbs with scapiform stems, grass-like leaves, and numerous white flowers. The species *A muscitoxicum*, or Fly-Poison, found in shady swamps, in New Jersey, Pennsylvania, and the Southern States is said to poison flies, and also the cattle which feed upon its foliage in the autumn.

Amian'thus, *n.* [Gr. *amiantos*, undefiled.] (*Min.*) A mineral substance occurring in long capillary crystals placed side by side in parallel positions, thus forming a fibrous mass flexible and elastic. This is a variety of the *Tremolite*. There are two kinds of this mineral. One, which is composed of very delicate and regularly arranged fibres of very flexible nature, is called *Amianthus*; the other, of coarser fibre, and of little flexibility, is called *Asbestos*. The ancients possessed the art of drawing the fibres into threads, and then weaving them into a cloth capable of resisting ordinary flame. It is found in Corsica, Italy, &c., and also in the United States. It is now successfully used for a non-conducting envelope of steam-pipes, for safes, for a fire-proof roofing, &c.

Am'iba, and **Amœba,** *n.* [Gr. *amoibe*, changing.] (*Zoöl.*) See PROTEUS.

Amicabil'ity, *n.* The quality of being amicable; amicableness.

Am'icable, *a.* [Lat. *amicabilis*.] Exhibiting the character of a friend; a friendliness on a specific occasion; friendly; propitious; favorable; kind; cordial.

(*Math.*) *Amicable Numbers.* Pairs of numbers, each of which is equal to the sum of all the aliquot parts of the other. Thus, 220 and 284 are amicable numbers. The aliquot parts of the first are, 0, 2, 4, 5, 10, 11, 20, 22, 44, 55, and 110, and their sum-total is 284. The aliquot parts of the second are, 1, 2, 4, 71, and 142, and their sum-total, 220.

(*Law.*) *Amicable Action.* A practice, prevailing in Pennsylvania, by which an action is entered on the dockets of the courts by agreement of parties.

Am'icableness, *n.* The quality of being amicable; friendliness; good-will.

Am'icably, *adv.* In an amicable manner; in a friendly way.

Amicabo'lo, in *Georgia*, a post-office of Dawson co.

Ami'cal, *a.* [Fr.] Amicable. (R.)

Am'ica, a lake of S. America, in the prov. of Cumana, Venezuela, on a plateau between the Rupununy and Tocoto rivers. In the age of Queen Elizabeth, the vicinity of this lake was called the El Dorado,—"The great lake with the golden banks,"—and near it was supposed to stand the wonderful imperial city of Manoa, forming the object of the expedition of Sir Walter Raleigh and his ill-fated followers, but which they failed to discover.

Am'ice, *n.* [O. Fr. *amis*, from Lat. *amicere*, to throw around.] (*Eccles. Hist.*) The first, or innermost part of a Catholic priest's habit, over which he wears the alb.

Amid', Amidst', *prep.* [From prefix *a*, and *mid*, or *midst*.] In the middle; equally distant from either extremity.

"But of the fruit of this fair tree, *amidst* the garden, God hath said, ye shall not eat."—*Milton.*

—Mingled with; surrounded by.

"*Amid* my flock with woe my voice I tear."—*Sidney.*

—Amongst; conjoined with.

"What tho' no real voice nor sound
Amid their radiant orbs be found?"—*Addison.*

Ami'da, (*Anc. Geog.*) A city of Mesopotamia, taken by Sapor, king of Persia. It was called Constantia in honor of the Emp. Constantius, who fortified it. Now known as Diarbekir, or Cara-Amid.

Am'ide, Amid'ogen, *n.* (*Chem.*) The term *amide* is given to a class of substances which contain ammonia deprived of an atom of hydrogen, (NH_2.) Some of the most familiar of these amides or amidogen are, potassamide NH_2K., sodamide NH_2Na, oxamide $NH_2C_2O_2$, benzamide, $NH_2C_4H_5O_2$, sulphamide, $NH_2>O_2$, carbamide, NH_2CO. Some of these amides are formed by heating organic salts of ammonia, by which they lose water, and leave an amide. It is probable that many animal substances, as albumen, belong to this class.

Am'idine, or AMYDIN, *n.* [From the Fr. *amidon*, starch.] (*Chem.*) A yellow or white substance when hydrous, which is the soluble part of starch. The insoluble portion or outer covering of the starch granules is called *amyline*.

Amido-Sulphuric Acid. (*Chem.*) An acid formed by the action of oil of vitriol on starch.

Amid'ships, *adv.* (*Naut.*) In the centre between two extremes, either of length or breadth.—*To put the helm amidships*, is to place the tiller on a line with the keel.

A'miens, a town of France, cap. of the dep. of the Somme, and formerly of the prov. of Picardy. It stands on the banks of the Somme, about 35 miles from the English channel, and 71 m. N. of Paris. The town is agreeably situated, and is the centre of a large trade. It is a bishop's see, and possesses courts, an academy of sciences, a botanical garden, &c.—*Manf.* Woollens, kerseymeres, and velvets, linen and cotton goods, &c. There are here bleaching, dyeing, and chemical works; beet-root sugar and soap factories, and paper-mills. *A.* was once a place of considerable strength, and played an important part in the wars of the middle ages. Its most celebrated building is the magnificent Gothic cathedral, one of the finest in Europe, founded in the 12th, and only finished at the end of the 14th century. Its interior exhibits one of the grandest spectacles that architectural skill has ever produced, impressing the mind by its exquisite

proportions, great height, and the noble simplicity which everywhere meets the eye. Its length is 442 feet, while the vault is 140 feet high, which is half as high again as that of Westminster. The spire has an elevation of 420 feet. *Pop.* 80,288.

TREATY OF A.—The celebrated Treaty of Amiens, which terminated a war of ten years' duration, was concluded at Amiens on the 27th of March, 1803, between France, Holland, and Spain, on the one hand, and Great Britain on the other. England gave up to their former owners all the conquests made during the war, except Trinidad and Ceylon, while the French agreed to evacuate Naples, and Egypt was restored to Turkey. The peace was of brief duration; England did not evacuate Malta, and the war was renewed, May 17, 1803.

Amil'car. See HAMILCAR.

Am'ilene, *n.* (*Chem.*) A colorless fluid of a peculiar odor, floating on water, boiling at 320°; spec. grav. of vapor, 5·061; obtained by distilling oil of potatoes or grain with anhydrous phosphoric acid. *Form.* $C_{10}H_{10}$.

Amim'one, or AMYMONE. (*Myth.*) A daughter of Danaus, changed into a fountain near Argos, which flows into Lake Lerna.

A'mir, *n.* See EMIR.

Am'irante Islands, a group of small islands in the Indian ocean, lying about 300 m. to the N. of the island of Madagascar. They are generally from 2 to 3 m. in length, and from 20 to 25 feet in height. Lat. bet. 4° and 6° S.; Lon. bet. 54° and 56° E. They belong to England.

Amish Church. See MENNONITES.

A'mish, in *Iowa*, a post-village of Johnson co., about 17 m. S.W. of Iowa city.

Amiss', *a.* [From *a* and *miss.*] Faulty; criminal; out of order; wrong; improper; unfit. It always follows the substantive to which it relates: so, we say "the action was *amiss*," but never, "an *amiss* action."

—*adv.* Faultily; criminally; contrary to propriety or order.

"If I have done *amiss*, impute it not." — *Addison.*

A'misville, in *Virginia*, a post-village of Rappahannock co., 121 m. N.W. of Richmond.

Amite', a river which rises in the S.W. part of the State of Mississippi, passes into the State of Louisiana, and empties into Lake Manrepas. Navigable for small steamboats for a distance of 60 miles.

Amite', in *Mississippi*, a county bordering on Louisiana. *Area*, 700 sq. m. It is drained by Amite river, which flows through the centre of the county, and from which it derives its name, and by the river Homochitto. In surface it is uneven, but the soil is fertile. — *Prod.* Cotton, rice, Indian corn, and sweet potatoes. *Cap.* Liberty. *Pop.* (1880) 14,004; (1890) 18,198.

Amiter'num. (*Anc. Geog.*) A town of Italy, the birthplace of Sallust. The ruins of this town are to be seen near St. Vittorino.

Am'ity, *n.* [Fr. *amitié*, from Lat. *amicitia.*] Friendship, in a general sense, whether between nations opposed to *war*, or among people opposed to *discord*.

"Let there be
'Twixt us and them no league nor *amity*." — *Sir J. Denham.*

—Between private persons it expresses an ordinary amount of goodwill, without intimacy or strong feeling; friendliness; goodwill.

Am'ity, in *Arkansas*, a post-village of Clarke co.

Am'ity, in *Illinois*, a post-village of Richland co., 50 m. E.N.E. of Peoria.

Am'ity, in *Indiana*, a post-village of Johnson co., abt. 7 m. S.E. of Franklin.

Am'ity, in *Iowa*, a township of Page co.

—A post-office of Scott co.

Am'ity, in *Maine*, a post-township of Aroostook co., 100 m. N.E. of Bangor.

Am'ity, in *New York*, a township of Alleghany county.

—A post-village of Orange co., 120 m. S. of Albany.

Am'ity, in *Oregon*, a post-village and township of Yam Hill co., 11 m. S. of Lafayette.

Am'ity, in *Pennsylvania*, a township of Berks county.

—A township of Erie co.

—A post-village of Washington co., 35 m. S.W. of Pittsburg.

Am'ity Hill, in *North Carolina*, a P. O. of Iredell co.

Am'ityville, in *New York*, a post-village of Suffolk co., 31 m. E. of Brooklyn, on L. I. R.R. *Pop.* (1898) 2,750.

A'mjherra, in North India, a small Rajpoot state; *area*, 584 sq. m.; *pop.* about 58,000.—There is a town of the same name, 60 m. N.W. of Oojein, containing about 500 houses, and well supplied bazaars.

Am'la, one of the Andreanov islands, E. of Atcha, 40 m. long and 10 broad.

Am'lai, one of the Aleutian islands, in the Fox group, the E. point of which is in Lat. 52° 6′ N.; Lon. 172° 50′ W.

Am'lweh, a seaport town of England, in N. Wales, on the N. shore of the island of Anglesea. It has a good port. The famous copper mines in the adjoining Pary's Mountain are considered inexhaustible.

Am'ma, *n.* [Heb., *mother.*] An abbess; a spiritual mother.

Ammalapoor', a town of British India, presidency of Madras, 65 m. from Masulipatam.

Am'man. (*Geog.*) See ALA-SHEHR.

Amme'lide, *n.* (*Chem.*) A white powder, obtained by dissolving ammeline in strong oil of vitriol; mixing the solution with 2 vols. water, and then with 4 of alcohol. *Form.* $C_{12}N_9H_9O_6$.

Am'meline, *n.* [From *ammonia* and *mellone.*] (*Chem.*) A base obtained in white powder by super-saturating with acetic acid the alkaline liquid which has deposited melamine.

Am'mer, the name of two small rivers and a lake, in Germany, one of the rivers joining the Neckar at Tübingen, and the other falling into the Isar, 2 m. from Mosburg. The lake *A.* is traversed by this one, and is 10 m. long, by 4 broad.

Ammerpoor', a town of Hindostan, in Nepaul, 110 m. from Khatmandoo.

Am'merschwihr, or MARIVILLIER, a town of Prussia, prov. Alsace-Lorraine, 4 m. N.W. of Colmar. Excellent wine is grown in the neighborhood. *Pop.* 2,036.

Ammia'nus Marcelli'nus, a Roman historian of the 4th century, B. at Antioch. He wrote the Roman history from the reign of Nerva to the death of Valens, in 31 books, of which 18 only are extant; served long in the army, and took part in the Persian war under Julian. His history is esteemed impartial and trustworthy, but his style is faulty.

Am'miolite, *n.* (*Min.*) An earthy powder having a deep-red scarlet color. It is regarded as an antimonate of copper mixed with cinnabar and other impurities.

Am'mitok, an island in lat. 59° 28′ N., lon. 63° 0′ W., off the N.E. coast of Labrador, about 75 m. S.E. of the entrance into Hudson's Straits.

Am'mocetes, *n. pl.* (*Zoöl.*) A gen. of chondropterygious fishes, allied to the lampreys. The *A. branchialis* is about the thickness of a goose-quill, and is known in England as the Stone Grig. It is of no use but as bait for other fish.

Am'modyte, *n.* [Gr. *ammos*, sand or mud; *dute*, plunger.] (*Zoöl.*) A gen. of apodal malacopterygious fishes, belonging to the fam. *Muranidæ*. They are known under the name of Sand eel, *A. tobianus*, and Launce, *A. lancea*. Worms and insects are their food, and they are in their turn preyed upon by the mackerel and salmon. They are from 8 to 10 inches long.

Am'modytes, *n. pl.* (*Zoöl.*) A gen. of serpents, allied to the viper, but distinguished from it by an erect pointed process on the tip of the snout. A species found in the East is so extremely poisonous as to prove fatal in three or four hours.

Am'moline, *n.* (*Chem.*) An oily base, occurring in Dippel's animal oil, smelling of horse-radish; separated from several other oils, as animine.

Am'mon, AMON, AMUN, AMN-RA, or HAMMON, an Egyptian deity, whom the Greeks considered synonymous with their Zeus (Jupiter). He appeared in the form of a ram to Hercules, or, according to others, to Bacchus, who with his army was suffering the greatest extremity for want of water in the African deserts, and showed him a fountain. Upon this, Bacchus erected a temple to his father, under the name of Jupiter Ammon, which had a famous oracle, established about 18 centuries before the time of Augustus; but when it pronounced Alexander to be the son of Jupiter, such flattery destroyed its reputation, and in the age of Plutarch it was scarcely known. In 1772, the site of the temple of Ammon was discovered in a fertile spot, called the Oasis of Siwah, situate in the midst of a desert, five degrees from Cairo. The ancient Egyptian name of the deity is *Amn-ra*. He was one of the eight gods of the first order, and chief of the triad of Thebes. He was represented sometimes as a man wearing a cap with two high plumes, and often with a ram's head and human body.

Fig. 109. — AMMON.
(From an Egyptian sculpture.)

Ammo'nia, VOLATILE ALKALI, ANIMAL ALKALI, SPIRITS OF HARTSHORN, *n.* [Probably from the temple of Jupiter *Ammon*, near which the chloride of ammonium was first made from the soot produced by burning camel's dung in Libya.] (*Chem.*) *A.* is a gaseous compound, possessing the properties of the alkalies proper, potash and soda; spec. grav. 0·59. It was first isolated by Priestley, 1774, who named it alkaline air. By submitting it to heat, he found it to consist of three parts of hydrogen, and one of nitrogen. It is difficult to form it by the direct union of these gases; but wherever nascent hydrogen and nitrogen are eliminated by any chemical action, a portion of *A.* is ever found in the resulting compound. During the decomposition of water containing air, by the electric current, a small quantity of *A.* is formed; also, when a mass of moistened iron filings is exposed to the air; but it is formed in the greatest quantities when nitrogenous organic matter putrefies, or is submitted to destructive distillation. *A.* is also found during the distillation of coal in gas-works, the ammoniacal liquor produced in this way being the great source of *A.* for commercial purposes. It is generally prepared in a laboratory, by the action of caustic lime on some salt of *A.* By submitting this liquid to the action of solid carbonic acid, solid *A.* is produced. *A.* does not support either combustion or life, and inflames with difficulty. It is decomposed into its elements by passing through it a series of electric sparks. *Form.* NH_3. On exposure to a pressure of 6 atmospheres, at a temperature of 50°, *A.* condenses into a colorless liquid, sp. gr. 0·76, boiling at —28·75°. By exposing the dry gas to a pressure of 20 atmospheres and a cold of —75° C., it freezes to a transparent solid. An interesting application of the principle of the latent heat of vapors was first made in the case of *A.* in M. Carré's freezing-machine; (see fig. 110.) This consists essentially of two strong iron vessels connected in a perfectly air-tight manner by a bent pipe; one of these vessels contains an aqueous solution of ammonia saturated with the gas at 0°. When it is desired to procure ice, the vessel *A.* containing the ammonia solution (which we will term the retort) is gradually heated over a large gas burner, the other vessel B (the receiver) being placed in a bucket of cold water; in consequence of the increase of temperature, the gas cannot remain dissolved in the water, and passes into the receiver, where, as soon as the pressure amounts to about 10 atmospheres, it condenses in the liquid form. When the greater part of the gas has thus been driven out of the water, the apparatus is reversed, the retort (A) being cooled in a current of cold water, whilst the liquid it is desired to freeze is placed in the interior of the receiver (B). A re-absorption of the ammonia by the water now takes place, and a consequent evaporation of the liquefied ammonia in the receiver; this evaporation is accompanied by an absorption of heat which becomes latent in the gas; hence the receiver is soon cooled far below the freezing-point, and ice is produced around it.—See FREEZING APPARATUS, ICE.

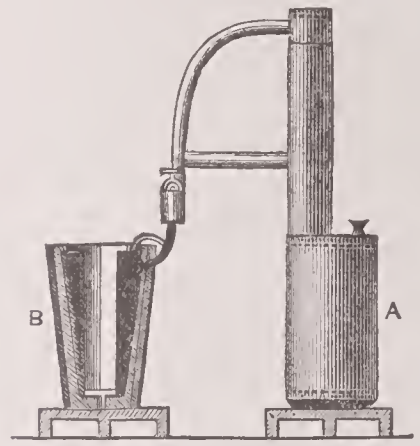


Fig. 110.

AMMONIA LIQUID, AMMONIÆ AQUA, AMMONIA (SOLUTION OF). *A.* is readily absorbed by water, which takes up 670 times its own volume of the gas, forming the solution of *A.*, or liquid *A.*, as it is generally improperly called. This solution is a colorless transparent liquid, having a characteristic pungent smell, a burning caustic taste, and a strong alkaline reaction. At its greatest strength its specific gravity is ·850, and it can only be kept in closely stoppered bottles. It is made by passing the gas through distilled water kept near the freezing-point by means of ice. It is of great use in the laboratory as a reagent, dissolving many oxides and salts insoluble in water. It is employed in medicine as a stimulant. There are two degrees of strength used: the liquor ammoniæ fortior, of ·850, and the ordinary liquor ammoniæ, or spirits of hartshorn, at ·960. Mixed with oil, with which it forms a soap, it is used as a rubefacient, under the name of soap liniment. *A.* forms an infinite number of salts with the different acids, most of them similar in their properties to the corresponding salts of potash and soda.

Acetate of A., or *Spirits of Mindererus*, used in medicine as a refrigerant and diaphoretic.

Carbonate of A. The carbonate of ammonia forms the smelling-salts of the chemist's shop, generally called Preston salts. Solution of carbonate of *A.* is sometimes used as an emetic. It is also used in the manufacture of unfermented bread. It is used in medicine as a stimulant. *Form.* NH_4CO_3.

Nitrate of A. Used in the laboratory for the production of nitrous oxide, or laughing-gas. The crystals are melted in a retort, at a gentle heat, nitric acid being evaporated, and water remaining behind. *Form.* NH_4NO_3.

Sulphate of A., much used as a cereal manure, is obtained in great quantities by neutralizing bone or gas-liquor, with sulphuric acid, evaporating and crystallizing. It is a four-sided prism, with square base; spec. grav. 2; of sharp, bitter taste; soluble in 2 parts of cold water; melts at 284°, and decomposes at 536°. *Form.* NH_4SO_4.

A. as a motive power.—The extreme solubility of ammoniacal gas is a property of which advantage may be taken for creating a vacuum, exactly as the same object is accomplished by the condensation of steam. On the other hand, it boils at 122° F., and affords a pressure of six atmospheres at 232°, while steam requires a heat of 320° to produce the same result. Ammoniacal gas, therefore, seems to possess a combination of properties favorable to the production of an economical motive power. The first ammoniacal engine attracted much attention during the Paris exhibition of 1867, and is thus described. "The apparatus consists of a receiver for condensing the gas, and a condenser for its preservation and regeneration after it has served its purpose. The gas is driven off from the ordinary aqua-ammonia, and is liquefied under its own pressure in a condenser, placed in a refrigerating mixture. The receiver, full of liquid ammonia, resembles the contrivance used to hold carbonic acid water for soda fountains. It is provided with

coupling screws and washers, so that it can be attached to the stationary piston where the work is to be done. The liquefied gas, in strong receivers, and exerting a force of 7 to 10 atm., according to the heat applied, can be transported in vans and delivered to customers, precisely as soda-water is now carried through the streets. Attached to every stationary engine is a vessel filled with cold water, into which the gas passes from behind the piston, just as steam is condeused in the low-pressure engine, and this condenser contains all of the gas iu a form to be again converted into liquid. When a new supply of liquefied *A.* is delivered from the van, the condensers will be carried away, aud the *A.* recovered from them at the principal factory. It is claimed that, with twenty pounds of liquefied *A.*, a force equal to one-horse power can be maintained for one hour. An omnibus, with an *A.* engine of two-horse power, can be propelled 8 m. with 50 pounds of liquefied *A.* and 120 pounds of cold water. At the end of the route, a fresh supply of the liquefied *A.* and of cold water can be attached, and the *A.* afterwards reclaimed from the 120 pounds of water. Such au eugine would disengage no smoke and no vapor; it would always be ready, and could bo used to advantage on elevated railroads, in private houses, in mines, in tuuuels, and on city railroads, for fire-engines, for balloons, and in situations where the combustion of air must be avoided.—As *A.* will attack copper and brass with great avidity, it is necessary to have these parts substituted by iron. Iron is preserved from rust, instead of suffering from it, and the whole engine can be made of this metal. The oil and fatty matters employed for lubrication will sapouify with the *A.*, and thus make the joints tight and prevent friction.—Another Frenchman, M. Fort, employs the solution of *A.* in water, or aqua-ammonia. This solution only absorbs 126 units of heat in its vaporization, while water absorbs ucarly five times as much heat."—Dowu to the preseut time (1897), however, these machines and other attempts to use Ammonia as a motive power, have come to no practical use.

Ammo'niacal, *a.* Having the properties of, or containing ammonia.

Ammo'niac, (Sal.) See AMMONIUM, CHLORIDE OF.

Ammoni'acum, *n.* (*Chem.*) The *Ammoniac Gum*, a fetid gum-resin which exudes from the stem of the *Dorema ammoniacum*, a plant growing in Persia. It is occasionally prescribed as an expectorant, and is applied externally to promote the absorption of tumors and chronic swellings of the joints.

Am'monites, descendants of Ben Ammi, the son of Lot (*Gen.* xix. 38), abt. B. C. 1897. They occupied a territory at one time in the possession of the Zamzummim, "a people great, and many, and tall as the Anakim." (*Deut.* ii. 19–21.) Although the Israelites were commanded not to molest them, several wars ensued between the two nations, with varying success. They oppressed the Israelites B. C. 1206, but were defeated by Jephthah with great slaughter (*Judges* xi. 32, 33), B. C 1188, and by Saul (1 *Sam.* xi.), B. C. 1095. David subdued them B. C. 1038. They afterwards recovered strength, and attacked Jehoshaphat, but were defeated, and, somewhat later, were made tributary to Uzziah and Jotham (2 *Chron.* xx. 1–30, xxvi. 8, xxvii. 5). Their enmity still continued: They united with the Chaldeans to distress Judah, and occupied the territory east of the Jordan. They harassed the Jews after their return from captivity, and attacked them in the Maccabean wars (1 *Macc.* v. 6, 30–43). Yet marriages were occasionally made between Israel and Ammon: thus the mother of Rehoboam was an Ammonitess (1 *Kings* xiv. 31).

Am'monites, AMMONITIDÆ, or SNAKE-STONES, *n. pl.* [From Lat. *Ammon* or *Jupiter*, who was worshipped in Libya under the form of a ram, the *A.* having been at one time considered to be petrified ram's horns.] (*Pal.*) Spiral fossil shells, of which there are a great abundance in Europe, Asia, and America, especially in the lias, chalk, and oölite formations. They appear like a snake rolled up; some are very small, but occasionally they are met with upward of three feet in diameter. In some places they are so numerous, that the rocks seem, as it were, composed of them alone. Upward of 200 species have been already described, and it appears that many of them were very widely distributed; some being found in the Himalayan mountains, at the elevation of 16,000 feet, similar to species discovered in the oölite series of rocks in Europe. The nearest *recent* ally of this extinct fam. of Mollusca is supposed to be the *Spirula*, q. v.

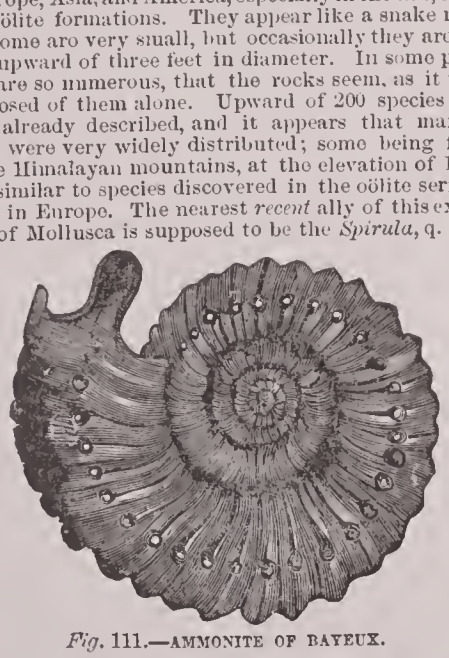


Fig. 111.—AMMONITE OF BAYEUX.

Ammo'ninm, *n.* (*Chem.*) The existence of an hypothetic compound metal called *A.*, and having the constitution NH_4, has been assumed as the only method of explaining the perfect analogy that exists between the salts of ammonia and those of the precious metals. Actual experiments have already strengthened this theory, at first only founded on analogy. (See the Treatise on Chemistry by E. Miller.)

Chloride of A. A salt ordinarily called sal-ammoniac, or muriate of ammonia. It is made extensively by neutraliziug bone-liquor, or gas-liquor, with hydrochloric acid, evaporating, crystallizing, and subliming. It was formerly manufactured by subliming the soot produced by a mixture of coal, salt, animal matter, and clay. It is much used in the arts, more especially in tinning iron, copper, and brass. It may be formed directly by the union of dry ammonia and chlorine. *Form.* NH_4Cl.

Iodide of A. A salt much used in photography for iodizing collodion, on account of its great solubility in alcohol. Its manufacture is very difficult: it should, therefore, be bought of a respectable chemist.

Ammo'nius, surnamed SACCAS, or THE PORTER, a philosopher of the 3d century, was born at Alexandria, probably of Christian parents, and became the founder of a new school of philosophy, which sought to effect a reconciliation of the Platonic and Aristotelian systems. The great critic Longiuus, the mystic Plotinus, and the great church teacher Origeu, were his disciples. D. about 243.

Ammonoo'suck, the name of two rivers which take rise in New Hampshire, Coos co., near Mount Washiugton, and fall into the Connecticut river, the *Lower A.* after a course of about 100 miles, and the *Upper A.* after a course of 75 m.

Ammothe'a. (*Myth.*) One of the Nereids.

Ammuni'tion, *n.* [Lat *munitio*, a fortifying.] (*Mil.*) All warlike stores, especially powder, shot, shell, grenades, cartridges, &c. Muskets, swords, bayonets, and other small arms are sometimes, but improperly, included under this term. When the term is connected with artillery, *fixed A.* is understood to comprise loaded projectiles; and *unfixed A.*, those which are unfilled. The chief forms of *A.* will be found under their proper headings, as CARTRIDGE; CASE-SHOT; GUNPOWDER; GRENADE; SHOT; SHELL; &c.

Amne'sia, *n.* [Gr. *a* priv., and *mnesis*, memory.] (*Med.*) Loss of memory; mostly a symptomatic affection.

Am'nesty, *n.* [Fr. *amnistie*, from Gr. *a* priv., and *mnestis*, remembrance.] (*Polit.*) An act of pardon or oblivion, by which crimes against the government to a certain time are so obliterated that they can never be brought into charge. An amnesty may be either absolute and universal, or it may except certain persons specifically named, or certain classes of persons generally described. The Constitution of the United States gives to the President the right of granting "reprieves and pardons for offences against the U. S." It was by virtue of that power that the President Andrew Johnson, after several declarations of conditional or partial amnestics, at last, December 25, 1868, proclaimed, "unconditionally and without reservatiou, to all and to every person who directly or indirectly participated in the late insurrection or rebellion, a full pardon and amnesty for the offence of treason against the United States, or of adhering to their enemies during the late civil war, with restoration of all rights, privileges, and immunities, under the Constitution, and the laws which have beeu made in pursuance thereof."

Am'nion, AM'NIOS, *n.* [Gr., a lamb or lamb's skin.] (*Physio.*) The soft internal membraue which surrounds the fœtus. It is very thiu and pellucid in the early stage of pregnancy, but acquires considerablo thickness aud strength in the latter months. The amnios contains a thin watery fluid, in which the fœtus is suspended. The incontestable uses of this fluid, named also the *waters*, or liquor *amnii*, are to serve the purpose of affording a soft bed for the residence of the fœtus, to which it allows free motion, aud prevents any external injury during pregnaucy; and iuclosed in the membranes, it procures the most gentlo yet efficacious dilatatiou of the os uteri, and soft parts, at the time of parturition.

Am'nios, *n.* (*Bot.*) A thin semitransparent gelatinous substance in which the embryo of the seed is suspended and fed in its early stages.

Am'non. [Heb., *faithful.*] The eldest son of David. He dishonored his half-sister Tamar, and was in consequence murdered by his brother Absalom.

Amœba', *n.; pl.* AMŒBÆ. [From Gr. *amoibe*, change.] (*Zoöl.*) An animalcule that has power of undergoiug at will many changes of form.

Amœbe'an, *a.* [From Gr. *amoibaios*, mutual.] Alternately answering, as it occurs in several of the eclogues of Virgil, in which persons are represented as speaking alternately.

Amœ'bous, *a.* Like an amœba in structure.

A'mol, a city of Persia, prov. of Mazanderan. lat. 36° 30′ N.; lon. 52° 23′ 55″ E. *Pop.* 30,000.

Amomales, *n. pl.* (*Bot.*) An alliance of plants, class *Endogens*, including the ord. *Musaceæ*, *Zingiberaceæ*, and *Marantaceæ*. DIAG. Epigynous petaloid Endogens, with unsymmetrical flowers, 1–5 stamens, aud albuminous seeds.

Amo'mum, *n.* [Lat. from Gr. *amomos*, blameless.] (*Bot.*) A genus of plants, ord. *Zingiberaceæ*. They are aromatic herbs, and were used in embalming; whence the name *mummy*. The acrid seeds of some species are called *Grains de Paradis*.

A'mon, 14th king of Judah, succeeded his father Manasseh. He devoted himself wholly to the worship of false gods, but was killed in a conspiracy after a reign of two years, B. C. 639.

A'mond, a river of England, in Wales, co. of Carmarthen. It falls into the Loughor.

Among', Amongst', *prep.* [O. Eng. *amonge;* A. S. *amang.*] Mingled with; placed with other persons or things.

"They hid themselves *among* the thickest trees."—*Milton.*

—Conjoined with others, so as to make part of the number

"There were, *among* the old Roman statues, several of Venus."
Addison

Amoor. See AMOUR.

A'mor, *n.* [Lat.] See EROS.

Am'oret, *n.* [From Fr. *amourette*, a little love-affair A lover. (R.)

Amor'go, the ancient *Amorgos*, an island in the Grecian Archipelago, about 36 m. in circumference, at the S.E. of Naxia, lat. 36° 50′ N.; lon. 25° 56′ E. The chief town, on the N.E. shore, is of the same name. Port St. Anna, on the N. shore, is a good harbor. *A.* was noted in antiquity for its fertility, and is still well cultivated. It belongs to Greece, and is the birthplace of Simonides. — *Amorgo Poulos*, is a small uninhabited island, 12 m. W. of Amorgo.

Am'orist, *n.* [Lat. *amare*, to love.] A lover; a gallant. (R.)

Am'orite, and **Am'orites.** [Heb., *mountainous.*] The most powerful tribe of the Canaanites, or aborigines of Palestine. The name occurs often in the singular number, though used collectively for the whole Amoritish nation. They were the sons of Ham. (Gen. x. 15–20.) They are mentioned among the ten nations whose country was given to the seed of Abraham. (Gen. xv. 19–21.) They dwelt chiefly in the mountains which afterward belonged to the tribe of Judah. (Numb. xiii. 29; Deut. i. 20.) The river Arnon was the border between Moab and the *A.* (Num. xxi. 13.) Of the cities of the *A.* it was said to the people of Israel, "Thou shalt save alive nothing that breatheth: but thou shalt utterly destroy the Hittites, *Amorites*, Canaanites, Perizites, Hivites, and Jebusites, as the Lord thy God has commanded thee, that they teach you not to do after all their abominations, which they have done unto their gods." (Deut. xx. 16.) Even their sons and their daughters have they burnt in the fire to their gods. (Deut. xii. 31.) — The *A.* were of tall stature. According to Amos (ii. 9), they were high as cedars and strong as oaks. This poetical description is illustrated by the historical statement, that the size of the iron bedstead of the Amoritish king Og, of Bashan, was nine cubits by four. (Deut. iii. 11.) But it is most likely that this bedstead, as it is called, was a kind of Divan. About the year B. C. 1120 there was peace between Israel and the *A.* The Gibeonites were of the remnant of the *A.*, whom Joshua had made hewers of wood and drawers of water. (Jos. ix.; 2 Sam. xx.) Another branch of the *A.* dwelt between the rivers Jordan and Arnon. (Num. xxi. 13, xxii. 36; Judges xi. 18.) Here Moses and the children of Israel had smitten two kings of the *A.*, namely, Sihon, who dwelt at Heshbon, and Og, king of Bashan. iu the plain east of Jordau. These kings had refused to let the Israelites pass through their borders. But it appears that these *A.* were not extirpated, and that their descendants formed, even during the time of the Maccabees, a distinct tribe; for we read in Josephus's *Antiquit.* (xiii. chap. 1), that the *A.* from Medaba fell suddenly upon the corps of Johannes Gaddis, when he was conveying, according to the command of his brother Jonathan, the baggage of the Jewish host to the Nabathæan Arabs who roved between the Euphrates and the Red Sea.

A-morn'ings, *adv.* In the mornings. (O.)

Amoro'sa, *n.* [It.] A wanton woman: a courtesan.

Amoro'so, *n.* [It.] A lover, a man enamoured.
—*adv.* (*Mus.*) Iu a tender, slow manner.

Am'orous, *a.* [It. *amoroso;* Fr. *amoureux.*] Iu love; euamoured;—with *of*

"Nature is *amorous* of whatsoever she produces."—*Dryden.*

—Maternally inclined to love; disposed to fondness; fond, as, an *amorous* disposition.
—Relating to, or belonging to love.

"And into all things from her air inspired,
The spirit of love and *amorous* delight."—*Milton.*

Am'orously, *adv.* In au amorous manner; fondly; loviugly.

Am'orousness, *n.* The quality of being amorous, as inclined to love; fondness; lovingness.

Amor'phism, *n.* [Gr. *a* priv., and *morphe*, shape.] The state of being amorphous.

Amor'phous, *a.* The opposite of the crystallized or definite form of a body. Charcoal is the *amorphous*, and diamond the crystalline state of carbon. This word extensively gains more and more currency in the sense of floating, or not yet compacted into a settled shape; shapeless; unformed; incompact; inchoate; iucomplete; mordered; unarranged; floating.

Amorphozo'a, *n. pl.* [Gr. *amorphos*, shapeless.] (*Zoöl.*) A name given by some authors to living substances that have no regular internal structure, as the sponges.

Amort', *a.* [Pref. *a*, and Fr. *mort*, death.] In the state of the dead; dejected; depressed; spiritless.

"How fares my Kate? what, sweeting, all *amort?*"—*Shaks.*

Amortiza'tion, Amor'tizement, *n.* [Fr. *amortissement.*] (*Eng. Law.*) An alienation of lands in mortmain to any corporation or fraternity and their successors, *i. e.*, to some community that never is to cease.

Amor'tize, *v. a.* [Fr. *amortir.*] (*Eng. Law.*) To alienate lands in mortmain.

A'mos. [Heb., a burden.] The fourth of the ancient prophets; was a native of the town of Thekou, near Bethlehem. He was not a prophet's son, but a herdsman, and a gatherer of sycamore fruit, and the Lord took him, as he followed the flock, to prophesy unto Israel. His prophecies were probably delivered between the years 798–784 B. C. The canonical authority of *A.* rests upon the internal character of his work, upon the united testimony of the Jewish and Christian churches, and upon the use which the apostles made of him (V. 25, 26, in Acts vii. 42; Amos ix. 11, and in Acts xv. 16.)

Amoskeag', in *New Hampshire*, a post-village of Hillsborough co., 17 m. S. by E. of Concord, on the Merrimac river.

Amo'tion, *n.* [From Lat. *amovere*, to remove.] (*Eng. Law.*) A putting away; a removing; deprivation of possession.

Amount', *v. n.* [O. Fr. *amounter*; Fr. *monter*.] To rise to in the accumulative quality; to compose in the whole. It is used of several sums in quantities added together.

"Let us compute a little more, particularly how much this will *amount to.*" -- *Burnet.*

—To reach the apex or culminating point, or a certain point or degree; to reach; to come; to rise; to attain; to extend.

Amount', *n.* The sum total; the result of several sums or quantities accumulated.—The effect, substance, or result; as, "The *amount* of his speech was unimportant."

Amour', *n.* [Fr.] An affair of gallantry; a love intrigue: generally used of an unlawful connection in love.—The *ou* sounds like *oo* in *poor*.

"But how can Jove in his *amours* be found?"—*Addison.*

Amour', Amoor, or SAGHA'LIEN, a large river of Eastern Asia, formed by the union of the Shilka and Argun; the first rising in the Russian government of Irkutsk, and the second near Onrga, in Mongolia, and hitherto for 400 m. forming the boundary line between the Chinese and Russian empires. The *A.* traverses the centre of Mantchooria, entering the gulf of Saghalien, in lat. 52° 27′ N., and lon. 140° E. Its entire course is estimated at 2,000 m. After a struggle of fifty years, with the view of annexing the territory through which flows the *A.*, the Russians were excluded from this river, by treaty with the Chinese in 1689. In 1847, its navigation was again opened to them by treaty; and the territory, with an area of 173,552 square miles, is now a province of Asiatic Russia. Cap., Blagovechensk.

A'moy, a seaport town of China, prov. of Fo-kien; lat. 84° 10′ N.; lon. 118° 10′ E. Its port, commodious and secure, is one of the five opened to foreign trade in China. The town is built on an island of the same name, opposite Formosa. It is large; contains many public buildings, and carries on a considerable trade. *Pop.* about 250,000.

Am'pelic Acid. (*Chem.*) White flaxes, without taste and smell, soluble in hot water; fuses at 500°, and sublimes at a higher temperature; combines with alkalies, forming very solnble salts. Obtained in the rectifications of that portion of the oil from alum slate (ampelite) which distils at 302°.

Ampel'idæ, or **Bombycei'lidæ,** *n. pl.* (*Zoöl.*) A family of birds, ord. *Insessores*. They are characterized by having the bill short, strong, broad, somewhat depressed at the base, and more or less curved at the tip. Gape wide; tarsi short and strong; claws very strong, and tail often very short.—They are generally natives of America, and live on fruits and berries. The Wax-wing, or Cedar-bird, *Ampelis Carolinensis*, of North America, where in the fall, and beginning of summer, it becomes very fat, and is then very much esteemed for the table. They breed in June, building a large nest, and laying three or four eggs. See BOMBYCILLIDAE.

Ampel'ideæ, *n. pl.* (*Bot.*) See VITACEÆ.

Am'peline, *n.* (*Chem.*) A colorless oil, without smell, obtained by distilling sulphuric acid, and the oil from alum slates, which boils between 392° and 536°.

Am'pelis, *n.* (*Zoöl.*) The wax-wing. See AMPELIDÆ.

Am'pelite, *n.* (*Min.*) A generic name given to slates, the aluminous *A.* being alum slate, and the graphic, common writing-slate.

Ampelop'sis, *n.* (*Bot.*) See CISSUS.

Am'père, ANDRÉ MARIE, whose name is imperishably connected with the great discoveries in electro-magnetism, was B. at Lyon, 1775. In 1804, he was nominated professor of the Polytechnic School of Paris; and here, in connection with Œrsted, Faraday, and other distinguished men of science, he paved the way for those brilliant discoveries that have already resulted in the electric telegraph, and promise an illimitable extension of the boundaries of science. D. 1836.

Am'père, JEAN JACQUES, son of the above, a distinguished French historian and *littérateur*, was born at Lyons in 1800, and was a pupil of Cousin. In 1833, he became a professor of the College of France, and was received into the French Academy in 1847. He visited Egypt and Nubia in 1844, and contributed some interesting articles on those countries to the "Revue des Deux Mondes." He wrote a number of valuable works in relation to French literature and language, and *Histoire Romaine à Rome*, a work of critical scholarship. D. 1864.

Ampère (*Am'-pair*). A term in practical electricity, denoting the unit of current, so called in honor of A.M. Ampère. An ampère is the amount of current which will be generated in a conductor whose resistance is 1 ohm (*q.v.*), when the difference of potential between the ends of the conductor is 1 volt (*q.v.*).

Am'phi-, *n.* [Gr.] A prefix in words of Greek origin, signifying *about*, *around*, *on both sides* &c.

Am'phiaraus, (*Myth.*,) son of Oiclens (according to some, of Apollo) and Hypermnestra; endowed by the gods with prophetical powers. Foreseeing that he should perish before Thebes, he hid himself; but being betrayed by his wife, Eriphyle, *q.v.*, he joined Polynices in his expedition against this city, and was one of his most valiant warriors. The besiegers having been repulsed in one of their attacks, the earth opened under him in his flight, and swallowed him, with his horses. On the spot where this event is said to have taken place, at Oropus, a feast was celebrated in honor of him (*Amphiræa*), and, not far from this city, a temple was dedicated to him, where oracles were delivered. His death was revenged by his son, Alcmæon.

Amphib'ean, and **Amphib'ial,** *n.* One of the Amphibia.

Amphib'ia, *n. pl.* [Gr. *amphi*, on both sides, and *bios*, life.] (*Zoöl.*) Strictly speaking, the term *Amphibia* will apply only to such animals as have the power of living, indifferently, at the same time, either upon land or in water, yet in common conversation we are accustomed to denominate seals, otters, beavers, &c., besides many reptiles, amphibions, because their organization disposes them to resort either to the land or water for procuring food, or whose habits are at once terrestrial and aquatic. But this is by far too comprehensive a sense. Linnæus applied the term generally to the third class of his system of zoölogy, which comprised not only all the animals since more properly denominated reptiles, such as the tortoises, lizards, serpents, and frogs, but likewise the cartilaginous fishes. It is now admitted, however, that Linnæus was not correct in this classification, and that a truly amphibious animal should possess the extraordinary double apparatus (lungs and gills at one and the same time) for extracting the principle which supports animal life indifferently from either element. It is only then to the genera *Lepidosiren*, *Proteus*, *Siren*, the *Axolotl*, and *Menobranchus*, that the term *amphibious* really applies, as these animals possess in reality both lungs and gills. Modern zoölogists, however, use the name *A.* to designate all the animals classed by Cuvier, as an order of reptiles, under the name of *Batrachians*.—See BATRACHIA.

Amphibiolog'ical, *a.* Belonging to amphibiology.

Amphibiol'ogy, *n.* [Fr. *amphibiologie*, from Gr. *amphibios*, amphibious, and *logos*, discourse.] A treatise on amphibious animals.

Amphib'ious, *a.* That which partakes of two natures, so as to live in two elements: as in air and water, like frogs, &c.—It is often used metaphorically.

"The *amphibious* character of the Greeks was already determined; they were to be lords of land and sea."

Amphib'iousness, *n.* The quality of being able to live in two elements.

Amphib'inm, *n.* (*Zoöl.*) One of the *amphibia*, q. v.

Am'phibole, *n.* [Gr. *amphibolos*, equivocal.] (*Min.*) A class of minerals, consisting of many varieties. White *A.* is *tremolite;* compact *A.*, *corneine:* black *A.* is *hornblende;* green *A.* is *actinote*. Oblique rhombic prisms, spec. grav. 2·92 to 3·48; very frangible, lustre vitreous. This mineral affords an example of isomorphism in a striking degree. Hornblende may be taken as an average of its composition. *Form.* $4RO.3SiO_3$. Found in primary rocks.

Amphibol'ic, *a.* Belonging to, or partaking of the nature of amphibola.

Amphib'olites, *n. pl.* (*Min.*) Trap-rocks, with a basis of amphibole.

Amphibolog'ical, *a.* Ambiguous; doubtful.

Amphibolog'ically, *adv.* Doubtfully; with a doubtful meaning.

Amphibol'ogy, *n.* [From Gr. *amphi*, on both sides, *ballo*, to throw, and *logos*, discourse.] (*Gram.*) A loose manner of expression, whereby the sense may be construed into a double meaning. It has a similar application to phrases or sentences with the word *equivocal*, in respect to words.

Amphib'olous, *a.* Tossing from one to another; as, "an *amphibolous* quarrel."

Amphib'oly, *n.* [Lat. *amphibolia*.] Ambiguous discourse; amphibology. (R.)

Am'phibrach, and **Amphib'rachys,** *n.* [Gr. *amphi*, on both sides, and *brachys*, short.] (*Anc. Pros.*) A foot of three syllables, the middle one long, the other two short: as, *hăbĕre*.

Amphicar'pæa, *n.* (*Bot.*) A gen. of plants, ord *Fabaceæ*. The pea-vine, *A. monoica*, giving in Sept. a pale purple flower, is a very slender vine, found in woods and thickets of Canada and the United States.

Amphicar'pic, *a.* [Gr. *amphi*, both ways, and *karpos*, fruit.] (*Bot.*) Producing fruit of both kinds either as to form or time of ripening.

Amphic'tyon, *n.* A member of the Amphictyonic council, *q. v.*

Amphictyon'ic, *a.* [Gr. *amphiktyonikos*.] Pertaining to the Council of the Amphictyons.

Amphic'tyonic Council, one of the earliest institutions in Greece, so called, it is said, from Amphictyon, son of Helenus. Grote says: "The belief of Æschines was that it commenced simultaneously with the first foundation of the Delphic temple, an event of which we have no historical knowledge." Twelve tribes sent sacred deputies called Amphictyons, to this association, which held two meetings every year, one at the temple of Apollo, at Delphi, in the spring, and the other at the temple of Ceres at Thermopylæ, in the autumn. They took into consideration all matters of disagreement which might exist between the different States of Greece. Their decisions were held sacred and inviolable, and even armies were raised to enforce them. The interference of the Amphictyons led to the first sacred war, B. C. 595. This council underwent various changes and vicissitudes, although it survived the independence of the country; and, so late as the battle of Actium, B. C. 31, it retained enough of its ancient dignity to induce Augustus to claim a place in it for his new city of Nicopolis. Pausanias states that it existed in the second century of our æra.

Amphic'tyony, *n.* [Gr. *amphiktyonia*.] An association of several States for the promotion of common interests.—See AMPHICTYONIC COUNCIL.

Amphig'amous, *a.* [Gr. *amphi*, on both sides, and *gamos*, marriage.] (*Bot.*) A term applied by De Candolle to those plants that have no traces of sexual organs.

Amphig'ean, *a.* (*Geol.*) Extending over all the zones from the tropics to either polar zone.

Am'phigene, *n.* (*Min.*) See LEUCITE.

Am'phi-hexahe'dral, *a.* [Gr. *amphi*, on both sides, and Eng. *hexahedral*.] (*Min.*) Applied to a crystal, the faces of which, counted in two different directions, give two hexahedral outlines, or are found to be six in number.

Amphi'la, an island in the bay of the same name, in the Red sea. Lat. 14° N.; Lon. 40° 22′ E.

Amphil'ogy, *n.* See AMPHIBOLOGY.

Amphim'acer, *n.* [Lat. *amphimacrus*, from *amphi*, on both sides, and *macros*, long.] (*Anc. Pros.*) A foot of three syllables, the middle one short, and the others long, as in *Cāstĭtās*.

Amphi'on, (*Myth.*) Son of Jupiter and Antiope: the eldest of the Grecian musicians. In Lydia, where he married Niobe, the daughter of king Tantalus, he learned music, and brought it thence into Greece. He reigned in Thebes, which was before called *Cadmea*. *A.* joined the lower and upper city by walls, built the 7 gates, and gave it the name of *Thebes*. To express the power of his music, and, perhaps, of his eloquence, the poets said, that, at the sound of his lyre, the stones voluntarily formed themselves into walls: that wild beasts, and even trees, rocks, and streams, followed the musician. With the aid of his brother, Zethus, he is said to have revenged Antiope, who was driven into banishment by his father, and to have bound Dirce to the tail of a wild bull; which incident is supposed to be represented by the famous piece of sculpture, the Farnese bull.

Amphip'oda, *n. pl.* [Gr. *amphi*, all around, and *pous*, a foot.] (*Zoöl.*) A numerous group of tetradecapodous crustaceans, containing a considerable number of species, all of small size, having the power of swimming and leaping with great facility, but always on one side. Some are found in streams and rivulets, but most in salt water; and their color is of a uniform pale red or greenish. In this order the eyes are sessile and immovable; the mandibles are furnished with a palp; the abdominal appendages are always apparent and elongated; and they have ciliæ, which appear to fulfil the office of branchiæ. The antennæ are ordinarily four in number, and the body is mostly compressed and bent. Some of the species are parasitical, living attached to fishes, and in acalephæ: others are free and very active, some living in the sand of the sea-shore, others in the sea or in fresh water, as the sandhoppers, *gammarus*.

Amphip'odous, *a.* Belonging to the amphipoda.

Amphip'olis, (*Anc. Geog.*) A town on the Strymon between Macedonia and Thrace, named also Acra. Myrica, Eion, &c. It is now called Iamboli. It was the cause of many wars between the Athenians and Spartans.

Amphip'rostyle, *n.* [From Gr. *amphi*, on both sides, and *prostylos*, with pillars in front.] (*Arch.*) An edifice

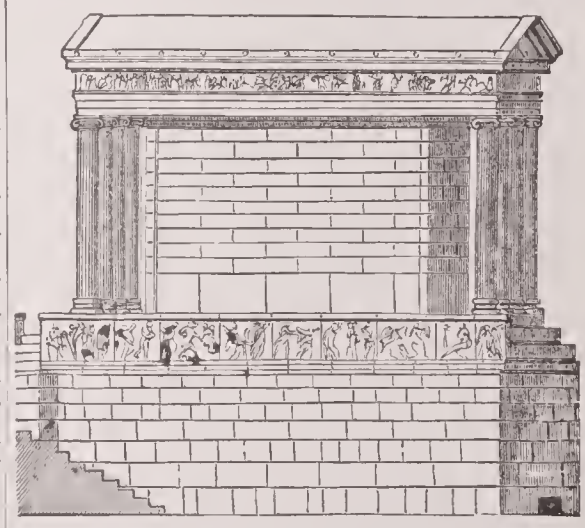


Fig. 112.—TEMPLE OF VICTORY; RESTORED. (Athens.)

having the form of an ancient Greek or Roman parallelogrammic temple, with a prostyle, or portico, on each flank, as in fig. 112.

Amphisbæ'na, *n.* [Gr. *amphi*, both ways, *baino*, to walk.] (*Zoöl.*) A gen. of reptiles, fam. *Amphisbanidæ*.

Amphisbæ'nidæ, *n. pl.* (*Zoöl.*) A family of reptiles belonging to the ord. *Amphisbænia* of Gray, natives of South America, and distinguished by their bodies having nearly the same uniform thickness throughout their whole length, it being difficult at first sight to distinguish the head from the tail. They are harmless, living chiefly in ants' nests, upon which animals they feed. Their eyes are so small that they have been supposed to be blind. The species of the gen. *Amphisbæna* are destitute of limbs, but the gen. *Chirotes* is peculiar for having two small rudimentary front legs.

Amphis'cii, *n. pl.* [Lat. from Gr. *amphi*, both ways, and *scia*, a shadow.] A name applied to the inhabitants of the torrid zone. *A.*, as the word imports, have their shadows one part of the year toward the north, and at the other toward the south, according to the sun's place in the ecliptic. When the sun is in its zenith they have no shadow, wherefore Pliny calls them *Ascii*.

Amphithe'atral, *a.* Resembling an amphitheatre

Amphithe'atre, *n.* [Gr. *amphi*, about, and *theaomai*, to see.] A building of an oval form, in which were exhibited various kinds of games and spectacles, especially combats of gladiators and wild beasts. The building was open at the top and was provided with an awning, which could be let down or drawn up at pleasure, and was occasionally used to defend the spectators from the rain and sun. The first *A.* of stone was erected by Statilius Taurus, by desire of Augustus. The largest was the Flavian *A.*, or, as its ruins are generally called, the *Colosseum;* built, as Suetonius informs us, on the

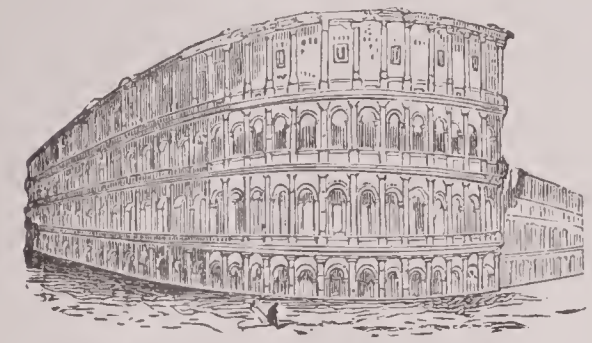


Fig. 113.—THE COLOSSEUM, OR COLISEUM.
(Rome.)

ancient site of the gardens of Nero. It was commenced by Flavius Vespasian, A. D. 72, and completed by his son Titus, and was capable of seating 87,000 persons, leaving standing-room for 20,000 more. It is recorded that 30,000 Jews, the victims of war, were employed in its construction. The ruins of several *A.* are still found in Italy and France, the most remarkable being those of Capua, Verona, Nîmes, Pola, and Pæstum. The principal parts of the *A.* were the *arena*, or place where the gladiators fought; *cavea*, or hollow place where the beasts were kept; *podium*, or projection at the top of the wall which surrounded the arena, and was assigned to the senators; *gradus*, or benches, rising all round above the podium; *aditus*, or entrances; and *vomitoriæ*, or gates which terminated the aditus.

Amphitheat'ric, Amphitheat'rical, *a.* Pertaining to, or exhibited in an amphitheatre.

Amphitheat'rically, *adv.* In the form of an amphitheatre.

Amphito'ites, *n.* (*Pal.*) A gen. of fossil zoöphytes which occur in the quarries of Montmartre. They do not approximate to any recent gen. of zoöphytes known to exist.

Am'phitrite, (*Myth.*) A daughter of Oceanus and Tethys, or of Nereus and Doris. Neptune wished to make her his wife, and, as she hid herself from him, he sent a dolphin to find her, which brought her to him, and received as a reward a place among the stars. As a goddess and queen of the sea, she is represented as drawn in a chariot of shells by Tritons, or riding on a dolphin, with the trident of Neptune in her hand.

Am'phitrite, *n.* [Gr. *Amphitrite*, the wife of Neptune.] (*Zoöl.*) A gen. of annellides, fam. *Tubicolæ*, q. v.

Am'phitrite Islands, in the China sea, near lat. 16° N., and lon. 112° E. They are included in the group of the Paracels, and are themselves divided into two groups.

Amphit'ropal, Amphit'ropous, *a.* [Gr. *amphi*, around, and *trepein*, to turn.] (*Bot.*) Having the ovals inverted, but with the attachment near the middle of one side; half anatropous.

Amphit'ryon, king of Thebes, son of Alcæus, and husband of Alcmena. Plautus, after him Molière, and, still later, Falk and Kleist, have made the trick played upon him by Jupiter (see ALCMENA) the subject of amusing comedies, in which the return of the true *A.*, and his meeting with the false one, occasion several humorous scenes at the palace and in the city. The French give this name to a courteous host.

Amphin'ma, *n.* (*Zoöl.*) A gen. of reptiles, ord. *Pseudosauria*, q. v.

Amphod'elite, *n.* (*Min.*) A reddish-gray or dingy peach-blossom red variety of *Anorthite*, q. v.

Am'phora, *n.; pl.* AMPHORÆ. [Lat. from Gr. *amphi*, on both sides, and *phero*, to bear.] In its ordinary acceptation, *A.* means an earthen vessel, used as measure for liquids both by the Greeks and the Romans. It received its name on account of its two ears or handles. It was generally about two feet in height; and the body, about six inches in diameter, ending upward with a short neck, tapers toward the lower part almost to a point. The Roman amphora contained forty-eight sextaries, and was equal to about seven gallons one pint English wine-measure; and the Grecian or Attic amphora contained one third more.—Amphora was also a dry measure in use among the Romans, and contained three bushels. When filled with wine, they were lined with pitch, on account of the porous nature of the material of which they were formed. They were sometimes used as funeral urns. Homer mentions amphoræ both of gold and stone.

Fig. 114.—MODE OF FILLING AMPHORÆ FROM A WINE-CART.

Am'phoral, *a.* Relating to or resembling an amphora.

Amphor'ic, *a.* (*Auscultation.*) Applied to a sound emitted from the lungs, like that produced by blowing into an empty decanter.

Amphoter'ic, *a.* [Gr. *amphoteros*, both.] Partly one and partly the other.

Am'ple, *a.* [Fr. from Lat. *amplus*, large.] It primarily expresses fulness of superficial, though not necessarily plane extent, as *ample* space; the *ample* folds of a robe. In usage it expresses such a fulness as testifies requirement or need. Large; bountiful; liberal; sufficient; plentiful; abundant.

Am'pleness, *n.* The quality of being ample: largeness.

Ample'pnix, a town of France, dep. of the Rhone, 19 m. W.S.W. of Villefranche; *pop.* 5,311.

Amplex'icanl, *a.* [Lat. *amplecti*, to embrace, *caulis*, a stem.] (*Bot.*) A term applied to a leaf which is enlarged at its base, so as to clasp the stem from which it springs, as in fool's-parsley.

Am'pliate, *v. a.* [Lat. *ampliare.*] To enlarge; to make greater; to extend. (R.)

Ampliation, *n.* [Fr. from Lat. *ampliatio.*] Enlargement; extension; diffuseness; amplification. (R.)

(*Law.*) A deferring of judgment until the cause is further examined.—(*French Law.*) A duplicate of an acquittance or other instrument.—A notary's copy of acts passed before him, delivered to the parties.

Am'pliative, *a.* Adding to that which is already known or received; synthetic.

Amplifica'tion, *n.* [Fr. from Lat. *amplificatio.*] The act of amplifying or enlarging in dimension; enlargement.

(*Rhet.*) A part of a discourse or speech, wherein a crime is aggravated, a praise or commendation heightened, or a narration enlarged, by an enumeration of circumstances, so as to excite the proper emotions in the minds of the auditors.

Am'plificative, and **Am'plificatory,** *a.* That enlarges or amplifies.

Am'plifier, *n.* One who amplifies or enlarges.

Am'plify, *v. a. and n.* [Fr. *amplifier*, from Lat. *amplificare.*] To make ample. The word is commonly applied to the augmentation of resources and the enlargement of some literary subject or argument. To enrich: to enlarge; to extend; to increase; to dilate; to expatiate; to expand.

Am'plitude, *n.* [From Lat. *amplus*, large.] The state of being ample; extent; largeness.

(*Astron.*) The angular distance of a celestial body from the east point when it rises, or from the west point when it sets. It depends upon the declination of the star and the latitude of the place. It must be measured toward the N. and S. points of the horizon, according as the declination is N. or S. For the fixed stars, the *A.* remains the same throughout the year; but for the sun it varies with the declination.

(*Gun.*) *A.* is sometimes used for the range of a shell, or other projectile, from its departure out of the mouth of the piece to the place where it falls. Thus, French engineers speak of the *A. de parabole*, &c.

Magnetical amplitude, with reference to the direction of the magnetic needle or compass, the arc of the horizon contained between the sun or a star, as its rising or setting, and the magnetical E. or W. points of the horizon; or it is the difference of the rising or setting of the sun or star from the E. or W. points of the compass.

Am'pul, *n.* See AMPULLA.

Ampul'la, *n.* [Lat., a bottle.] A vessel bellying out like a jug, used by the ancient Romans, either for containing unctions for the bath, or for drinking at table.

(*Eccl. Hist.*) A vessel for holding the oil at Chrismation, consecration, &c.; also for anointing monarchs at coronation. In France and England, a vessel of this kind was in use for the last-mentioned purpose. The French *A.* was at Rheims, the archbishop of which city performed the act of coronation of the French kings. A dove, it is said, brought this *A.* from heaven for the baptismal unction of Clovis I., in 496. In the revolution, this *A.* was lost; and it is said that a soldier oiled his boots with the miraculous liquid. On the coronation of Charles X., the last monarch anointed, it was stated that a phial containing some of this unction had survived the catastrophe. The *A.* of the English kings was in the form of an eagle, weighing about 10 ounces, of the purest chased gold. It was deposited by the Black Prince in the Tower of London. Henry IV. is the first king who was anointed from it.

(*Chem.*) A big-bellied vessel.

(*Bot.*) A bladder-shaped bag.

Ampulla'ceous, *a.* Having the form of a bottle or inflated bladder.

Ampulla'ria, *n.* [Lat. *ampulla*, a globular flask.] (*Zoöl.*) A gen. of Mollusca, of the fam. *Ampullariidæ*, q. v.

Ampullari'idæ, *n. pl.* (*Zoöl.*) A family of fresh-water gasteropodous *Mollusca*, the shell of which is large, thin, and globular. In addition to their gills they are said to have a bag which opens beneath, placed on the side of the respiratory cavity, which they can probably fill with water. It is most likely by means of this apparatus that the animals have the power of surviving a long drought or removal from the water, individuals having been known to live after having been packed up dry for a year or two.

Am'putate, *v. a.* [Fr. *amputer*, from Lat. *amputare.*] To cut off, as a limb.—It is also used in a general sense; to prune; to lop; to curtail.

Amputa'tion, *n.* [Lat. *amputo*, I prune or lop off.] (*Surg.*) The operation of cutting off a limb or some part of the body. The human frame is so constituted that if one member be diseased, the whole body suffers with it; and frequently the life of an individual may depend upon the removal of an injured or diseased member. The ancients, while they saw the necessity of cutting off a limb, shrunk from the operation with dismay, for they knew of no means of stopping the hemorrhage but red-hot irons and boiling oil or resin; and hence, besides the suffering entailed upon the patient, their operations were seldom successful. The advance of modern surgery is here very marked, not only in the improved methods and appliances for operating, but, from their increased knowledge of the human body, surgeons are now able to determine with far greater accuracy when an operation is necessary, or, by a minor operation, are able frequently to save a limb, little or at all impaired, which even half a century ago would have been ruthlessly sacrificed; while the recent introduction of anæsthetics has been of inestimable value to the patient. An amputation may be performed by what is termed the circular, the double-flap, or the single-flap operation. In proceeding to amputate, the patient is first placed in a convenient position, and the main artery is compressed by the tourniquet (see TOURNIQUET) or by the hand of a skilled assistant. The circular operation is performed by first detaching the skin a short distance below where the amputation is to be made. It is then drawn upward, and the muscles divided down to the bone, which is then sawn through. The arteries are then seized with a small forceps, drawn slightly out, and tied with a thread, after which the skin is brought over the wound, and either stitched or held together by strips of adhesive plaster. The double-flap operation differs from the above, in that the skin and muscles are cut down in a slanting manner, on opposite sides, so as to form two flaps, which are then drawn up, and the knife carried round the bone, dividing any flesh that may still be adhering to it; after which the surgeon saws the bone. It is objected to this method, that it makes a greater wound, and that the arteries, from being cut obliquely, will be less securely tied; but it is in favor with many, who maintain that there is little force in these objections, and that they are more than compensated for by the greater protection afforded by the flaps to the bone. The single-flap operation is seldom resorted to, unless where a portion of the limb is destroyed on one side, and it becomes necessary to take the flap from the opposite side.

Am'pyx, [Gr.] In ancient Greece, a frontal, or broad band or plate of metal, which ladies of rank wore above the forehead as part of the head-dress.—The frontal of a horse was called by the same name.

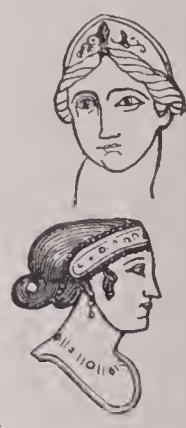


Fig. 115.

Am'ran, a walled city of Arabia, in the Djebel, or mountain-land of Yemen, 25 m. N.W. of Sana; Lat. 15° 32′ N.; Lon. 43° 38′ E. It stands in a fertile country, in the centre of the coffee lands. Though being a part of Haschid-u-Bekel, it is under the government of the Imaum of Yemen Proper. *Pop.* about 2,000.

Am'ran Mountains, a S. Afghanistan mountain range; highest peak, 9,000 feet. It is crossed by the Kajuk pass, 7,457 feet high.

Am'ran, a town and fortress of Hindostan, prov. of Gujerat, 22 m. from Mallia. Lat. 22° 35′ N.; Lon. 70° 35′ E.

Am'rawutti, or AMARAVATI, a considerable town of India, in the Deccan, 28 m. from Ellichpoor. Cotton is grown in its neighborhood.

Amret'sir, AMRIT'SIR, or UMRITSUR, the *Pool of Immortality*, a town of the Punjab, India, the holy city of the Sikh people, and formerly called Chak, at 44 m. E. of Lahore; Lat. 31° 33′ N.; Lon. 74° 56′ E. Manufactures inconsiderable; but being situated on the high-road between Cabul and Delhi, and Cashmere and the Deccan, it enjoys an extensive trade.—It is the principal seat of the Sikh religion. Amritsir, or the "Pool of Immortality," is a basin 135 paces square, built of brick, in the midst of which is a temple dedicated to the warrior-saint Gooroo Goviou Singh, the principal founder of the religion and power of the Sikhs. Immersion in the sacred pool is believed by the Sikhs, and by many tribes of Hindoos, to purify from all sins. *Pop.* (1891), 136,766; now (1897), est. at 141,500.

Am'ru-ebn-a'l-as, or UMRU-BEN-EL-AS, a famous Saracen general, at first a great enemy of Mahomet, but afterward his zealous disciple. He conquered Syria and Egypt. D. A. D. 663.

Amsoʻnia, *n.* (*Bot.*) A gen. of plants, ord. *Apocynaceæ*.

Am'stel, a small river of Holland, which, running through the city of Amsterdam, joins the arm of the Zuyder Zee called the Wye. It is canalized, and made navigable for vessels of considerable size.

Am'sterdam. [From *Amstel*, a river running into the city, and *dam*, a dyke, or embankment of earth to separate two lakes or canals.] The cap. of the kingdom of

Holland and of the prov. of N. Holland, on the S. bank of the Ji or Y, a gulf of the Zuyder Zee, in Lat. 52° 22′ 5″ N., Lon. 4° 53′ 2″ E., 107 m. N. of Brussels. The city is in the form of a crescent, with the two horns projecting to the Y, which forms the port of *A.* The approach to this capital on the land-side is very striking, the view extending over spacious meadows covered with luxuriant grass to the town, where the tall masts of ships, spires, and houses are all mingled together; and this scene of activity and wealth is in the middle of a marsh, which seems at every moment to be threatened with inundation from the brimful canals and waters which surround it. But these form the best defence of *A.*, and enable its inhabitants to lay the whole country around under water. *A.* was originally a salt-marsh, and in order to make a foundation for houses, it was necessary to drive large piles of wood, or rather masts, through a layer of peat, which in some places is said to be from 40 to 50 feet thick. The streets are generally in a straight line along the banks of the canals which intersect the city; among the finest are the Heeren Graft, or Gragt, and the Keizer's Gragt. The canals, or *grachten*, are so numerous that the city is divided into 90 islands, which communicate by 290 bridges; the Amstel itself divides the town into the eastern or old, and western or new part, and is crossed by a bridge, the Amstel-Brug, with 35 arches; it is about 610 feet long and 66½ wide. Through the eleven central arches large ships pass. Near the bridge is the great sluice (Amstelsluis), by which the waters of the river can be either dammed out or allowed to flow through the city. By shutting the gates, the course of the Amstel is stopped, and the country round the city laid under water. — Of the public buildings, the palace, formerly the Stadt-house (town-house), is the most magnificent; among the other public edifices are, the Exchange, founded in 1608, and capable of accommodating 4,500 persons; the City Hall, formerly the Admiralty; the museum; the arsenal, built on the island of Kattenburg; and the buildings of the society of *Felix Meritis*, having a superb concert-hall, three theatres, &c. Of the churches, that most worthy of attention, the New Church, was begun in 1408.—Among the literary institutes is the Athenæum, or College, a school of navigation, a royal academy of the fine arts, and the Amsterdam Institute, or Society of Felix Meritis. —*Manuf.* All sorts of stuffs, damasks, galloons, laces, velvets, woollen cloths, carpets, leather, borax, camphor, cinnabar, sulphur, &c. The art of cutting diamonds has here attained great perfection. About 10,000 persons, 9,000 of whom are Jews, are engaged in the trade.— Throughout the 17th century, and the first half of the 18th, *A.* was the metropolis of the commercial world. The growth of commerce and navigation in England and other countries has greatly lessened the carrying trade, which she had almost wholly engrossed; but though far short of its ancient importance, its commerce is still of very considerable extent and value. The old bank of *A.*, founded in 1609, and so celebrated among the moneyed institutions of the 18th century, ceased to exist in 1796. The present bank of the Netherlands was established in 1814. — *A.* has been sometimes called the Venice of the North. In the 12th century it was only a small fishing-village; in 1482 it was fortified. It supported for a long period the cause of the Spaniards; and it was not until 1578 that it joined the confederation, when it began rapidly to increase. A ship canal, 15 m. long, was completed Nov. 1876, connecting *A.* with the German Ocean, the cost of which is said to have been $10,000,000. *Pop.* in 1880, 296,200; in 1891, 426,914.

Am'sterdam, in *Indiana*, a post-village of Cass co., 9 m. W. by S. of Logansport.

Am'sterdam, in *Michigan*, a village of Ottawa co., on Lake Michigan, 33 m. W. S. W. of Grand Rapids.

Am'sterdam, in *New York*, a thriving city of Montgomery co., in township of same name, on Mohawk river, 33 m. N. W. of Albany. Manuf. of carpets, knit goods, steel springs, &c. *Pop.* (1890) 17,336; (1897) est. 20,000.

Am'sterdam, in *Ohio*, a post-vill. in Springfield twp., Jefferson co., 21 m. W. N. W. of Steubenville.

Am'sterdam, in *Virginia*, a post-village of Botetourt co., 181 m. W. of Richmond.

Am'sterdam Island, a small island in the S. Indian ocean, discovered by Van Vlaming in 1697; Lat. 37° 47′ S.; Lon. 76° 54′ E.; being 4½ m. in length, by 2½ in breadth, and 700 feet high. It is of volcanic formation, and the surface is in parts burning hot. No trees nor quadrupeds are found on this island, but it is resorted to by vast numbers of sea-birds.

Am'sterdam, New, a town and harbor of British Guiana, South America, near the mouth of the Berbice river. Lat. 6° 20′ N.; Lon. 57° 11′ W. Founded by the Dutch, it is built in their fashion. *Pop.* (1896) 5,536.

Amstét'ten, an Austrian village, 28 m. from Linz. Here the Austrians and Russians were defeated by the French, on the 5th of Nov., 1805.

Amt'zell, a town of Würtemberg, district of the Lake of Constance, 8 m. from Ravensburg. There is a fine castle here. *Pop.* 2,130.

Amuck', *n.* [Malay.] Act of killing; slaughter. — *To run amuck*, is to rush through the streets, frantically attacking all that come in the way.

Am'ulet, *n.* [Lat. *amuletum*; Fr. *amulette*.] An ornament or any other thing, generally inscribed with mystic forms or characters, worn as a preservative against enchantments, disease, or other evil, and for securing good-fortune; a charm. — *A.* of various kinds were in use among the Jews, (Gen. xxxv. 4, and Hosea. ii. 13.) The Persians and the Egyptians used them: and the Greeks and Romans made them of gems of various kinds. Homer mentions them as charms. Pericles wore an *A.* The emperor Caracalla, about A. D. 216, prohibited the use of them. They were used by the ancient Druids, and both necklaces and beads, intended as charms, are frequently found in their burrows.— Even at the present time, the superstitious faith in the virtue of certain charms has not entirely ceased to exist.

Amulet'ic, *a.* Pertaining to an amulet. (o.)

Amu'lius, king of Alba.—See Romulus.

Amurath' I., a sultan of the Turks; succeeded his father Orchan in 1360. He founded the corps of Janissaries, conquered Phrygia, and on the plains of Cassova defeated the Christians. In this battle he was wounded, and died the next day, 1389.

Amurath II., one of the more illustrious of the Ottoman emperors, succeeded his father Mohammed I. in 1421, at the age of 17. In 1423 he took Thessalonica from the Venetians: in 1435, subdued the despot of Servia, besieged Belgrade, which was successfully defended by John Hunniades; defeated the Hungarians at Varna, in 1444, and slew their king Ladislaus. D. 1451.

Amurath III., succeeded his father Selim II. in 1574. His first act was the murder of his five brothers. He added several of the best provinces of Persia to the Turkish empire. He was noted for his avarice, and his sensual excesses made him prematurely old. D. 1595.

Amurath IV., succeeded his uncle Mustapha X., 1623. After two unsuccessful attempts he took Bagdad from the Persians in 1638, and ordered the massacre of 30,000 prisoners who had surrendered at discretion. The excessive cruelty and debauchery of *A.* have earned for him the character of being one of the worst sovereigns that ever reigned over the Ottomans. D. 1640.

Amur'eous, *a.* [Lat. *amurca*.] Full of dregs or lees; foul. (R.)

Amus'able, *a.* Capable of being amused.

Amuse', *v. n.* [Fr. *amuser*, from O. Fr. *muser*, to stand idle, or to act in a leisurely way.] To entertain with tranquillity; to divert; as, "He *amuses* himself with trifles."—To keep in expectation; to draw on from time to time; to deceive; as, "He *amused* his followers with idle promises."

Amuse'ment, *n.* [Fr.] That which amuses; entertainment.

Amus'er, *n.* [Fr.] One who amuses, as with false promises.

Amusette', a small light cannon, carrying a ball of one-pound weight, and formerly used for service in mountainous countries. This gun was highly esteemed by Marshal Saxe, but has now gone entirely out of use.

Amus'ing, *p. a.* That which affords amusement; pleasing; entertaining.

Amus'ingly, *adv.* In an amusing manner.

Amu'sive, *a.* That which has the power of amusing.

Amu'sively, *adv.* In an amusive manner.

Am'well, in *Pennsylvania*, a township of Washington co.

Amyg'dalate, *a.* [Lat. *amygdala*, almond.] Made of, or pertaining to, almonds.

—*n.* (*Med.*) An emulsion of almonds.

Amygdal'eæ, *n. pl.* (*Bot.*) A name of the *Drupaceæ*, q. v.

Amygdal'ic Acid. (*Chem.*) A soft, crystalline mass when prepared in the cold state, gummy when hot, obtained by boiling amygdalin with diluted solution of caustic alkalies; ammonia is evolved, and amygdalic acid formed, soluble in water. It may be regarded as a compound of oil of bitter almonds, anhydrous formic acid, and sugar. *Form.* $C_{20}H_{28}O_{12}$.

Amyg'dalin, *n.* (*Chem.*) A crystalline compound procured from bitter almonds. It occurs in pearly scales without water, when crystallized from alcohol, and in colorless prisms when crystallized from water. Its solution in water is slightly bitter. Distilled with nitric acid, it is converted into ammonia, hydride of benzoyl, formic, and benzoic acids. *Form.* $C_{20}H_{27}NO_{11}$.

—Relating to, or resembling almonds.

Amyg'daloid, *n.* [Gr. *amygdale*, almond, *eidos*, form.] (*Min.*) A variety of trap-rock, containing, imbedded in it, as almonds in a cake, nodules, agates, and other bodies.

Amygdaloid'al, *a.* That which relates to amygdaloid.

Amyg'dalus, *n.* (*Bot.*) A gen. of plants, ord. *Drupaceæ*. The *A. communis*, almond-tree, a native of N. Africa and Asia, is extensively cultivated in the S. of Europe. It is a medium-sized tree, nearly allied in habit and general appearance to the *peach*, q. v.—There are two varieties, the var. *dulcis*, or sweet almond, and the var. *amara*, or bitter almond. In Southern Europe, the *A.* is much cultivated, and large quantities of its nuts exported. The kernel is the part used; the sweet varieties, whether green or dry, form a very nutritive article of food, and a most agreeable addition to the dessert. *A.* are used in confectionery, cooking, perfumery, and medicine. The bitter *A.* is the kind used in perfumery and flavoring; it contains prussic acid, which, though a violent poison, is not thought to be injurious in the small quantities required for these purposes.—*Cultivation:* a warm, dry soil is most suitable for the *A.*, which is cultivated like the peach, and is subject to the same diseases; it may be budded on the *A.*, peach, or plum stock.—The better varieties: *Common A.;* nuts 1¼ inch long, hard, smooth, compressed, and pointed, with a kernel of agreeable flavor; its flowers open before the leaves appear. *Ladies' thin-shelled;* the soft-shelled almonds of the shops: flowers are of a deeper color, nut oval, one-sided, pointed, with a porous light-colored shell, so tender that it may be crushed with the fingers. Kernel sweet, rich, and highly esteemed.—*Bitter A.* are of several varieties, differing in the hardness of the shell, closely resembling the others, except in the bitterness of kernel; blossoms pale pink: leaves larger, and of a darker green than the other varieties. The almond has been introduced into Florida, where it is quite at home. All who will take the trouble to plant, and care for the tree, may be assured of an abundant reward. — The *A. Persicus*, or peach-tree, is extensively cultivated in the U. States, and the object of a large trade. It will be minutely described under the name Peach.

Fig. 116.—Amygdalis communis. (*Almond.*)
1. The flower; 2. the nut; natural size.

Amyla'ceous, *a.* [Lat. *amylum*.] Containing, or resembling starch.

Amyla'min, or Amide of Amyl, *n.* (*Chem.*) A fluid base, boiling at 203°, and having the smell of ammonia. Obtained by treating amyl cyanate with strong caustic potash. Sp. gr., 7505. *Form.* $C_5N_{13}N$.

Am'ylate, *n.* (*Chem.*) A compound of starch with a base.

Am'yl, *n.* [Gr. *amylon*, fine meal.] (*Chem.*) An oil boiling at 311°. Obtained by acting on iodide of amyl by zinc. *Form.* C_5H_{11}.

Hydrous oxide of A., named also *amylic alcohol, oil of grain, fusel oil, oil of whisky, oil of potatoes.* A colorless oil, boiling at 269½°, and crystallizing at 4°, of peculiarly penetrating odor, affecting the chest; burns with a white flame, and is poisonous. Spec. grav. ·812, of vapor 3·147. This oil comes over in the distillations of the fermented infusion of barley, oats, and potatoes, mixed with alcohol and water, and is purified by washing it with water, and distilling over calcium chloride. *Form.* $C_5H_{12}O$. The *valerate of A.*, formed by distilling this oil with sulphuric acid and potassium bichromate, and the acetate with the same materials, and the addition of an acetate, is employed to flavor confections and brandy, under the name of *oil of pears*, &c. The *oxide of A.*, or amylic ether, is obtained by acting on chloride of *A.* with a solution of potash in alcohol, while the chloride is formed by distilling amylin with phosphorus chloride.

Am'ylene, *n.* (*Chem.*) See Amilene.

Amyl'ic Acid, Valerianic Acid, or Delphinic Acid. (*Chem.*) A colorless oil, boiling at 347°. It is obtained from the Valerian, and exists in the berries of the gnelder-rose. Spec. grav. ·937; of vapor, 3·86. *Form.* $C_5H_{10}O_2$.

Am'yline, or Amylin, *n.* (*Chem.*) The insoluble part of starch.—See Amidine.

Amyloid, *a.* Being of the nature of amyle.

Am'ylum, *n.* [Gr. *amylon*, starch.] (*Chem.*) See Starch.

A'myot, James, bishop of Auxerre, and great almoner of France. Though educated by charity, he rose by merit to become professor in the university of Bourges. His translation of Plutarch is admired for its style, rather than its correctness, and has done much toward determining and improving the French language. B. at Melun, 1513; D. 1593.

Amyrid'aceæ, *n. pl.* (*Bot.*) An ord. of plants, of the Rutales alliance. *Diagnosis:* consolidated, hard, dry, and somewhat valvular fruit, valvula petals, free stamens, and generally dotted leaves. — They are trees or shrubs, abounding in balsam or resin, with the appearance of oranges; the only positive mark of distinction being that the fruit of the *A.* forms a shell whose husk eventually splits into valve-like segments. They are exclusively natives of tropical India, Africa, and America.

Am'yrine, *n.* (*Chem.*) A crystalline resin from arbolabrea, by hot alcohol.

Am'yris, *n.* (*Bot.*) A gen. of plants, ord. *Amyridaceæ*. The *A. balsamifera*, a Jamaica tree, furnishes one of the varieties of Lignum Rhodium.

An. *art.* [A.S. *ane*; Ger. *ein.*] The indefinite article used before nouns of the singular number, beginning with a vowel or an *h* mute. It is used also for *one*, but with less emphasis; as, "There stands *a* harp."—Any, or some; as, "*An* elephant might swim in the water."

A'na, a Latin termination of the neuter plural form of the nouns in *anus.* In modern times this termination has been used to denote collections, either of remarks made by celebrated individuals in conversation, or of extracts from their note-books, letters, or even published works, or generally, of particulars respecting them. The most celebrated of such collections are the colloquial remarks of Scaliger, known under the name of *Scaligerana secunda.*

—A prefix, in words of Greek origin, implying repetition, upward motion, inversion, distribution, parallelism, or proportion.

—In medical prescriptions, it denotes that an equal quantity of each of the ingredients is to be taken; as, "wine and honey, *ā ā*, or *ā*, or *ana* ℥ij.," i.e. of wine and honey, each, two ounces.

—*A.* is also used as a noun, applied to collections of remarks and anecdotes. Such works had an extraordinary success during the last century, principally in France. We have in English, *Selections from the French Anas*, translated, 2 vols., Oxford, 1797. There is a well-known little poem, by La Monnoye, in which he enumerates the names of the most celebrated *A.*, concluding with the couplet,

"Messieurs, nul de tous ces ana
Ne vaut l'Ypecacuanha."

Anabap'tism, *n.* See ANABAPTISTS.

Anabap'tists, *n. pl.* (*Eccl. Hist.*) A name applied to all Christians who for any reason re-baptize those who join their communion. The term denotes a great variety of religious beliefs. The Novations and Donatists were Anabaptists, because they claimed to be the true church, and held that the sacraments of the Catholic Church were null and void. The mediæval Anabaptists held a different principle, viz., that faith in Christ should precede baptism or it was meaningless. Hence, they re-baptized those who had been baptized as infants, without faith. There were several classes of these mediæval Anabaptists: First, the evangelical—the Swiss Anabaptists and those of South Germany—whose leaders were Conrad Grebel, Balthazar Hübmaier and John Denck. These held a theology substantially like that of Calvin, and were peaceable, law-abiding citizens, though bitterly persecuted. Many of them denied that a Christian may use the sword in any case, even in self-defense or to enforce law. Second, the mystical and fanatical, of whom Melchior Hofmann was the teacher. His disciple, Jan Matthys, a baker of Haarlem, applied his master's teachings regarding the speedy coming of the kingdom of Christ, by attempting to set up that kingdom in the city of Münster. After his death in a sortie, John Bockhold, a tailor of Leyden, was hailed as prophet, made king of the new Zion, proclaimed polygamy, and the wildest excesses followed. Münster was taken by its bishop in 1535, and most of the Anabaptists were put to death, horrible tortures being inflicted on the leaders. Third, the Mennonites, or followers of Menno Simons, who were merely Anabaptists under this new name. Simons was a priest in the Roman church, who became an Anabaptist in 1536 and gathered thousands of disciples before his death in 1559. The Mennonites spread through most of the countries of Northern Europe, and formed a considerable colony in Russia, but were most numerous in Holland where they still survive. Many have emigrated to the United States, where the census of 1890 enumerates twelve branches of them, with an aggregate membership of 41,541. The name Anabaptist was also applied in England to the body since known as Baptists. See BAPTISTS.

Anaba'ra, a river in Siberia, in the government of Tobolsk. It rises in Lat. 66° N., and after a course of 400 m. falls into the Arctic ocean, at Lat. 72° N., and Lon. 112° E.

An'abas, *n.* [Gr. *anabaino*, to ascend.] (*Zoöl.*) A genus of fishes.—See ANABASIDÆ.

Anabas'idæ, *n. pl.* A family of fresh-water fishes, belonging to the ord. *Acanthopterygii.* The species generally resemble in form the perches, but their respiratory organs are so constructed as to enable them to sustain life for a space of time out of water, by having small apertures or some receptacle, where they can preserve sufficient water to moisten their gills. In cold or temperate regions this is not required, but in tropical countries it often happens that many of the rivers and ponds are dried up. At such times no fish, but such as, like the Anabas, are furnished with the necessary pharyngeal apparatus for keeping the gills moist, could exist. The naturalist Daldorf claims to have seen the climbing perch (*Anabas scandens*) in the act of ascending palm-trees, which it did by means of its fins and tail, and the spines of its gill-covers; but this fact has not been confirmed by other naturalists.

Anab'asis, [Gr., an advance, an expedition.] The name of two ancient historical works. 1. The Anabasis of Cyrus, by Xenophon, giving an account of the unfortunate expedition of the younger Cyrus against his brother, the Persian king Artaxerxes, and of the retreat of the Ten Thousand Greeks under Xenophon. 2. The Anabasis of Alexander, by Arrian, giving an account of the campaign of Alexander the Great.

Anabro'sis, *n.* [From Gr. *anabrosko*, to devour.] (*Med.*) A corrosion of the solid parts, by sharp and biting humors.

Anacamp'tic, *a.* [From Gr. *ana*, back, and *kamptein*, to bend.] Reflecting, or reflected; as, an *anacamptic* sound. (o.)

Anableps', *n.* [Gr. *anablepo*, to look up.] A gen. of fishes, ord. *Malacopterygii.* The eyes are prominent, and the cornea being divided by transverse bands, the fish

Fig. 117.—ANABLEPS TETROPHTHALMUS.

has the appearance of possessing four eyes. The only known species, *A. tetrophthalmus*, is a native of Guinea.

Anacamp'tically, *adv.* By reflection: as, echoes are produced *anacamptically.* (o.)

Anacamp'tics, *n. sing.* The obsolete name of the *Catoptrics.*

Ana Ca'pri, a town in the Neapolitan island of Capri, Italy, on the N. side of Mount Solaro, about 2,000 feet above the level of the sea. It can only be reached by a flight of 552 steps, cut in the rock, called *La Scalinata.* The inhabitants are said to be so much attached to their town, that some have never descended La Scalinata. From there, the prospect is extensive and beautiful, commanding the Tyrrhenean sea, the Gulf of Naples, and Vesuvius. *Pop.* 1,667.

Anacardia'ceæ, ANACARDS. TEREBINTHS, *n. pl.* [From Gr. *ana.* up, and *kardia*, the heart.] (*Bot.*) An ord. of plants, of the alliance *Rutales.*—*Diag.* Apocarpous fruit, and a high ovule rising by a cord from the base of the cell.—They are trees or shrubs, with a resinous, gummy, caustic, or even milky juice. Leaves single or compound, — alternate, deciduous or evergreen; flowers generally unisexual, terminal or axillary, in panicles, with bracts; calyx 5-parted; 5 petals; 5 or 10 stamens; styles 1–3, sometimes wanting; fruit inhericscent. The *A.* are chiefly natives of tropical countries. — Large trees, with inconspicuous flowers abounding in a resinous, sometimes acrid, poisonous juice, are the ordinary representatives of this order, to which belong the Cashew-nut (*Anacardium occidentale*), the Pistachio-nut (*Pistacia vera*), and the Mango fruit (*Mangifera indica*).

Fig. 118.—PISTACIA VERA.

Anacar'dic Acid. (*Chem.*) A white, crystalline inodorous mass, of a feebly aromatic, and afterward burning taste, obtained from the fruit of *Anacardium occ dentale.* It fuses at 79°; at 212 has a peculiar odor, and is decomposed at 392° into liquid products. Its alcoholic solution is acid.

Anacar'dium, *n.* (*Bot.*) A gen. of plants, ord. *Anacardiaceæ.* — A black varnish, well known in India, is manufactured from the nuts of the *A. semecarpus*, or Cashew-nut. This nut is eatable, but it is said to produce a singular effect on the brain.

Anacathar'sis, *n.* [Gr. *ana*, up, and *kataïro*, to purge.] (*Med.*) A purgation by expectoration, in contradistinction from *Catharsis*, or evacuation downward.

Anacathar'tic, *n.* (*Med.*) A medicine that promotes expectoration, or vomiting.

—*a.* Promoting discharges from the mouth or nostrils.

Anachar'sis, a Scythian philosopher, who, in the time of Solon, visited Athens, where he was so much esteemed as to be the only barbarian ever admitted to the honor of citizenship. Lived in the 7th century B. C. The life of this philosopher was written by Lælius, who, with Plutarch and others, has preserved many of his apothegms.

Anach'oret, *n.* See ANCHORET.

Anachron'ic, Anachron'ical. See ANACHRONISTIC.

Anach'ronism, *n.* [Gr. *ana*, upward, *kronos*, time.] The name given to an error in chronology, by which the date of an event is placed earlier than it really happened. Anachronisms are not infrequently to be found in works of art, and are sometimes introduced for the sake of effect: as where Schiller, in his "Piccolomini," speaks of a "lightning-conductor," although not invented till 150 years later. An error on the other side, where an event is placed later than it should be, is called a *parachronism.*

Anachronis'tic, ANACHRONISTICAL, *a.* Containing an anachronism.

Anachua'na, a village and bay on the N. coast of the Isthmus of Panama; Lat. 6° 41′ N.; Lon. 77° 45′ W.

Ana'clache, a snowy peak of the Bolivian Andes; height, upward of 22,000 feet. Lat. 18° 12′ S.; Lon. 69° 20′ W.

Anaclas'tic, *a.* [From Gr. *anaklao*, to bend back.] Noting apparent curves seen at the bottom of a vessel of water, caused by the refraction of light.

Anaclas'tics, *n. pl.* That part of optics which considers the refraction of light.

Anac'letus, the name of two popes. The first is said to have suffered death as a martyr, A. D. 91. — The second, at first called *Peter de Leon*, was a monk in Cluny, a cardinal and papal legate in France and England, and in 1130, competitor for the papal chair, against Innocent II. Rome, Milan, and Sicily were on his side, and Roger of Sicily received from him the royal title. He also maintained himself against Lothaire II., and D. 1138.

Anacolu'thic, *a.* Wanting sequence.

Anacolu'thon, *n.* (*Rhet.*) A want of coherence, generally arising from inattention on the part of the writer or orator.

Anacon'da, *n.* (*Zoöl.*) A Cingalese serpent, of enormous magnitude and strength, belonging to the Boa family.

Anaco'sa, in *Louisiana*, a post-office of Sabine co.

Anacos'tia, in the *United States*, a post-office of Washington co., District of Columbia.

Anac'reon, one of the most famous lyric poets of Greece, was born at Teos, in Ionia, and flourished about 500 B. C. Polycrates, king of Samos, invited him to his court, and bestowed on him his friendship. Here *A.* composed his songs, inspired by wine and love. After the death of his protector, he went to Athens, where he met with the most distinguished reception from Hipparchus. The fall of the latter drove him from Athens, and probably he returned to Teos. But when Ionia revolted from Darius, he fled to Abdera, where he passed a gay and happy old age, and died in his 85th year. According to tradition, he was choked by a grape-stone. The city of Teos put his likeness upon its coins; his statue was placed on the Acropolis in Athens, and he was held in honor throughout Greece. Only a small part of his works has come down to us. Of 5 books, there are 68 poems remaining, under the name of *A.* Among these, criticism acknowledges but few as genuine. Those generally believed to be *A.'s* are models of delicate grace, simplicity, and ease. The difficulty of attaining these excellences is proved by numberless unsuccessful imitations, unworthy of the name of *Anacreontics.* The measure in which *A.* composed his poems, and which is called after him, is commonly divided into 3 iambuses, with a cæsura.

Anacreon'tic, *n.* A poem in the manner of Anacreon.

—*a.* After the manner of Anacreon.

Anadar'io, in *Texas*, a post-office of Rusk co., 17 m. S. of Henderson.

Anadem', and ANADEME'. *n.* [From Gr. *anà.* up, and *deïn*, to bind.] A crown of flowers; a garland or fillet; a wreath.

Anadiplo'sis, *n.* [Gr.] (*Rhet.*) A figure in which the last word or words of a sentence are repeated at the beginning of the next; as, "He retained his virtues amidst all his *misfortunes*—misfortunes which no prudence could foresee or prevent."

An'adrom, *n* [From Gr. *ana*, upward, and *dromos*, course.] A fish of anadromous habits.

Anad'romous, *a.* A term applied to the class of fish which, at certain seasons, pass from the sea into fresh waters, as the salmon.

An'adyr, or ANADIR, a river of Siberia rising in Lake Ivachno, and after a course of 450 m., falling into an inlet of the sea of Anadyr (N. Pacific), in lon. 177° E.—There is only one station on its banks, which is called Anadyrsk; Lat. 65° N.; Lon. 167° E.

Anæ'mia, *n.* [From Gr. *a*, priv., and *aima*, blood.] (*Med.*) A term used to denote a deficiency of the red globules or coloring matter of the blood. It is characterized by a pale waxy complexion, and a pallor in those parts, as the lips, which are generally suffused. It is to be treated with pure air, nourishing diet, and tonics, such as iron.

Anæm'ic, *a.* Bloodless; exsanguious.

Anaero'bia, *n. pl.* (*Biol.*) Bacteria whose existence does not require free oxygen; opposed to *aerobia.*

Anæsthe'sia, *n.* [Gr. from *a*, priv., and *aisthanomai*, to feel.] (*Surg.*) This term is given to partial or complete insensibility of the human body produced by inhalation or absorption of substances which act upon the nervous system. These substances belong to the class known as narcotics. A familiar instance of *A.* is the effect produced by an overdose of alcohol—drunken people, who have become utterly insensible to pain (see ALCOHOL).

GENERAL. The production of loss of sensation by the use of narcotics was without doubt known to the ancients. Dioscorides and Pliny allude to the use of mandragora (*Atropa mandragora*) for the prevention of pain in surgical operations. Hoa-Tho, a Chinese physician of the third century, rendered his surgical patients insensible to pain by the use of hashish (*Cannabis sativa*). Shakespeare, in Romeo and Juliet, and in Hamlet, alludes to anæsthetic draughts. In 1800 Sir Humphrey Davy foreshadowed the probable inhalation of volatile anæsthetic agents when he said: "As nitrous oxide in its extensive operation seems capable of destroying physical pain, it may probably be used with advantage in surgical operations in which no great effusion of blood takes place." The inhalation of sulphuric ether for asthma was practiced by Richard Pearson in 1795. Its power to produce anæsthesia was demonstrated by Goodwin in 1822, Mitchel in 1832, and was referred to by Wood and Bache in 1834. The first utilization of this agent to prevent pain during surgical operation, however—and probably the first inhalation of any agent for this purpose—was by a backwoods surgeon, Dr. W. C. Long, of Jefferson, Jackson Co., Ga., in March, 1842. In December, 1844, Horace Wells, a dentist of Hartford, Conn., had a tooth removed while under the influence of nitrous oxide, and during the next two years used this agent quite extensively in his practice. Dr. Morton, a dentist of Boston, on the 30th of September, 1846, administered sulphuric ether for the extraction of a tooth, and subsequently for surgical operations. He succeeded in making known this practice to the profession to such a degree that his name is commonly associated with the first administration of

anæsthetics in surgery.—The first employment of *A.* in midwifery was the use of ether to relieve the patient, by Sir James Y. Simpson, on the 19th of January, 1847; and in November of the same year, he drew the attention of the profession to the effect of chloroform.—A number of volatile substances have been used for the purpose of producing anæsthesia, but the most valuable are nitrous oxide, ether, chloroform (already named), and hydrobromic ether, or the bromide of ethyl. The latter agent was discovered by Serullas in 1827; its use advocated by Thomas Nunnelly, of Leeds, in 1849. It was introduced in America by Lawrence Turnbull in 1877, and was shortly afterward very largely used by Dr. Richard J. Levis.—Nitrous oxide is a very rapid anæsthetic, but its effects pass quickly. It is serviceable in dental work and for surgical operations requiring but little time. Its chief objection is that, being a gas, it requires for its administration a rather cumbersome apparatus which is inconvenient to transport. Bromide of ethyl also acts quickly, and its effects are very evanescent. It is an admirable anæsthetic for short operations, and for the examination of patients, as its effects are quickly removed, and it is less likely than the stronger anæsthetics to be followed by nausea. In general surgery, ether and chloroform are preferred. The power of chloroform is to that of ether in the pro-

(*Continued in* SECTION II.

Anæsthet'ic, *a.* Belonging or relating to anæsthesia. —*n.* A substance which produces insensibility in the whole or part of the human body, generally by acting on the nervous system, as nitrous oxide, amylene, kerosolene, sulphuric ether, and chloroform.

Anæs'thetize, *v. a.* To produce anæsthesia by means of chloroform or other anæsthetics.

Anagal'lidæ, *n. pl.* (*Bot.*) A tribe of plants, ord. *Primulaceæ, q. v.*

Anagal'lis, *n.* (*Bot.*) A gen. of plants, tribe *Anagallidæ.* The common pimpernel, *A. arvensis*, well known as the *poor man's weather-glass*, is a little trailing plant, with a pretty scarlet flower and violet mouth, common in our fields. The flowers open about eight o'clock in the morning, and close in the afternoon, and they are so sensitive to light, that in cloudy weather, especially when there is moisture in the air, they remain closed altogether.

Anaglyph'ic, *n.* [Gr. from *ana*, upon, and *glypho*, I carve.] (*Sculp.*) The name anciently given to a chasel or embossed work on metal, or to anything worked in relief. When raised on stone, the production was a cameo. When sunk or indented, it was a diaglyphic, or an intaglio.

Anaglyptograph'ic, *a.* Belonging to anaglyptography.

Anaglyptog'raphy, *n.* [From Gr. *ana*, up, *glyphein*, to engrave, and *graphein*, to write.] The art of so engraving as to give the subject an embossed appearance, as if raised from the surface of the paper;—used in representing coins, bas-reliefs, and the like.

Anag'ni, a decayed town in the Campagna di Roma, 37 m. from Rome; *pop.* 5,500.—Here Popes Innocent III., Gregory IX., Alexander IV., and Boniface VIII., were born.

Anago'ge, and **An'agogy,** *n.* [Gr. from *ana*, up, and *agogē*, a leading.] An extraordinary elevation of mind.—The mystical interpretation of the Scriptures; one of the four ordinary modes of interpretation, in distinction from the *literal, allegorical*, and *tropoölogical.*

Anagog'ical, *a.* Mysterious; elevated.

Anagog'ically, *adv.* In a mysterious sense.

Anagog'ics, *n. pl* Mystical interpretations.

An'agram, *n.* [Gr. *anagramma*, from *ana*, back, and *grapho*, I write.] The change of one word or phrase into another, by the transposition of its letters. The most proper and most difficult species of *A.* is that which is formed by the reading of the letters of a word or words backward; as, *evil, live.*

> "*Live, vile*, and *evil*, have self-same letters;
> He lives but vile, whom evil holds in fetters."

A less perfect *A.* is that which is made by the transposition of letters *ad libitum.* The composition of *A.* formed a favorite exercise of ingenuity in the 16th and 17th centuries. But, perhaps, never was *A.* more appropriate than that made by Dr. Burney on the name of the hero of the Nile, just after that important victory took place: HORATIO NELSON, "*Honor est a Nilo.*" They are frequently employed satirically, or jestingly, with little aim beyond that of exercising the ingenuity of their authors. Of all the extravagances occasioned by the anagrammatical fever, when at its height, none probably equals that which is recorded of an eccentric Frenchman, André Pujom. He read in his own name the *A* "peudu à Riom" (the seat of criminal justice in the province of Auvergne), felt impelled to fulfil his destiny, committed a capital offence in that province, and was actually hanged in the place to which the omen pointed.

Anagrammat'ic, ANAGRAMMAT'ICAL, *a.* Belonging to, or forming, an anagram.

Anagrammat'ically, *adv.* In the manner of an anagram.

Anagram'matism, *n.* The act or practice of making anagrams.

Anagram'matist, *n.* A maker of anagrams.

Anagram'matize, *v. a.* To make anagrams.

An'agraph, *n.* [From Gr. *ana*, up, and *graphein*, to write.] An inventory; a commentary. (R.)

An'agros, *n.* A measure of grain in Spain, containing about two bushels.

Ana'gua, in *Texas*, a post-village of Victoria co.

An'aheim, in *California*, a flourishing city of Orange co., about 8 miles from the sea, 3 miles from Santa Anna River. It was founded in 1857, by Germans.—*Prod.* Wines and fruits.

Anahuac, (*ăn-ah-wauk'*,) the ancient Indian name of New Spain or Mexico, and the actual name of the great table-land between Lat. 15° and 30° N., and Lon. 95° and 110° W. See MEXICO.

Anahuac, in *Texas*, a post-village of Chambers co., in the N.E. extremity of Galveston Bay, 35 m. N.E. by N. of Galveston.

A'nal, *a.* Belonging, or relating to the anus.

Anal'cite, ANALCIME, *n.* [Gr *analkis*, weak; from its weak electric power.] (*Min.*) An isometric compound, of the hydrous silicates section. Color white, passing into gray. Lustre vitreous; brittle, sometimes nearly transparent. Spec. grav. 2·278 to 2·268. *Comp.* silica 54·4, alumina 23·3, soda 14·1, water 8·2 = 100.

Analec'tic, *a.* Collected or selected; made of selections.

An'alects, ANALEC'TA, *n. pl.* [From Gr. *ana*, up, and *legein*, to gather.] A collection of literary fragments.

Analem'ma, *n.* [Gr. *analambano*, I take up.] (*Geom.*) An ortographic projection of the sphere on the plane of the meridian. In this projection the eye is supposed to be placed at an infinite distance. Every great circle whose plane is perpendicular to the plane of projection,—the horizon for example,—is represented by the chord which forms its diameter. A small circle parallel to the plane of projection is represented by a circle. Every circle, great or small, of which the plane when produced does not pass through the eye, or is not perpendicular to the plane of projection, will be seen obliquely, and under the form of an ellipse.—*A.* also denotes an instrument of brass or wood, composed of a plate upon which the projection of the sphere is made, having a horizontal fitted to it. Since the invention of trigonometry, contrivances of this sort have become useless.

Analep'sis, *n.* [Gr. *analambano*, to recover.] (*Med.*) A recovery of strength after sickness.—A species of epilepsy, which proceeds from a disorder of the stomach, and with which the patient is apt to be seized very often and suddenly:—named, also, *analepsia.*

Analep'tic, *n.* [Gr. *analeptikos.*] (*Med.*) Restoratives which serve to repair the strength, and to raise the depressed spirits.

—*a.* Comforting; restorative.

Analog'ical, *a.* That expresses or implies analogy.

Analog'ically, *adv.* In an analogical or analogous manner.

Analog'icalness, *n.* The quality of being analogical; fitness to be applied for the illustration of some analogy.

Anal'ogism, *n.* [Gr. *analogismos*, course of reasoning.] (*Log.*) An argument from the cause to the effect.—A mode of reasoning by analogy.

Anal'ogist, *n.* One who adheres to analogy.

Anal'ogous, *a.* [Fr. *analogue*, from Gr. *ana*, according to, and *logos*, proportion.] Having analogy; bearing some resemblance or proportion; having something parallel.

> "This incorporal substance may have some sort of existence, *analogous* to corporeal extension."—*Locke.*

Anal'ogously, *adv.* In an analogous manner.

An'alogue, *n.* A body that resembles another. A fossil shell of the same species; as, a recent one is its *analogue.*

Anal'ogy, *n.* [Gr. *analogia*, from *ana*, equally, and *logos*, ratio.] (*Rhet.*) A certain relation and agreement between two or more things, which in other respects are entirely different. A ratio or relation between two objects denotes that they are composed together in reference to some quality which they possess in common, or to some manner in which the one is affected by the other. In this way we speak of one thing greater, smaller, or more beautiful than another; or the relation of a child to its parents, of a prince to his people. It is, however, only when we come to compare relations, when we find that the relation or ratio of two things is like the relations of two other things, that we properly have an analogy. A may resemble B, but there is no analogy between them; but if A bears the same relation to B that C does to D, then there is analogy. In relation we have only two terms or objects of comparison; in analogy we must have four, though it is not necessary that all the four be different; for A may bear the same relation to B that B does to C. Two things may be connected by analogy, though they bear in themselves no resemblance to each other; for, in analogy, all other attributes are kept out of view but those in which they agree. Thus, the bark of a tree is analogous to the skin of an animal, though there is no resemblance between them. In reasoning from analogy, we proceed upon the assumption that things which have many observed attributes in common have other not observed attributes also in common. Analogy concludes from something observed to something not observed. Like induction, it can give us a high degree of probability, but it never reaches to necessity.

(*Geom.*) The same thing as proportion, or the equality or similitude of ratios.—See PROPORTION.

(*Zoöl.*) The relation which animals bear to another in the similarity of a smaller proportion of their organization; thus, the Ascalaphus italicus, in the length and knobbed extremities of its antennæ, the coloring of its wings, and its general aspect, exhibits a striking resemblance to a butterfly; but in all the essential parts of its organization it adheres to the neuropterous type of structure; its relation to the Lepidoptera is therefore said to be one of analogy, while it is connected to the ant-lions by the order of affinity.

(*Gram.*) A conformity in the principles or organization of different words, or collections of words.

Anal'omink, in *Pennsylvania*, a post-office of Monroe co.

Anal'ysis, *n.; pl.* ANAL'YSES. [Gr., the act of unloosing.] The process by which facts, results, or reasonings are separated into their single and component parts, or by means of which a simple truth is obtained, when given in a more complicated form. So that, in its most general sense, the greatest part of human knowledge consists in the results of analysis. Its opposite is *synthesis*, which is the act of putting together.—It is also used for a brief, but methodical illustration of the principles of a science; in which sense it is nearly synonymous with what is termed a *synopsis.*

(*Math.*) The means made use of for discovering the truth or falsehood of a proposition, or its possibility and impossibility. This is done by supposing the proposition, such as it is, true; and examining what follows from thence, until we arrive at some evident truth, or some impossibility, of which the first proposition is a necessary consequence; and from thence establish the truth, or impossibility of that proposition. "It is used in contradistinction to the geometrical method, so that every mathematical process in which symbols are employed, and which is not geometrical, is analytical. *A.* is the great instrument of invention, and to its successful cultivation may be ascribed the immense improvement which has taken place in mathematics, and the vast range of discoveries which have been made in philosophy during the last two centuries.—In *Arithmetic* and *Descriptive Geometry*, they give the name of *A.* to the synopsis or exposition of the principles to be employed in demonstrating a proposition, or solving a problem."

(*Gram.*) The explaining the etymology, construction, and other properties of words.

(*Bot.*) The study of a plant in its different parts; its dissection.

(*Chem.*) The separation of compound bodies, either into their simpler or their elementary constituents. When merely the number and nature of these are ascertained, it is termed *qualitative* analysis; but when their proportions also are determined, the analysis is *quantitative.* If the analysis consist only in determining the quantities of the *simpler* constituents of a compound, it is *proximate*, as when carbonate of potash is separated into carbonic acid and potash; but when the operation is extended, and the carbonic acid is resolved into carbon and oxygen, and the potash into potassium and oxygen, the analysis is *ultimate;* for neither carbon, oxygen, nor potassium is divisible into two or more kinds of matter. The theory of definite proportion, or *Atomic Theory*, as it is usually called, has materially facilitated many analytical processes, and is specially valuable in furnishing an unerring test or criterion of the general accuracy of the results.

An'alyst, *n.* [Fr. *analyste.*] One who is versed in analysis.

Analyt'ic, ANALYT'ICAL, *a.* Proceeding by analysis; resolving anything into its first principles or elements; as an *analytical* experiment in chemistry.

Analyt'ically, *adv.* In an analytical manner.

Analyt'ics, *n. sing.* The science of analysis. Any branch of a science analytically considered.

Analyz'able, *a.* That may be analyzed.

Analyz'ableness, *n.* The state of being analyzable.

Analyza'tion, *n.* The act of analyzing.

An'alyze, *v. a.* To resolve a compound into its first principles: to study a thing into its component parts or propositions.—See ANALYSIS.

An'alyzer, *n.* One who, or that which, analyzes, or has the power of analyzing.

A'nam, or **An-nam,** EMPIRE OF. See COCHIN-CHINA.

Anam'bas, a group of fifteen islands in the China sea, mostly inhabited by poor Malays. *Pop.* about 1,500.

Anamlrapa'sum, a river in Brazil, prov. of Para, which, after a course of 200 m., falls into the estuary of the Amazons, at Lat. 0° 15′ S.; Lon. 50° 55′ W.

Anamir'ta, *n.* (*Bot.*) See COCCULUS INDICUS.

Anamne'sis, *n.* [Gr. from *ana*, again, and *mnesis*, a remembering.] (*Rhet.*) An enumeration of the things treated of before; a sort of recapitulation.

Anamor'phosis, *n.* [Gr. *ana*, backward, and *morphē*, form.] (*Persp.*) The representation of some image, either on a plane or curved surface, which appears deformed or disturbed when viewed in the common way, but which appears regular and in just proportion when viewed from a particular point, or on being reflected from a curved mirror.

(*Zoöl. and Bot.*) The change of form which may be traced throughout the species of higher members of a natural group of animals or plants, either in the actual series, or as they have succeeded each other in the course of time on this planet.

Anamo'sa, in *Iowa*, a city, the capital of Jones co., on the Wapsipicon river, 40 miles Northeast of Iowa City. *Pop.*, in 1890, 2,078; in 1897 (est.), 3,000.

A'namur, the most southern point of Asia Minor. Lat. 36° 2′ N.; Lon. 32° 50′ E.

Ana'nas, *n.* (*Bot.*) See ANANASSA.

Ananas'sa, *n.* (*Bot.*) A gen. of plants, ord. *Bromeliaceæ.* The common Pine-apple, *A. sativa*, gives one of the most delicious fruits we have (Fig. 423). A native of the hotter parts of South America, it has been naturalized in Africa and India. From the fibres of its leaves a fine kind of muslin is prepared. At first, the fruit presents only a mass of flowers, the calyces and bractæ being united together, but afterward it becomes succulent. It is covered on all sides with small triangular scales, and resembles in appearance the strobile of the pine-tree; hence its common English name. Many varieties are cultivated. When wild, the pine-apple bears seeds like other plants; but in a state of cultivation, generally owing to the succulence of all the

L. of C.

parts, no seeds are produced, and consequently the plants can only be multiplied by suckers, or by their branches, which gardeners call the gills and crown.

An'andale, in *Pennsylvania*, a post-village of Butler co.

An'andale, in *Virginia*, a village of Fairfax co.

Anan'drous, *a.* [From Gr. *an*, for *a* priv., and *aner*, a man.] (*Bot.*) Destitute of stamens.

Anan'gular, *a.* Containing no angle. (R.)

Ananias, [Heb, the cloud of the Lord.] A hypocrite of the primitive church at Jerusalem, who was struck dead, with his wife Sapphira, for lying.—An evangelist of Damascus.—A tyrannical high-priest of the Jews.

Ana'pa, a fortified town and fortress of Russia, in Circassia, on the N.E. coast of the Black sea, 47 m. S.E. of Yenikale; Lat. 44° 54′ 52″; Lon. 37° 16′ 21″ E. This town, ceded to Russia by the Turks in 1828, is at present only important as a military post; but so great are the advantages offered by its situation, that it will probably become the seat of a considerable commerce. *Pop.* 3,000.

An'apest, *n.* [From Gr. *ana*, back, and *paiein*, to strike.] (*Pros.*) A foot in Greek and Latin metre, consisting of two short syllables followed by a long. It was sometimes called Antidactylus, as being the opposite of the dactyle, which consists of a long syllable followed by two short. Assuming accent in English to be the same thing with quantity in Greek and Latin, the word *temporal* would be an example of a dactyle, and the word *superadd* of an anapest. From the tendency of English enunciation to carry back the accent toward the beginning of polysyllables, there are not many single words which make anapests in our language. But the foot frequently results from the union of two or more words; as in *Dŏ yŏu hēar*, *Lĕt ălōne;* and sometimes it is found in part of a single word; as, for instance, in the three middle syllables of the word *anticĭpātion*. The predominance of dactyles in English, and of anapests in French, forms one of the most marked distinctions between the musical character of the one language and that of the other.

Anapestic Verse, a species of verse composed of a succession of anapests. Among the Greeks, the anapestic verse was freely used both in tragedy and comedy; some forms of it occur very often in Aristophanes. Both in tragedy and comedy, the anapestic verse admits also dactyles and spondees. In English, only poems of the lighter sort have been usually written in anapestic verse. Anstey's *New Bath Guide* may be quoted as a well-known example. The line is often reduced to eleven syllables, by the retrenchment of the first, or the substitution at the beginning of an iambus instead of the anapest. Thus, in the following lines from the work just mentioned,

> "For I'm told the discourses of persons refined,
> Are better than books for improving the mind,
> But a great deal of judgment's required in the skimming
> The polite conversation of sensible women,"

it will be observed, that the first foot of the second line consists only of one short or unaccented syllable followed by a long; and a similar retrenchment might be made of the commencing syllable of any of the others, without spoiling its prosody.

Anapes'tic, *n.* The anapestic measure.—See ANAPEST. —*a.* Belonging to, or consisting of an anapestic foot.

Anapes'tical, *a.* The same as ANAPESTIC.

Anapest'ically, *adv.* In an anapestic manner.

Anapho'ra, *n.* [Gr. from *ana*, up, back, and *pherein*, to carry.] (*Rhet.*) A figure which consists in the repetition of the same word or phrase at the beginning of several successive sentences; as, "*Where* is the wise? *Where* is the scribe? *Where* is the disputer of this world?"—A similar repetition at the end of sentences is called *epiphora*, or *homoioteleuton*. *Anaphora* is sometimes used as the general name for both figures; the former is then called *epanaphora*. The *A.* aims to increase the energy of the phrase, but is often rendered ineffectual by too frequent repetition.

Anaphrodi'sia, *n.* [Gr. from *a*, priv, and *aphrodisia*, the feast of Venus.] (*Med.*) Impotence, arising from paralysis, or from gonorrhœa.

Anaplerot'ic, *n.* [From Gr. *ana*, up, and *pleroun*, to fill.] (*Med.*) A medicine which restitutes, or fills up wasted parts; a renewing of wasted parts.

Anaquass'cook, in *New York*, a village of Washington co.

An'archy, *n.* [Gr. *anarchos.*] An author of anarchy; one who causes confusion, or excites revolt. (o.)

> "Him thus the *anarch* old .... answer'd."—*Milton.*

Anar'chal, *a.* Anarchical. (R.)

Anar'chic, ANARCHICAL, *a.* [Fr. *anarchique.*] Confused; without rule or government.

> "In this *anarchical* and rebellious state of human nature," *Cheyne.*

An'archism, *n.* [Fr. *anarchisme.*] A state of anarchy.

An'archist, *n.* [Fr. *anarchiste.*] A promoter of disorder, revolt, or anarchy.

An'archize, *v. a.* To bring into a state of anarchy.—

Anarchy, (*ăn'ăr-ke,*) *n.* [From Gr. *a*, priv., and *arche*, government; Fr. *anarchie.*] (*Polit.*) Properly, the entire absence of political government; the condition of a society or collection of human beings inhabiting the same country, who are not subject to a common sovereign. Every society of persons living in a *state of nature* (as it is termed) is in a state of anarchy; whether that state of nature should exist in a society which has never known political rule, as a horde of savages; or should arise in a political society in consequence of resistance on the part of the subjects to the sovereign, by which the person or persons in whom the sovereignty is lodged are forcibly deprived of that power. Such intervals are commonly of short duration; but after most revolutions, by which a violent change of government has been effected, there has been a short period during which there was no person or body of persons who exercised the executive or legislative sovereignty,—that is to say, a period of *A.*—*Anarchy* is sometimes used in a transferred or improper sense to signify the condition of a political society, in which, according to the writer or speaker, there has been an undue remissness or supineness of the sovereign, and especially of those who wield the executive power. In the former sense, *A.* means the state of a society in which there is *no* political government; in its second sense, it means the state of a political society in which there has been a *deficient* exercise of the sovereign power. As an insufficiency of government is likely to lead to no government at all, the term *A.* has, by a common exaggeration, been used to signify the small degree, where it properly means the entire absence.

Anar'rhicus, ANARRICHAS, or ANARRHICHAS, *n.* (*Zoöl.*) A gen. of Acanthopterygious fishes, bearing great resemblance to the Blennies, except in their being destitute of ventral fins.

Anar'throus, *a.* [From Gr. *an*, priv., and *arthron*, joint, the article.] (*Gram.*) Without the article.

(*Zoöl.*) Having neither legs nor wings, as some insects.

A'nas, *n.* (*Zoöl.*) A gen. of birds of the sub-fam. *Anatinæ*, distinguished by a bill broad, depressed, larger than the head, and a pointed tail. The common wild duck or mallard, *A. boschas*, is the original stock of our tame or domesticated duck. The flesh of the wild duck is highly esteemed as an article of food. The tame, or domesticated duck is a very valuable bird, as contributing to man's subsistence. Ducks are reared with greater facility than almost any other domesticated fowl, as they subsist on scattered corn, the refuse of vegetable and animal substances, worms, snails, and insects. They annually lay a great number of eggs, and the ducklings are easily fattened. The widgeon (*Mareca penelope*), a species of the same genus, is a migratory bird, bred in the morasses of the north, which they quit on the approach of winter, spreading themselves along the shores, and over the marshes and lakes in various parts of the U. States. They are easily domesticated in places where there is plenty of water, and are much admired for their beauty and sprightliness.

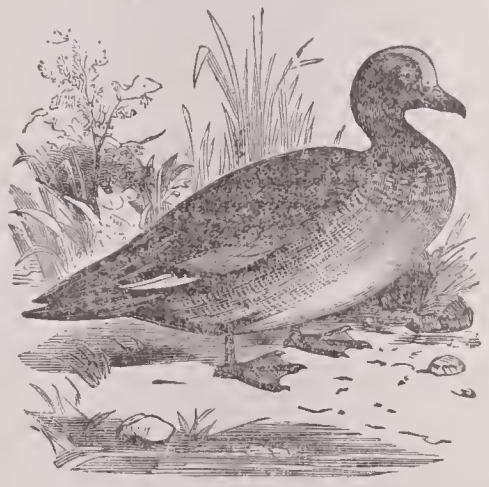


Fig. 119.—WIDGEON; (*Mareca Penelope.*)

Anasar'ca, *n.* (*Med.*) See DROPSY.

Anasar'cous, *a.* Relating to, or affected by, the species of dropsy named Anasarca.

Anastal'tic, *a.* [From Gr *ana*, up, and *stellein*, to send.] (*Med.*) Astringent; styptic.

Anasta'sia, an island on the E. coast of Florida, 18 m. long, 1½ broad. Lat. 29° 40′ N.; Lon. 81° W.

Anasta'sius I., emperor of Constantinople, succeeded Zeno, A. D. 491. He distinguished himself by his moderation toward different Christian sects, whose quarrels at that time disturbed the peace and safety of the Byzantine empire. He died A. D. 518, after a reign of 27 years.

ANASTA'SIUS II., proclaimed emperor of Constantinople after the deposition of Philippicus, 713; was dethroned by Theodosius, 716, and afterwards put to death, abt. 720.

Anasta'sius, I., Pope, a native of Rome, succeeded Siricius about the year 398. He was a contemporary of St. Jerome, who speaks highly of his probity and apostolic zeal. D. 402, and was succeeded by Innocent I.

ANASTA'SIUS II., a native of Rome, succeeded Gelasius I. in 496. D. after a short pontificate, 498.

ANASTA'SIUS III., likewise a Roman, succeeded Sergius III. in 911, and D. the following year.

ANASTA'SIUS IV., Cardinal Conrad, elected Pope in 1153, after the death of Eugenius III., and D. 1154.

Anastat'ic, *a.* [From Gr. *ana*, up, and *statikos*, causing to stand.] Having the quality of opening the vessels, or of removing obstructions.

Anastomo'sis, *n.* [From Gr. *ana*, through, and *stoma*, a mouth.] (*Anat. and Bot.*) The communication of blood-vessels with each other by the opening of the one into the other. The blood-vessels are the tubes by which the different parts of the body are supplied with nourishment. If the blood-vessels destined to nourish a part be obstructed so that it cannot receive a due supply of blood, that part must necessarily die, or, as it is technically termed, mortify. But the blood-vessels are soft, compressible tubes, liable, by innumerable circumstances, to have their sides brought so closely into contact as to prevent the flow of a single particle of blood through them. In order to prevent the consequences that would result to the system from the operation of causes thus tending to impede the circulation, provision is made for the freest possible communication between the main trunks of the blood-vessels and their branches, and between one branch and another. It will be shown hereafter (see ARTERY) that all the arteries of the body spring from one great trunk which issues from the heart, and which passes from the heart through the chest, into the abdomen, where it divides into large branches which supply the lower extremities. In this course this vessel gives off innumerable branches, which supply different parts of the body, and these branches form innumerable unions with other branches which proceed from the main trunk of the artery. All the branches which form such communications are called *anastomosing* branches, and this union of branch with branch is termed *anastomosis*. Now, so numerous are these anastomosing branches, and so competent are they to carry on the circulation, that if the main trunk of the aorta be tied in the abdomen, or even in the chest, the lower extremities will receive a sufficient supply of blood to maintain their vitality through these collateral or anastomosing branches. The knowledge of this fact enables the modern surgeon to perform with ease and safety operations which the surgeon of former times would have pronounced impossible.

Anastomot'ic, *n.* and *a.* (*Med.*) That which opens the pores and mouths of the vessels, as cathartics, diuretics, sudorifics, &c.

Anas'trophe, *n.* [From Gr. *ana*, back and *strephein*, to turn.] (*Rhet.*) A species of inversion or departure from the ordinary construction of words. The Latin locutions *mecum*, *vobiscum*, are anastrophes for *cum me*, *cum vobis*. The English locution, *here I am*, for I am here, is also an anastrophe.

Anath'ema, *n.* [Gr. from *ana*, up, and *tithemi*, to put; properly, to separate.] (*Eccl. Hist.*) The cutting off a person or persons from communion with the faithful; expulsion; curse. The Greek and Roman Catholic churches both make use of the *A.* In the latter it only can be pronounced by a pope, council, or some of the superior clergy. The subject of the *A.*, who is himself termed *an Anathema*, is declared an outcast from the Catholic church; all Catholics are forbidden to associate with him, and utter destruction is denounced against him, both in body and soul. The curse is terrible. Mere excommunication is less severe. When an heretic wishes to reconcile himself with the Church, he is obliged *to say anathema* to his errors.

Anathemat'ical, *a.* Having the properties of, or relating to, an anathema.

Anathemat'ically, *adv.* In an anathematical manner.

Anath'ematism, and ANATHEMATIZA'TION, *n.* The act of anathematizing.

Anath'ematize, *v. a.* [Fr. *anathématiser.*] To pronounce anathema; to excommunicate.

Anath'ematizer, *n.* One who pronounces an anathema.

An'athoth, [Heb., answer, song, affliction, or poverty.] A grandson of Benjamin.—A city of the Levites, the birthplace of Jeremiah.

Anat'idæ, *n. pl.* (*Zoöl.*) The duck tribe; an extensive fam. of birds, ord. *Anseres*, or *Natatores*. They are principally distinguished by a broad, depressed bill, which is covered with a soft skin; and by the hinder toe not being included in the web. The family, including the Ducks, the Goose, the Swan, &c., is divided into numerous genera, spread over all parts of the world.

Anat'inæ, *n. pl.* (*Zoöl.*) A sub-fam. of the *Anatidæ*, containing the Ducks, properly so called. There are many species, generally seen on lakes and rivers, but sometimes also on the seashore, and living on vegetables, grains, insects, and shell-fish. The principal genera are *Anas*, or common duck; *Merjus*, or shieldrakes; *Cairina*, or musk-ducks; *Aythya*, or pochards; *Somateria*, or eider-ducks; *Oidemia*, or scoters.

Anat'ocism, *n.* [Gr. *anatokismos.*] Compound interest.

Anato'lia. See NATOLIA.

Anatoli'co, a town of Œtolia, in Greece, 6 m. from Missolonghi, standing on a rocky island in a salt lagune on the W. side of the Gulf of Patras. The inhabitants are chiefly fishermen. Lat. 38° 24′ N.; Lon. 21° 18′ E. The houses of this town are mostly built upon piles, and number about 400. In March, 1826, the town surrendered to the Egyptian troops of Ibrahim Pasha.

Anatom'ic, ANATOM'ICAL, *a.* Relating or belonging to anatomy.

Anatom'ically, *adv.* In an anatomical manner.

Anat'omist, *n.* One who is skilled in anatomy.

Anatomiza'tion, *n.* The act of anatomizing.

Anat'omize, *v. a.* To dissect an animal; to divide the body into its component or constituent parts:—hence, to lay anything open distinctly, and by minute parts.

Anat'omy, *n.* [From Gr. *anatomē*, to separate a thing into parts by cutting: Lat., It., Sp. *anatomia;* Fr. *anatomie.*] The act of dissecting, or artificially separating and taking to pieces the different parts of the human body, to discover their situation, structure, and economy.—The doctrine of the structure of an organized substance, learned by dissection.—The dissection of the bodies of animals is called Zoötomy, or Comparative Anatomy. *A.* is a part of Natural History, and one of the most important in the sciences of Medicine and Surgery. This art is very ancient, though for a long time known only in an imperfect manner. In the writings of Plato we see that the philosophers had carefully considered the human body, both in its organization and functions; and though they had not arrived at the

knowledge of the more minute and intricate parts, which required the successive labor and attention of many ages, they have made up very noble and comprehensive ideas of the subject in general. Plato gives the rudiments of the circulation of the blood, viz.: "The heart is the centre or knot of the blood-vessels; the spring or fountain of the blood which is carried impetuously round; the blood is the pabulum or food of the flesh; and for the purposes of nourishment, the body is laid out into canals, like those which are drawn through gardens, that the blood may be conveyed, as from a fountain, to every part of the pervious body."—Hippocrates, who lived 460 years before the Christian Era, is generally supposed to be the first who wrote upon anatomy. Nothing is known that was written expressly upon the subject before; and the first anatomical dissection which has been recorded, was made by his friend Democritus of Abdera. The descriptions by Hippocrates were imperfect and incorrect, except that of the bones. He seems to have studied mostly from animals. From Hippocrates to Galen, who flourished 131 years after the Christian Era, that is, in the space of about 600 years, anatomy was greatly improved by more accurate and extended observations. During this time a great institution for Grecian education was established at Alexandria, Egypt, in the palace itself, with a museum and library, by the great Ptolemus. *A.*, among other sciences, was publicly taught. Herophilus and Erasistratus were the distinguished anatomists at that time; and according to the writings of Celsus, the first (Herophilus) was allowed to open the bodies of living culprits. He added many important discoveries about the brain, the action of the nerves, the blood-vessels of the intestines, &c.

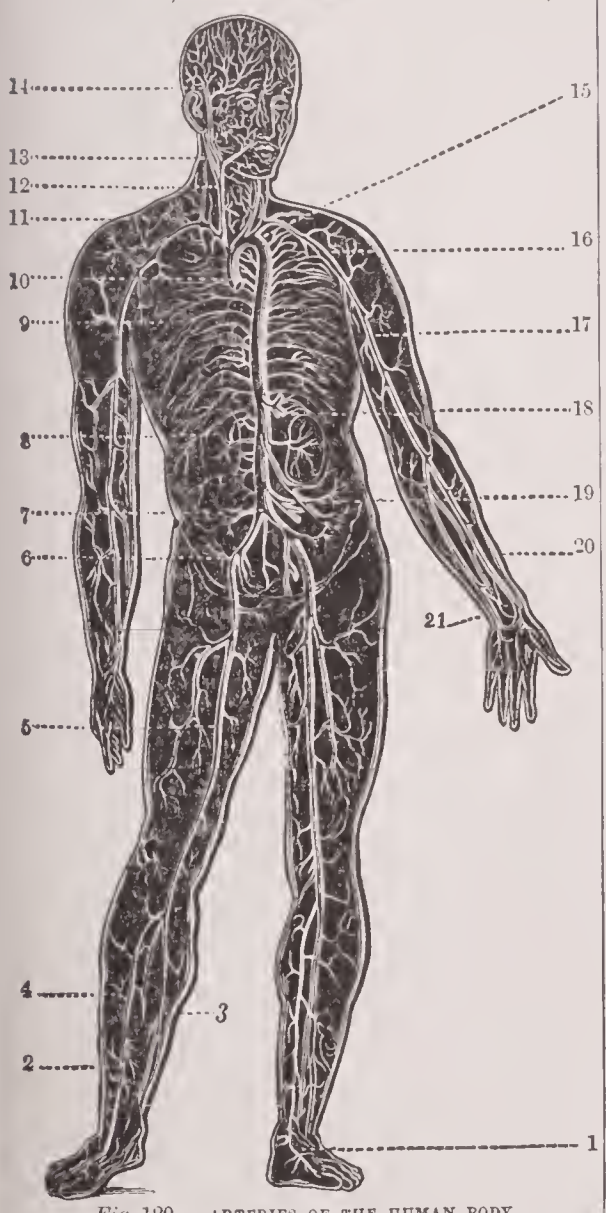


Fig. 120. — ARTERIES OF THE HUMAN BODY.

1. Tarsal.—2. Peroneal. —3. Posterior tibial.—4. Anterior tibial. 5. Femoral. — 6. Iliac. — 7. Sacral. — 8. Renat. —9. Intercostal. — 10. Aorta.—11. Subclavian.—12. Carotid.—13. Vertebral.—14. Temporal.— 15. Curvature of the Aorta. — 16. Axillary.— 17. Brachiat. 18. Cœliac. — 19. Mesenteric arteries. — 20. Radial. — 21. Ulnar. See ARTERY.

Erasistratus defined more particularly the structure of the brain, and discovered and named the valves in the *vena cava*.—The Romans did not apply themselves to anatomy for a long time.—Archagathus was the first Greek physician established in Rome, and he was banished the city on account of the severity of his operations. Asclepiades flourished in Rome in the time of Pompey, and attained a very high reputation. One Cassius, commonly thought to be a pupil of Asclepiades, accounted for the right side of the body becoming paralytic on hurting the left side of the brain, in the same manner as has been done by the moderns, viz.: by the crossing of the nerves from the right to the left side, &c. From the time of Asclepiades to the second century, physicians seem to have been greatly encouraged in Rome; and during this time Celsus, Rufus, Pliny, Cœlius, Aurelianus, and Aretæus, made anatomical observations. Toward the end of the second century, Galen, whose name is so well known to the medical world, applied himself to the study of anatomy, and did more than all who went before him. The Roman empire being now overwhelmed by barbarous nations, every appearance of science was almost extinguished in Europe. The only remains of it were among the Arabians in Spain, and in Asia. A general impression against dissection prevailed until the 16th century, when the Emperor Charles V. ordered a consultation to be held by the divines of Salamanca, to determine whether or not it was lawful in point of conscience to dissect a dead body. In the 15th century, but one great man flourished, Leonardo da Vinci, in Italy. He was a painter, and made dissections to make drawings to paint from. In the beginning of the 16th century, Achillanus, Benedictus, Berengarius, and Massa followed out the improvement of anatomy in Italy. Soon after this, about 1540, the great Vesalius appeared. He was born in Brussels, went to Louvain, and to Paris to teach anatomy, and from there was called to Italy. In his disputations with the other anatomists of his time, they made their appeals to the human body; and thus in a few years the art was greatly improved. He gave the names to the muscles, most of which are retained to this day. Formerly they were distinguished by numbers. In 1561, Fallopius published a treatise on Anatomy, at Padua. He made many great discoveries. In 1563, Eustachius published his work at Venice. From this time the study of anatomy gradually diffused itself throughout Europe. In the 17th century, Harvey discovered the circulation of the blood; Pecquet, the thoracic duct; Bartholine, the lymphatics; and Malpighi, Bellinus, Wirzung, Schneider, Bidloy, &c., flourished. In the 18th century, Pacchioni, Valsalva, Lancise, Morgagni, Hunter, Albin, Haller, Boerhaave, Vicq d'Azyr, and Monro became noted for their anatomical researches, as well as Meckel, Horner, Tiedemann, Müller, Seiler, Weber, Bischoff, Gray, Leidy, Goodsir, Bowman, Hyrtel, Henle, Rokitansky, Kölliker, Virchow, and others in the present century.—The anatomy of the body is divided into different groups according to the organs, &c., as, *Osteology*, treats of the form, structure, &c. of the bones; *Myology*, of the muscles; *Syndesmology*, of the ligaments; *Splanchnology*, of the viscera; *Angiology*, of the vessels; *Neurology*, of the brain and nerves; *Dermatology*, of the skin. See ANATOMY, COMPARATIVE.

Anatri'be, *n.* (*Med.*). Friction all over the body.

Anaux'ite, *n.* (*Min.*) A greenish-white, pearly, granular variety of Cimolite.

Ana'va, a river of Brazil, and a tributary of the Branca or Parima. Length abt. 200 m.

Anavelha'na, a river of Brazil, and an affluent of the Rio Negro, into which it falls near Toroma. Length abt. 200 m.

Anaxag'oras, one of the principal Ionic philosophers, B. at Clazomene, B. C. 500. He visited Egypt, and went to Athens, where he formed an intimacy with Pericles. His principle was, "from nothing comes nothing." He adopted, therefore, the idea of a chaos, and as the primary element of all bodies, a kind of atoms, of the same nature as the bodies which they formed. These atoms, in themselves motionless, were, in the beginning, put in motion by another equally eternal, immaterial, spiritual, elementary being, which he called *Intelligence*. He contended that the real existence of things, perceived by our senses, could not be demonstrably proved, and considered reason as the source of truth. On account of this principle, many have regarded him as the first theist among the philosophers. D. 428 B. C.

Anaximan'der, a philosopher of Miletus, B. 610 B. C. He discovered, or taught at least, the inclination of the elliptic, and was the first to use figures to illustrate the propositions of Geometry. His system seems to have been that infinity is the origin of all existence, from which all emanates, and to which everything returns. The number of worlds is, according to him, infinite. D. 546 B. C.

Anaxim'enes, a philosopher of Miletus, flourished about 556 B. C. He was a disciple of Anaximander, from whose doctrines he, however, deviated. According to him, the air is the infinite, divine, perpetually active, first principle of all things. Pliny attributes to him the invention of the sun-dial.

An'bert Kend. [Hind., the cistern of the waters of life.] A celebrated book of the Brahmins, wherein the Indian religion and philosophy are contained. It is divided into 50 beths or discourses, each consisting of 10 chapters. It has been translated into Arabic, under the title of *Morat al Maani*, *i. e.*, the marrow of intelligence.

An'bury, *n.* (*Farriery.*) An AMBURY, *q. v.*

(*Gard.*) An *A.*, or club-root, is a sort of galls produced by insects on the roots of cabbages, turnips, hollyhocks, and other species of cultivated plants. The destruction of the adult insects before they have laid their eggs, is the only remedy indicated against anbury: and it is peculiarly difficult to put this into practice, in the case of so small a species.

An'caster, in Ontario, a post-village and township of Wentworth co., 8 miles W.S.W. of Hamilton.

Ancen'is, a town of France, dep. of Loire-inférienre, on the Loire, 21 m. E.N.E. of Nantes; *pop.* 4,628.

An'cestor, *n.* [Fr. *ancêtres*, pl.; from Lat. *antecessor*, one who goes before.] One from whom a person descends, either by the father or mother; a progenitor; a forefather.

Ancestors.—All nations, in any way civilized, have paid respect to the memory of their ancestors. Some have gone so far as to offer them religious homage. The Bible abounds in genealogies, and modern travellers state, that the same pride of descent prevails among the Arabians, Persians, &c. Men of rank in the East are frequently entertained with songs in praise of their ancestors—a custom which prevailed in Greece and Rome, and throughout Europe in the middle ages. There is hardly any age which does not furnish many instances, some even in the shape of political institutions, of an erroneous transfer to a man's posterity of the honor belonging to himself, by which a natural and laudable feeling has been made the source of much injustice, and moral and political confusion. Another very common fault, into which mankind constantly fall, is that of suffering reverence felt for the persons of ancestors to produce an undue respect for their knowledge and wisdom,—an error which arises, perhaps, partly from the idea of age and experience attached to that of ancestors. The age and experience of living ancestors demand our respect, and the same feeling is transferred to the dead and to former ages, which, in point of fact, were younger and less experienced than we. Individuals and whole nations act as if wisdom belonged only to the dead. The Americans are noted for the esteem in which they hold their ancestors, but they do not look to the past ages as to the only model to be imitated. The true feeling of respect to ancestors has been admirably expressed by one of their orators, who said: "Let us not act as they did, but as they would have acted to-day."

(*Law.*) One that has gone before in a family; it differs from predecessor, in that it is applied to a natural person and his progenitors, while the latter is applied to a corporation, and those who have held offices before those who now fill them.

Ancesto'rial, *a.* Ancestral.

An'cestral, *a.* Relating to, or having been done by one's ancestors.—That which belonged to one's ancestor.

(*Law.*) *Ancestral estates* are such as come to the possessor by descent.

An'cestress, *n.* A female ancestor.

An'cestry, *n.* [From *ancestor*.] Lineage; a series of ancestors, or progenitors; the persons who compose the lineage.—Hence, the honor of descent; birth.

"Title and *ancestry* render a good man more illustrious, but an ill one, more contemptible."—*Addison.*

Anch'ilops, *n.* The same as ÆGILOPS, *q. v.*

Anchi'ses, son of Capys, and great-grandson of Troas. Venus, captivated by his beauty, appeared to him on Mount Ida, (according to some, near the river Simois,) in the shape of a Phrygian shepherdess, and bore him Æneas. His son carried him off on his shoulders at the burning of Troy, and made him the companion of his voyage to Italy. He died during the voyage, in Sicily. According to other accounts, Jupiter killed *A.* with a thunder-bolt, because, when excited with wine, he betrayed the secret of his intimacy with Venus.

Anch'olme, a river of England, rising in Lincolnshire, and joining the Humber 9 miles from Glanford Brigg.

Anchor, (*ăng'kŭr,*) *n.* [Lat. *anchora*; Fr. *ancre*.] (*Naut.*) A heavy iron instrument cast or dropped from a ship into the water in a harbor or roadstead, to retain her in a convenient station there, the several parts of which are shown in the accompanying figure.—*A.* were originally mere weights; at present they are so contrived as to sink into the earth as soon as they reach it, and to bear a great strain before they can be loosened or dislodged. The number of anchors carried at both the bows and stern of a ship have been finally reduced to four principal, and these all at the bows. The anchors supplied to men-of-war are the *best* and *small bowers*, the *sheet*, and the *spare*; these are of the largest size; to which are added, the *stream* and the *kedge*, which are used for particular or for temporary purposes. Since there is but small difference in the form of anchors of different weights, the *stream* of a large vessel serves for the *bower* of a smaller.—"An *A. comes home*, when it loses its hold of the ground, by the violence of the sea or wind; in which case as the vessel *drifts*, the anchor *draws*.—*To cast A.*, is to release it from the cathead by letting run the cathead-stoppers, that it may fall to the bottom, and so hold the vessel.—*To lie at A.*, or *riding at A.*; the situation of a vessel which is kept in a particular place by her *A.* resting on the ground.—*To back an A.*; to lay out or plant a smaller *A.* ahead of the large one by which the vessel rides; the cable of the former

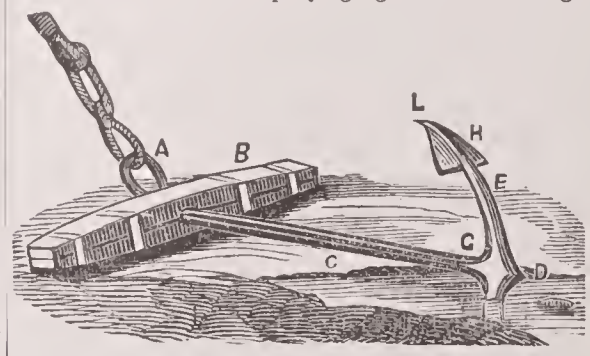


Fig. 121.

A. The ring.
B. The stock, (placed at right angles with the plane of the arms.)
C. The shank.
D. The crown, or place where the arms are joined to the shank.
E. The arms.
G. The throat of the arms, or rounded angular point where the arm is joined by the shank.
H. The palms, or flukes.
L. The bill, or peak. The end of the shank, on *A*, is called a nut.

being fastened to the crown of the latter, or secured with a running clinch around the cable of the latter, to fetch up at the ring.—*To cat and fish an A.*; to raise the *ring* to the cathead by the cat-purchase, and then hoist the flukes to the gunwale by the fish-purchase, after which the cat-stopper and shank-painter are passed.—*To sweep for an A.*; to sweep with the bight of a rope over the bottom, to find a lost *A.*—*To shoe an A.*; to place over the flukes, broad, triangular pieces of plank, that the *A.* may take hold better in a soft bottom.—*To weigh an A.*; to heave it up to the bows by means of the cable, in order to set sail."

(*Arch.*) See ECHINUS.

(*Com.*) A Dutch liquid measure. See ANKER.

—Metaphorically, that which confers stability or security.

"Which hope we have as an *anchor* of the soul."—*Heb.* vi. 17.

—An anchor, thus is the symbol of Hope.

Anch'or, *v. a.* To place at anchor; as, to *anchor* a ship. Figuratively, to fix or fasten; to fix in a stable condition; as, to *anchor* the cables of a suspension-bridge.

"Till that my nails were *anchored* in thine eyes."—*Shaks.*

—*v. n.* To cast anchor; as, the ship *anchored* in the harbor. Figuratively, to stop; to rest; to rest upon; as, "My intention *anchors* on Isabel."—*Shaks.*

Anch'orable, *a.* Fit for anchorage.

Anch'orage, *n.* [Fr. *ancrage.*] A suitable place to drop an anchor.—The hold of the anchor.—The dues or duty paid for the liberty of anchoring in a port.

Anch'ored, or ANCRED, *p. a.* (*Her.*) Having the extremities turned back, like the flukes of an anchor; as, an *anchored* cross.

Anch'oress, *n.* A female anchoret.

Anch'oret, Anach'oret, or **An'chorite,** *n.* [Gr. *anachoretes.*] A person who retires from the world through religious motives.

(*Eccl. Hist.*) Under Christianity, anchorets sprung up about the middle of the third century in Egypt and Syria, where many believers came to hide themselves in caves and solitary wilds from the fury of the persecution which arose under the Emperor Decius. Paul, commonly called the hermit, has the credit of having been the first regular anchoret. A distinction, however, came afterward to be drawn between anchorets and hermits; the former name being given only to those who rigidly confined themselves to their caves or cells, and the latter to those who, although they had broken off all commerce with the world, still wandered about at large in the wilds to which they had retired. Both descriptions of recluse were entirely distinguished from the Cœnobites, or those living in communities. Many of the anchorets were laymen; and there were also female as well as male anchorets. From nearly the commencement of the seventh century, the Church assumed a jurisdiction over anchorets; and persons were not allowed to enter upon the mode of life in question, except by permission of their ecclesiastical superiors, and after an appointed ceremony had been performed, at which the bishop presided. Churches and religious houses in the middle ages would sometimes keep an anchoret shut up in a cell, which was usually attached to the choir of the church. It was eventually found necessary to lay down certain regulations with a view of discouraging the adoption of this solitary life. The most singular species of anchorets recorded in the history of the Church, is that which arose in Syria in the fifth century, and of which Simeon Stylites was the founder. This zealot and his followers, instead of resorting, according to the customary fashion, to caves, elevated themselves into the air, on lofty pillars of stone, on the tops of which they passed their lives. They have hence received the names of pillar saints, holy birds, and aërial martyrs.

Anchoret'ic, Anchoret'ical, *a.* [Gr. *anachoretikos.*] Belonging or relating to an anchoret.

Anch'or-ground, *n.* Anchorage.

Anch'or-hold, *n.* The hold of an anchor; security.

(*Naut.*) The hold, or compartment in a ship, in which the anchors are deposited.

Anch'orite, *n.* An anchoret.

Anch'or-stock, *n.* See ANCHOR.

Ancho'vy, *n.* [Fr. *anchois;* Sp. *anchova.*] (*Zoöl.*) The *Engraulis encrasicolus*, a well-known small fish of the *Clupeidæ* or Herring family, abounding in many parts of the Mediterranean, particularly on the coasts of Italy, Greece, Spain, and France. It is about four inches long, of a bluish-brown color on the back, and silvery white on the belly. They were known to the ancients, and were used both by the Greeks and Romans as a pickle or sauce under the name of *garum.*

Ancho'vy-pear, *n.* (*Bot.*) The *Grias cauliflora*, only species of the gen. *Grias*, ord. *Myrtaceæ.* It is a tall tree with few branches, very long oblong leaves, and large white flowers, growing in Jamaica. The fruit, an oval berry, is the size of an alligator's egg, of a brownish-russet color, and is eaten as a pickle, in the same way as the mango.

An'chusa, *n.* (*Bot.*) A gen. of plants, tribe *Anchuseæ.* The *A. tinctoria*, or alkanet, contains a reddish-brown substance used by dyers.—See ALKANET, and ANCHUSINE.

Anchu'seæ, *n. pl.* (*Bot.*) A tribe of plants, ord. *Boraginaceæ.*

An'chusine, ANCHUSIC ACID, *n.* (*Chem.*) A dark-red, resinous body, permanent in light, softening at 140°, and subliming, without change, at a higher temperature, in the form of violent fumes, like iodine: insoluble in water, and soluble in alcohol with a red color. It is the red coloring matter of the *Anchusa tinctoria*, or alkanet, obtained by acting on the root with boiling absolute alcohol or ether.

An'chylose, *v. a.* [See ANCHYLOSIS.] To make stiff; to fix immovably, as a joint.

Anchylo'sis, *n.* [Gr. from *agchylomai*, to bend.] (*Med.*) A stiff joint. It is divided into the *true* and *spurious*, according as the motion is entirely or but partly lost. This state may arise from various causes, as tumefaction of the ends of the bones, caries, fracture, dislocation, &c., also dropsy of the joint, fleshy excrescences, aneurisms, and other tumors. It may also be owing to the morbid contraction of the flexor muscles, induced by the limb being long kept in a particular position, as a relief to pain, after burns, mechanical injuries, &c. The rickets, white swellings, gout, rheumatism, palsy, from lead particularly, and some other disorders, often lay the foundation of anchylosis; and the joints are very apt to become stiff in advanced life. Where the joint is perfectly immovable, little can be done for the patient; but in the spurious form of the complaint, the first thing is to remove, if possible, any cause mechanically obstructing the motion of the joint, and then to get rid of the morbid contraction of the muscles. If inflammation exist, this must be first subdued by proper means, but no rapid improvement is to be expected in general.

Anchylot'ic, *a.* Belonging to anchylosis.

An'cient, *a.* [Fr. *ancien*, from Lat. *antea, ante*, before.] Old; that happened long since; of old time; not modern.

"Witness those *ancient* empires of the earth."—*Milton.*

—Old; that has been of long duration.

"God was of all things the most *ancient*, because he never had any beginning."—*Raleigh.*

—Past; former.

"I see thy fury; if I longer stay,
We shall begin our *ancient* bickerings."—*Shaks.*

—*Ancient* and *old* are thus distinguished: *Old* relates to the duration of the thing itself, as, an *old* coat, a coat much worn; and *ancient* to time in general, as, an *ancient* dress, a habit used in former times. But this is not always observed; for we mention *old customs;* but though *old* is sometimes opposed to *modern, ancient* is seldom opposed to *new.*

(*Hist.*) In a limited sense, *ancient* is used in reference to a certain period in the existence of the human race: as when we speak of ancient, as distinguished from modern, history; of the ancient classics, ancient literature, and generally, of the *ancients.* The boundary-line between ancient and modern in this latter sense is not very accurately drawn; but according to the vulgar acceptation of the terms, the period of the ancients seems to be closed by the final and complete overthrow of the western Roman empire. With reference to the nations over which that empire extended, the distinction is not altogether arbitrary, or without an intelligible reason. The overthrow of the Roman empire marks the commencement of a new order of things, when we begin to discover the rudiments of those powerful independent nations, of those various languages, and peculiar institutions, which so remarkably distinguish a large portion of what is called modern Europe, from Europe under Roman dominion. There is of course a short interval, which may be considered as doubtful ground, for the possession of which the terms ancient and modern will always be allowed to contend.

Ancient, in *Wisconsin*, a hamlet of Dane co.

An'ciently, *adv.* In old times.

An'cientness, *n.* The state of being ancient; antiquity; existence from old times.

An'cientry, *n.* The honor of ancient lineage; the dignity of birth.

"The Irish think to ennoble themselves, by wresting their *ancientry* from the Spaniard."—*Spenser.*

Anci'le, or ANCY'LE, *n.* [Lat.] (*Antiq.*) A small brazen shield which fell, as was pretended, from heaven in the reign of Numa Pompilius, when a voice was heard, declaring that Rome should be mistress of the world as long as she would preserve this holy buckler. To secure its preservation in the city, Numa ordered eleven other shields, exactly like it, to be made, and twelve priests of Mars Gardivus were appointed under the name of *Salii*, whose office it was to preserve the twelve ancilla. Every year, on the calends of March, the *A.* were taken from the temple of Mars, on Palatine mount, by the Salii, who carried them about the city, singing warlike songs and performing dances, which they accompanied

Fig. 122.—ANCILIA CARRIED BY SALII.

(From a sculpture on the tomb of a Pontifex Salius.)

by striking the *A.* with rods, one of which may be seen in Fig. 122.

Ancil'la, or ANCILLARIA, *n.* (*Zoöl.*) A gen. of Mollusca, inhabiting a spiral, univalve marine shell. Numerous species, chiefly confined to tropical countries.

Ancil'lon, DAVID, a Protestant minister, who fled from France after the revocation of the Edict of Nantes, and D. at Berlin, 1672, 75 years old, was an author of some merit; as was also his son Charles, who was historiographer to the king of Prussia, and D. at Berlin, 1715.

Ancil'lon, JOHANN PETER FRIEDRICH, a Prussian statesman who, during the wars of Napoleon I., took an active part in directing the affairs of his country. At his death he held the appointment of minister of foreign affairs. B. at Berlin, 1766; D. 1837.

An'cillary, *a.* [Lat. *ancillaris*, a maid-servant.] Depending on; subordinate to.

Ancip'ital, Ancip'itous, *a.* [Lat. *anceps*, gen. *ancipitis*, two-headed.] With two edges, as the stem of sisyrinchium anceps.

An'cle, *n.* See ANKLE.

An'cobar, a river on the Gold Coast, Africa, which there forms the west boundary of the Dutch possessions. Lat. 4° N.; Lon. 2° 16′ W.

An'con, *n.* [Lat.] (*Anat.*) The elbow.

(*Arch.*) An angle or corner-stone.

Anco'na, a large maritime town of Italy, on the Adriatic, 15 m. N.N.W. of Loreto, and 134 m. N.E. of Rome. Lat. 43° 37′ 47″ N.; Lon. 13° 30′ 35″ E.—The harbor is well adapted for building and repairing ships, and is frequented by those of all nations. It was made a free port by Clement XII. On the mole stands a noble ancient triumphal arch, in honor of the emperor Trajan, said to be the finest marble arch in the world. The trade is chiefly in the hands of the Jews, who inhabit a separate harbor. Steamers leave for Corfu, Patras, Athens, and Constantinople.—*A.* was one of the principal naval stations of the Romans, and was anciently famous for its purple dye. In 1797, it was taken by the French, and restored to the Papal See in 1814. In 1832, the French again took possession of its citadel, which they did not leave till 1837, after the evacuation of the Austrian troops from the Papal territories. In 1849, the town sharing in the revolution in the Roman States, was bombarded, and then occupied by Austrian troops until 1859. On 29th Oct., 1860, it surrendered to the Piedmontese troops, and has since formed part of the Italian kingdom. Later, the harbor has been greatly improved. *Pop.* 31,238.

Anco'na, in *Illinois*, a post-village of Livingston co., abt. 22 m. S. of Ottawa.

An'cone, *n.* [Gr. *agcon*, the bend of the arm.] (*Arch.*) A sort of ornamental console, applied on each side of a door to support the cornice.

Ancone'us, *n.* [Lat., from Gr. *agcon*, the elbow.] (*Anat.*) A small triangular muscle, situated on the back part of the elbow. Its use is to extend the fore-arm.

Anco'ny, *n.* (*Metallurgy.*) A piece of half-wrought iron, of about three-quarters of a hundred-weight, of the shape of a bar at the middle, but rude and unwrought at the ends. It is afterwards sent to a forge called a chafery, where the ends are wrought into the shape of the middle, and the whole is made into a bar.

An'cram, in *New York*, a post-township of Columbia co.

An'cram Lead-Mine, in *New York*, a post-village in Ancram township, Columbia co., 50 m. S.S.E. of Albany. So called from the lead ore found in the vicinity.

Ancre, CONCINO CONCINI, BARON DE LUSSIGNY, MARSHAL D', a Florentine, who in 1600 accompanied Marie de Medicis, the queen of Henry IV., to France. He married one of the queen's attendants, Leonora Galigai; both acquired a strong influence over her mind, and thereby became unpopular. Upon the queen becoming regent, she made her favorite Concini a marshal of France, and prime minister. He was an object of dislike, both to the court and the people. A conspiracy, to which the young king, Louis XIII., lent himself, was formed against him, and he was assassinated openly in the Louvre, April 24, 1617. His body was ignominiously dragged through the streets of Paris by the people, and burnt. His wife, accused of sorcery, was also executed shortly afterward.

An'crum, a village and parish of Roxburghshire, on the Teviot, in Scotland. *Area*, 8,316 acres. *Pop.* 600.—Here, in 1544, the battle of Ancrum Moor was fought between the English and Scotch, the latter being the victors.

An'cud, the gulf of, lies between the Island of Chiloe, and the mainland of S. America. *Ext.* nearly 150 m. long, with an average width of 60. Lat. extending from 41° 30′ to 43° 30′ S.; Lon. from 72° to 73° W.

An'cus Mar'tius, the fourth king of Rome, succeeded Tullius Hostilius, 638 B. C. (114 A. U.) and died 614 B. C. (138 A. U.) He built the harbor at Ostia, the mouth of the Tiber. Rome, therefore, must have had, as early as that period, some navigation, even if it did not amount to more than a coasting trade. He revived the neglected observance of religion, and inscribed the laws respecting religious ceremonies on tables set up in the marketplace. Ennius and Lucretius called him the *Good.* Virgil reproaches him with undue regard for popular favor, because he distributed the conquered lands among the citizens.

Ancyloc'eras, *n.* (*Pal.*) A genus of fossil cephalopodous mollusks.

Ancy'lus, *n.* (*Zoöl.*) A fresh-water gasteropodous mollusc, with a shell similar to that of a patella. They live in stagnant waters, adhering to stones and aquatic plants.

Ancy'ra, (*Geog.*) See ANGORA.

And, *conj.* [A.S. *and, ant.*] A particle by which sentences or words are joined.

Hans Christian Andersen

1805–1875

"Sure his honesty
Got him small gains, but shameless flattery.
And filthy beverage, *and* unseemly shift,
And borrow base, *and* some good lady's gift."—*Spenser.*

An'dad Khan, or ANDEJAN, a town of Independent Tartary, Khanat of Khokan, on the Sihoon (*Jaxartes*), 55 m. E. of Khokan; Lat. 41° 20′ N.; Lon. 71° 27′ E. It is a place of considerable size and antiquity.

Andalu'cia. See ANDALU'SIA.

Andalu'site, MICAPHYLLITE, OF ADAMANTINE SPAR, *n.* (*Min.*) An orthorhombic mineral, of the subsilicates section. Color, flesh-red, pearl gray, brownish-red; fracture uneven; lustre glassy; translucent on edges; infusible before the blowpipe. Spec. grav. 3·314 to 3·13. *Comp.* Silica 36·8, alumina 63·2 = 100. It occurs in Andalusia.

Andalu'sia, or ANDALU'CIA, the most southern district of Spain, comprising the four anc. Moorish kingdoms of Seville, Cordova, Jaen, and Granada. It is bounded N. by La Mancha and Estremadura; E. by Murcia; S.E. by the Mediterranean, and on the W. by Portugal. Lat. between 36° 4′ N.; and Lon. between 2° and 1° 20′ W. *Area*, 27,153 sq. m. *A.* is now divided into 8 provinces, viz.: Seville, Cadiz, Cordova, Granada, Jaen, Malaga, Huelva, and Almeria. *Desc.* Extremely uneven, except the basin of the Guadalquivir, which, for the greatest part, may be regarded as a wide plain. The Sierra-Morena runs along its N. portion, and is cut by the great road from Madrid to Seville at the pass called the Despeña-perros, with an elevation of 7,500 feet above the sea-level. Another mountain-range, called the Sierra Nevada, runs across *A.*, from Carthagena to Tarifa, and Cape Trafalgar, and has several points covered with perpetual snow; the highest, Mulahacen, being 11,678 feet above the level of the sea. Between these two ranges runs the *Guadalquivir*, *q. v.* The climate is hot and oppressive on the coast, but N. of the Sierra Nevada the temperature is more equable, and cooler, although never at freezing point. The greatest part of the country is parcelled out into vast estates belonging to the grandees. Agriculture is in a very backward state. The Andalusians are a mixed race, descended from Africans, Carthaginians, Romans, Goths, Vandals, and Moors. They retain much resemblance, both in person and manners, to the latter, although light hair, eyes, and complexions are by no means unfrequent. When they have any motive for exertion, they are not deficient in industry, and are intelligent and imaginative. *Pop.* (1898) 3,470,400.

Andalu'sia, in *Alabama*, a post-village cap. of Covington co., 80 m. S. of Montgomery.

Andalu'sia, in *Illinois*, a village of Rock Island co., 10 m. S.W. of Rock Island. *Pop.* (1898) 850.

Andalu'sia, in *Penna.*, a post-village of Bucks co.

Andalu'sia, in *Tennessee*, a village of Gibson co.

An'daman Islands, a narrow group of small islands in the E. part of the bay of Bengal, stretching N. and S. between Lat. 10° 30′ and 13° 40′ N., and Lon. about 92° 50′. Their inhabitants are in the lowest degree of barbarism and believed to be cannibals.—A British settlement was established at Port Cornwallis, in 1793, but was abandoned in 1796. It is now a British convict settlement for East Indian criminals.

Andan'te, *a.* [It., from *andare*, to go.] (*Mus.*) A term noting an exact and just time in playing, so as to keep the notes distinct from each other.—*Andante largo*, signifies that the music must be slow, the time exactly observed, and each note distinct.

Andanti'no, *a.* [It.] (*Mus.*) Gentle, tender; somewhat slower than *andante*.

An'darac, *n.* See SANDARAC.

Ande'an, *a.* (*Geog.*) Pertaining to the Andes.

Andelys (Les), a town of France, cap. of an arrond. in the dep. of Eure, on the Seine, 11 m. E. of Louviers. It properly consists of two towns, the Great and the Little Andelys. In the neighborhood are the ruins of Château Gaillard, a fortress built by Richard Cœur de Lion. *Pop.* 5,137.

An'dennes, a town of Belgium, prov. of Namur, on the Maese, 13 m. E.N.E of Namur; *pop.* 6,312.

An'dernach, a town of Rhenish Prussia, beautifully situated on the Rhine, between Coblentz and Bonn. *Manf.* Hydraulic cement, made from volcanic tufa, used in the construction of the dikes in Holland; *pop.* 4,000.

An'dersen, HANS CHRISTIAN, an ingenious Danish writer, who, though born in the humblest circumstances, has risen to considerable eminence among his contemporaries. Most of his works are of an imaginative, poetical, or light character, and have procured him not only the patronage of the crown of Denmark, but approbation of a large portion of the literary circles of foreign countries, and the highest praise has been assigned to his juvenile tales. B. at Odense, Fünen, 1805. — A collected edition of his works was published at Leipsic in 1847. D. 1875.

An'derson, SIR EDMUND, an English judge, who was in the commission for trying Mary queen of Scots; and presided at the trial of Secretary Davison, for issuing the warrant by which that unhappy princess was executed. B. in Lincolnshire: D. 1605.

An'derson, JAMES, LL.D., a Scotch political, scientific, and agricultural writer, and one of the founders of the Scotch school of husbandry. He has written about thirty different works, and was a large contributor to the "Encyclopædia Britannica." B. at Hermiston, near Edinburgh, 1739; D. in London, 1808.

An'derson, ROBERT. See SUMTER, FORT.

An'derson, WALTER, D.D., a Scottish divine who flourished in the last century. He wrote a history of the kings of France from Francis II. down to Henry IV. D. 1800.

An'derson, in *California*, a post-village and township of Shasta co., about 130 m. N. N.W. of San Francisco.

An'derson, in *South Carolina* a county formed in the N. W. part of the State, with a part of the district of Pendleton, and bordering on the river Savannah.—*Area*, 690 sq. m.—it is drained by Kiowee river, Rocky river and Deep Creek. Soil fertile. *Pop.* (1890), 43,910. —A post-village, cap. of Anderson county, 148 m. W. N.W. of Columbia.

An'derson, in *Georgia*, a village of Walker co.

An'derson, in *Illinois*, a township and post-office of Clark co.

An'derson, in *Indiana*, a thriving city, cap. of Madison co., located on the White river, and on the P. C., C. & St. L. and two other R.Rs.; has extensive and varied manufacturing interests, and a prosperous trade. *Pop.* (1898) 21,800.

An'derson, in *Kansas*, a S.E. county.—*Area*, 576 sq. m.; cap. Garnett. It has a fertile soil and is well-timbered. It is drained by Pottawattomie and Sugar creeks.

An'derson, in *Kentucky*, a N. county, washed by Kentucky river, which forms its E. boundary, and by Crooked, Stony, and Hammond creeks; surface undulating; soil fertile. *Area*, abt. 300 sq. m. *Cap.* Lawrenceburg. *Pop.* in 1880, 9,361; in 1890, 10,610.

An'derson, in *New Jersey*, a small village of Warren co., 60 m. N. of Trenton.

An'derson, in *Ohio*, a township of Hamilton co.

An'derson, in *Tennessee*, a N.E. county, washed by the rivers Clinch and Powell; *area*, 600 sq. m. The large valley between Cumberland mountains, on the N.W., and Chestnut ridge, on the S.E., is very fertile and well-timbered. There are valuable salt and sulphur springs at Eastbrook. *Cap.* Clinton.

—A post-vill. of Franklin co., 103 m. S.S.E. of Nashville.

—A vill. of Sequatchie co., abt 20 m. north by west of Chattanooga.

An'derson, in *Texas*, an E. county, washed by the rivers Trinity and Neches. *Area*, 900 sq. m. Soil generally fertile. Productions, chiefly cotton and corn. *Capital* Palestine, which is usually considered the head of steamboat navigation.

—A post-village, cap. of Grimes co., abt. 140 m. E. by N. of Austin city.

An'dersonburg, in *Pennsylvania*, a post-village of Perry co.

An'derson River, in *Indiana*, a village of Spencer co.

An'derson's Creek, in *Indiana*, rises in Crawford co., and falls near Troy into the Ohio.

An'derson's Creek, in *Pennsylvania*. It enters the W. branch of Susquehanna river in Clearfield co.

An'derson's Mills, in *Pennsylvania*, a village of Butler co.

An'derson's Store, in *North Carolina*, a village of Caswell co.

An'derson's Store, in *Ohio*, a post-office of Morgan co.

An'derson's Store, in *Tennessee*, a post-village of McNairy co.

An'dersonville, in *S. Carolina* and *Indiana*. — See ANDERSON.

An'dersonville, in *Indiana*, a post-village of Franklin co., 50 m. S.E. by S. of Indianapolis.

—a post-village of Madison co. — See ANDERSON.

An'dersonville, in *Georgia*, a post-village of Sumter co., 65 m. S.S.W. of Macon. This place was a notorious Confederate prison during the rebellion; many thousands of Federal prisoners were incarcerated here at one time, amongst whom the mortality was very great. Henry Wirz, supt. of the prison, was convicted and executed, after the war, on a charge of excessive cruelty.

An'des, [From the Peruvian word *anta*, copper or metal in general. — *Humboldt.*] The general name given to the great range of mountains, which runs along the W. side of the continent of S. America. The *A.* are the highest mountains in America, and next to the Himalaya mountains the most elevated in the known world. The *Cordilleras*, a name sometimes given to this chain, is properly applicable only to the innermost and highest ridge of the mass. In considering these mountains as a great feature in the physical structure of the earth, we may fix their S. extremity in the rocky islands of Diego Ramirez, off Cape Horn, in Lat. 56° 30′ S., and their N. termination in the 69th of N. Lat., at the mouth of the Mackenzie river. It is difficult to say where the real chain of the *A.* commences. It continues, however, when once formed, without a break, to the mouth of the river Atrato, or the isthmus of Darien, which pours its waters into the Caribbean Sea, in Lat. 8° 15′ N., a distance, reckoning the whole line, from Diego Ramirez, of 64° 15′ of Lat. The *A.* of S. America, although in our maps they look like one long single ridge, are by no means so, but are composed of a series of chains of mountains, more or less parallel, enclosing vast elevated plains or table-lands, and of several great groups, like knots or articulations, at distant intervals. The average width of their base is extremely narrow, considering their great length, in comparison with that of most other extensive systems of mountains; for, except where the groups just mentioned occur, the breadth varies only from 60 to 70 m. The greatest extension, from east to west, is between the parallels of 15° and 18° S., in one of the groups, where a base line perpendicular to the axis of the chain would be nearly 400 m. in length. Toward the Straits of Le Maire, the range consists of rocky hills, rising to an altitude of 2,000 or 3,000 feet. Cape Horn itself is a conspicuous rock upward of 3,000 ft. high. Mount Sarmiento is the highest summit, and rises to 6,900 feet above the sea. In the W. part of King Charles's South-land, the range extends over the whole district S. and W. of Admiralty Bay. Further W. it changes its direction, running to the N.W. as far as the Frith of Sansalid, Lat. 52° S.; Lon. 73° W., from which point begins the uninterrupted chain of the *A.* It comprehends the *Patagonian A.* (see Patagonia); the *Chilian A.* (see Chili); the *Bolivian A.* (see Bolivia); the *Peruvian A.* (see Peru); the *A. of Ecuador* (see Ecuador, Republic of); and the *A. of New Granada* (see Granada, New). The *A.* seem to disappear entirely between 7° and 8° N., opposite to the harbor of Cupica on the Pacific; for no mountain range is found on the Isthmus of Panama, where it is narrowest. — The famous Chimborazo, in the *A.* of Ecuador, rising 21,420 feet above the sea, was, until lately, considered to be the highest summit of the *A.*; but it is now known that Aconcagua, in the Bolivian *A.*, rises considerably higher, being 23,910 ft. above sea-level. — *Geology.* It is very imperfectly known. The *A.* are mostly composed of porphyry and mica slate. Porphyry is by far the most widely extended of the unstratified rocks of the *A.*, and occurs through the whole range at all elevations, and frequently the highest summits are composed of it. Next to porphyry and mica-slate, trachyte and basalt are most frequently met with. Volcanoes are frequent in certain portions of the range; but that part of the *A.* in which volcanic agency is most active, lies between Lat. 3½° S., and 2° N. The number of summits where eruptions are recorded, is here very considerable. The farthest N. is that of Puracé, in the neighborhood of Popayan, where the *A.* begin to divide into three ranges. *Glaciers* are of rare occurrence, which is partly to be attributed to the relative positions of the summits, which generally form a continuous line, without having other summits on their side; and partly to the considerable distance which is everywhere found to intervene between two summits. Near Lat. 12° S., the line of perpetual snow is at about 18,300 ft. above the level of the sea. — *Vegetation.* In the lower grounds, between the tropics, from the level of the sea to the height of from 3,000 to 5,000 ft., cassava, cacao, maize, plantains, indigo, sugar, cotton, and coffee, are cultivated. The low country is also the region of oranges, pine-apples, and the most delicious fruits. Between the altitude of 6,000 and 10,000 ft., lies the climate best suited for the culture of all kinds of European grain, principally wheat, rye, and barley. Within the same limits is to be found the oak, which from the elevation of 9,200 ft. never descends, near the equator, below that of 5,500 ft. Beyond the limit of 9,000 ft., large trees of every kind begin to disappear, though some dwarfish pines are to be found at the height of 13,000 ft. The grasses clothe the ground at an elevation of from 13,500 to 15,000 ft., and from this to the regions of ice and snow, the only plants visible are the lichens. The most celebrated product of the *A.* is the *Cinchona*, or Jesuit's Bark, the better kinds of which are collected between Lat. 5° N. and 5° S., where the tree grows at an elevation of from 10,000 to 14,000 feet above the sea. — *Animals.* The most remarkable kinds of animals are the guanacos, llamas, and vicunas; of birds, condors and vultures. — *Minerals.* Many of the rivers descending from the *A.* contain small particles of gold in their sands. Silver occurs in many places of the range between 33° and the equator; but it is more commonly found at an elevation where vegetation nearly ceases, which renders the working of the mines very expensive. Quicksilver, copper, ores of lead, tin and iron are found in many parts.

An'des, in *New York*, a post-township of Delaware co., 70 m. S.W. of Albany.

An'desite, An'desine, *n.* (*Min.*) A triclinic mineral, of the Felspar group. Spec. gr. 2·736 to 2·651.

An'desville, in *Pennsylvania*, a post-office of Perry co.

Andi'ra, *n.* (*Bot.*) See DALBERGACEÆ.

Andiron, or HANDIRON, *n.* [From *hand-iron* or *brand-iron.*] A fire-dog. Formerly used for burning wood on an open hearth; they consisted of a horizontal bar raised on short supports, with an upright standard at one end. A pair were used, one standing at each side of the hearth, whilst the logs of wood rested across the horizontal bars. The *A.* is of general use in France, where it is called *cheuet.* Owing to the general adoption of coal as a fuel for domestic purposes, the *A.* is seldom seen in this country, except as a furnishing for ornamental fireplaces.

Andor'no, a town of N. Italy, in Piedmont, 6 m. from Biella, situate in one of the most prosperous districts of Piedmont; *pop.* upwards of 4,000, employed in the lead, copper, and iron mines of the neighboring mountains. — The painter Cagliari was born here.

Andor'ra, or ANDORRE, (VAL D'.) [Ar., thick with trees.] A small independent, neutral state; which, under the suzerainty of France, shelters itself in the heart of the Pyrenees, between the French dep. of the Ariège and the Spanish Cerdagne. It takes its name of *Val. d'Andorra*, (valley of Andorra,) from Andorra its principal city. *Ext.* 30 m. long, and nearly the same in breadth. *Area*, 191 sq. m. *Desc.* Amongst the wildest districts of the Pyrenees, having little arable land, but exhibiting extensive pastures, with mountains entirely surrounding it. Little grain is grown, the inhabitants being mostly shepherds, who live an austere life, remote from the luxuries of cities. *Manf.* These are few and of the most primitive description. Iron is produced in the mines, and some rude implements and tools are made, but nothing that deserves the name of manufactures, as these are now understood in larger and more advanced communities. *Gov.* Under the protection of France, but the administration is carried on by twenty-four consuls elected by the whole population. — COMMERCE. *Exp.* Iron to Spain, and wool and skins to France. *Imp.* The necessaries of life; and an active

contraband trade is carried on by the republic between Spain and France; *cap.* Andorra; *pop.* 10,000. — In 790, Charlemagne defeated the Moors in a neighboring valley, with the assistance of the Andorraus, and from that period they date the independence of their little State. As a recompense for their services, the French monarch allowed them to make their own laws, a privilege which they have continued ever since to enjoy.

An'dorrese, *n. sing. and pl.* (*Geog.*) A native, or the natives of the Val d'Andorra.

—*a.* Belonging to the Val d'Andorra, or to its inhabitants.

Andouille', *n.* [Fr.] (*Cookery.*) A dish or preparation from the entrails of a pig; chitterlings.

An'dover, a town of England, in Hampshire, on a rivulet called Ande, 12 m. from Winchester. It has an ancient Gothic church, is well paved, lighted with gas, and plentifully supplied with water. *Manf.* Principally silk, and it has a trade in timber. *Pop.* 5,500.

An'dover, in *Connecticut*, a post-township of Tolland co., 18 m. E. of Hartford.

An'dover, in *Illinois*, a post-village and township of Henry co., 26 m. S.E. of Davenport.

An'dover, in *Maine*, a post-township of Oxford co., about 30 m. N.W. of Paris.

An'dover, in *Massachusetts*, a post-village and township of Essex co., on the Merrimac river, 21 m. N. of Boston. Incorporated in 1646. There are the *Phillips Academy*, instituted in 1778; the *Andover Theological Seminary*, founded in 1807, under the direction of the Congregationalists: and the *Abbott Female Academy*, founded in 1829. *Manf.* Flannels, linen, and shoe-thread.

An'dover, in *Michigan*, a village of Calhoun co., about 140 m. W. of Detroit.

An'dover, in *New Hampshire*, a post-township and village of Merrimac co. It has manufs. of carriages, lumber, paper, &c.

An'dover, in *New Jersey*, a post-village of Sussex co., about 55 m. N. of Trenton.

An'dover, in *New York*, a post-village and township of Alleghany co., on a tributary of the Genesee river, 258 m. from New York city. *Manuf.* Carriages, furniture, iron foundry, tannery, &c.

An'dover, in *Ohio*, a post-village and township of Ashtabula county, 205 miles N. E. of the city of Columbus.

An'dover, in *Vermont*, a post-township of Windsor co., 68 m. S. by W. of Montpelier.

An'draeio, or ANDRACY, a town of Spain, on the S.W. coast of the island of Majorca; *pop.* 4,690.

An'dral, GABRIEL, an eminent French physician, member of the Institute and of the Academy of Medicine, B. in Paris, 1797. In 1828 he was appointed Professor of Hygiene; and in 1839 he was almost unanimously elected by his colleagues to succeed Broussais in the chair of pathology and general therapeutics, the highest in the school. His principal works are the *Clinique Médicale*, and *Precis d'Anatomie Pathologique.* D. 1868.

Andranat'omy, *n.* [Gr. *aner*, a man, *temno*, to cut.] (*Anat.*) The dissection of the human body.

An'dre, JOHN, an officer in the British army during the American Revolutionary war. B. in Loudon in 1751, he entered the army and came to America as a lieutenant in 1774, being subsequently made adjutant-general, with the rank of major. He was a good scholar, had some ability as an artist and versifier, and was a man of varied accomplishments. When Benedict Arnold offered to surrender West Point to the British, General Clinton sent André to negotiate the surrender. He had a private interview with Arnold, was furnished with the plans of West Point, and on his return to New York by land was seized and the papers found concealed in his boot. He was condemned to death as a spy, and hanged Oct. 2, 1780. A monument to his memory has been erected in Westminster Abbey.

André, St., *Jacques d'Albon*, marquis of Fronsac, generally known as *Marshal of St. André*, a French nobleman, who in 1547 was made gentleman of the bedchamber by Henry II. In 1550 he was deputed to bear the collar of his order to Henry VIII. of England, by whom he was invested with that of the Garter. On his return he was appointed to the command of the army in Champagne, where he greatly distinguished himself; but at the battle of St. Quentin was taken prisoner. On the death of Henry II. he was chosen one of the regency. Killed at the battle of Dreux, in 1562.—The Huguenots called St. André "The harquebusier of the West."

An'drea, St., a cape on the N. promontory of the island of Cyprus.

An'dreas, JAMES, a reformer of Wirtemberg, and chancellor of the University of Tübingen; B. 1528; D. 1590.

Andreas, JOHN, a famous canonist of Florence. His austerity was such that he was said to have lain upon the bare ground for twenty years, with nothing to cover him but a bear-skin. He had a daughter of great beauty and learning, who was accustomed to lecture to his students during his absence, concealed behind a curtain, that the attention of the auditors might not be taken off by her beauty. Her name was Novella, and in her honor he called one of his commentaries *The Novellæ.* D. of the plague, 1348.

Andre'asberg, a town of Hanover, in the Hartz, 10 m. from Clausthal. It is situated in a district which has mines of iron, cobalt, copper, and silver. *Pop.* 4,300.

Andre'na, *n.* (*Zoöl.*) A gen. of the fam. *Andrenidæ*, q. v.

Andre'nidæ, *n. pl.* (*Zoöl.*) A family of hymenopterous insects, allied to the bees, *Apidæ*, from which they may be known by their not having an elongated proboscis. They do not live in society like the hive-bees, but are solitary, and consist only of males and females. They form their nest in the ground.

Andreos'si, ANTOINE FRANÇOIS, COUNT; a French general, who served under Napoleon, both in Italy and Egypt. He was afterward ambassador to London, Vienna, and Constantinople, and author of several military memoirs. B. 1761; D. 1828.

An'drew, St., the apostle, B. at Bethsaida, in Galilee, brother of St. Peter, and the first disciple whom Christ chose. Both brothers were fishermen, but left their business, and followed the Redeemer. The fate of *A.*, after Christ's death, is uncertain; the common opinion is that he was crucified. The Russians revere him as the apostle who brought the gospel to them; the Scots, as the patron saint of their country. In the early ages of the church, a pretended Gospel of his was in circulation. The *Acta* also, which bear his name, are not genuine.

St. Andrew's Cross. A cross formed obliquely, thus, ×; so called, because, according to tradition, St. Andrew was executed on a cross erected of this particular shape. B. at Patras, in Achaia, Nov. 30, A.D. 83.

Orders of St. Andrew.—1. A Russian order of knighthood, the highest in rank of that empire, founded by Peter the Great, in 1698. The members are exclusively chosen from the imperial family, princes, commanders-in-chief, and others of the most elevated position. Its badge has on its obverse side a cross of blue enamel, bearing a figure of *St. A.* surmounted by a crown, and in the four corners of the cross the letters S. A. P. R. (*Sanctus Andreas Patronus Russiæ,*) while on the reverse side is an eagle with spreading wings, with a Russian legend signifying "*For religion and loyalty*," and also the name of the Saint. The collar of the order is formed of St. Andrew's crosses alternate between imperial crowns.—II. A Scottish order of knighthood, more commonly known as *The Order of the Thistle.* It derives its latter title from the thistle, which is the heraldic badge of Scotland, and its former from the patron-saint of that country, St. Andrew. Tradition states that a cross of St. Andrew appeared in the heavens to Achaius, king of Scots, and Hungus, king of the Picts, as an augury of a victory over the English king Athelstane, which they gained on the following day; a vow was thereupon made to emblazon it on their heraldic insignia; but the authentic formation of the order only dates from the reign of James V. Having fallen into desuetude, it was revived by James II. of England in 1687, and reëstablished in the reign of Anne, Dec. 31, 1703. The star of this order is worn on the left side, and presents a *St. A.'s* cross embroidered in silver, with rays issuing from between the points of the cross. In the centre is a thistle of green and gold upon a green field, surrounded by a circle of green, bearing the motto in golden letters, "*Nemo me impune lacessit.*" The badge or jewel depends from the collar, or is worn on a dark green ribbon over the left shoulder and tied under the arm. This badge is a figure

Fig. 123. — STAR OF THE ORDER OF THE THISTLE.

of *St. A.*, enamelled and chased in green and gold. Thistles compose the collar, intermixed with sprigs of rue. In 1827, a statute established the order as one consisting of the sovereign and sixteen knights. These knights, for the most part nobles of high rank, bear the letters K.T. after their name.

An'drew I., king of Hungary, was the eldest son of Ladislaus the Bald. On the accession of Peter, in 1044, he and his brother Bela were obliged to quit Hungary; but on promising to abolish Christianity and to restore paganism, they were recalled. When Andrew, however, obtained the throne, he broke his engagement, and compelled his subjects to turn Christians. He was defeated and slain by his brother in 1059.—There were other kings of Hungary of this name, but there is nothing important to record of them.

An'drew, OF CYRENE, an impostor who, in the reign of Trajan, had the art to deceive his fellow-countrymen, the Jews, into a belief that he was ordained to be their liberator. They accordingly revolted, and horrible cruelties were committed on both sides before they were reduced to obedience.

An'drew, OF PISA, a sculptor and architect; B. 1270. He built several grand structures at Florence and Venice, and also obtained great reputation as a painter, poet, and musician. D. 1345.

An'drew, in *Iowa*, a post-village of Jackson co., about 12 miles S.W. of Bellevue.

An'drew, in *Missouri*, a N.W. county, bordering on the Missouri river; *area*, 425 sq. m. The soil is fertile and well watered by the Platte river. *Prod.* Wheat, corn, oats, wool, potatoes and sorghum. *Cap.* Savannah. *Pop.* (1898) 17,650.

Andrew Chapel, in *Tennessee*, a post-office of Madison co.

An'drew, St., in British America, a seaport town of Prince Edward Island, King's co., on Cardigan Bay; Lat. 46° 10′ N.; Lon. 62° 25′ W.

An'drew, JOHN ALBION, B. in Maine, 1818. He graduated at Bowdoin College in 1837, and shortly afterward commenced the study of law at Boston. In 1840, he was admitted to the bar, and practised in that city for twenty years. In 1858, he became a member of the State Legislature, and formed one of the Chicago Convention of 1860. As Governor of the State of Massachusetts, he was the 21st occupant of the gubernatorial chair, since the convention of 1780. D. Oct., 1867, leaving behind him a reputation for political sagacity not often excelled.

An'drews, LANCELOT, an eminent English divine, B. in London, 1565; bishop of Winchester in the reigns of James I. and Charles I. D. 1626. It is of this bishop that the following anecdote is told. Waller the poet was one day at court, while King James was at dinner, who was attended by the bishop of Winchester, and Neale, bishop of Durham. His Majesty said to the prelates, "My lords, cannot I take my subjects' money when I want it, without all this formality in parliament?" Bishop Neale quickly replied, "God forbid, sir, that you shouldn't; you are the breath of our nostrils." On which, the king said to the bishop of Winchester, "Well, my lord, and what say you?" "Sir," replied Bishop Andrews, "I have no skill to judge of parliamentary cases." The king answered, "No put-offs, my lord; answer me presently." "Then, sir," said he, "I think it lawful for you to take brother Neale's money, for he offers it."

An'drews, in *Ohio*, a post-village of Morrow co., in Congress township, about 46 m. N. by E. of Columbus.

An'drews, in *Virginia*, a post-office of Spottsylvania co.

An'drew's Mill, in *Illinois*, a village of Stephenson co., in Loran township, about 15 m. W. by S. of Freeport.

An'drew's, St., a parish and seaport city of Scotland, co. of Fife, 39 m. N.N.E. of Edinburgh. The harbor is safe and commodious, though the entrance is narrow. Lat. 56° 19′ 33″ N.; Lon. 2° 50′ W. — A university, the oldest in Scotland, was founded here in 1410. Though decayed, *A.* possesses some remains of its ancient consequence. Its magnificent cathedral, commenced in 1162, and consecrated in 1318, was, in 1559, demolished in one day by a mob excited by a sermon of John Knox. *Pop.* about 7,000.

An'drew's, St., in the *United States.* See ST. ANDREWS.

An'drew's, St., an inlet on the coast of Guinea.

An'drew's, St., Channel and **Sound,** near the strait of Conception, W. of Patagonia.

An'drew's, St., Islands of, in the Pacific ocean, between Papua and the Pellew Islands; Lat. 5° 32′ N.; Lon. 128° W.

An'drewsville, or ANDRUSVILLE, in *New York*, a village of Franklin co.

An'dria, a town of Italy, prov. of Bari, 9 m. S. of Barletta. It has a large almond trade. *Pop.* 30,892.

An'drieux, FRANÇOIS GUILLAUME JEAN STANISLAS, B. at Strasburg, 1759; was a professor of belles-lettres in Paris, who distinguished himself by the independence of his views during the revolution. He became professor of literature in the college of France, and exceedingly popular as a lecturer. He wrote fifteen plays and several professional works. D. at Paris, 1833.

Andrin'ople. See ADRIANOPLE.

An'droclus, or ANDRODUS, a Dacian slave, who, being exposed to a lion in the circus, the animal forbore to hurt him, because he had formerly taken a thorn out of his foot; he was, in consequence, liberated, and led the lion about the streets of Rome. — *Aul. Gel. l. v. c.* 14.

Androg'ynal, *a.* [See ANDROGYNOUS.] Having two sexes; hermaphroditical.

Androg'ynally, *adv.* In the form of hermaphrodites; with two sexes.

Androg'yne, *n.* [See ANDROGYNOUS.] An hermaphrodite.

Androg'ynous, *a.* [Gr. *androgynos*, hermaphrodite; from *aner*, a man, and *gyne*, a woman.] (*Bot.* and *Zoöl.*) A term sometimes employed in bot. to designate an inflorescence which consists of distinct male and female flowers; and more frequently in zoölogy in reference to animals which possess a distinct male and female generative system in the same individual. This is the case with very many of the lower kinds of animals, but is not inconsistent with a necessity for the co-operation of two individuals in the propagation of the species. See Reproduction.

Andro'ides, *n.*; *pl.* ANDROIDÆ. [Gr. *aner*, a man, and *eidos*, form.] An automaton in the figure of a man, which, by means of certain springs and other mechanical contrivances, is enabled to walk, and perform other actions of a man.

Androm'ache, daughter of Ætion, king of Thebes in Cilicia, and wife of Hector. After the conquest of Troy she became the prize of Pyrrhus, son of Achilles, who carried her to Epirus, and had 3 sons by her, but afterward left her to Helenus, brother of Hector, to whom she bore a son. Euripides has made her the chief character of a tragedy.

Androm'achus, physician to the emperor Nero, and the inventor of a celebrated compound medicine, called *theriake*, described in Galen's Works. Lived in the 1st century, A. D.

Androm'eda, (*Myth.*) daughter of the Ethiopian king Cepheus, and of Cassiopeia. The mother and daughter were very beautiful. The former having boasted that her daughter surpassed the Nereides (if not Juno herself) in beauty, the offended goddesses called on their father to revenge the insult. He not only inundated the territory of Cepheus, but also sent a horrid sea-monster, which threatened universal destruction. The oracle declared that the wrath of Neptune could not be appeased unless Cepheus delivered his daughter to the monster. In this extremity, Perseus beheld her, when, with the head of the Gorgon in his hand, and mounted

on Pegasus, he was returning from his victory over Medusa. Touched by compassion and love, the hero promised to kill the monster on condition that the virgin should be given him in marriage. The father promised it, and kept his word. In memory of the exploits of Perseus (*q. v.*), *A.*, by the favor of Pallas, was placed among the stars.

(*Astron.*) A small northern constellation represented by the figure of a woman chained; bounded N. by Cassiopeia, E. by Perseus and the head of Medusa, and S. by the Triangles and the Northern Fish. It is situated between 20° and 50° of N. declination. Its mean right ascension is nearly 15°, or one hour E. of the equinoctial colure. It comes to the zenith on the 10th of Nov. at 10 o'clock. It consists of 66 visible stars. The stars directly in the zenith are too small to be seen in the presence of the moon, but the bright star *Almaak*, of the 2d magnitude, in the left foot, may be seen 13° due E., and *Mirach*, of the same magnitude, in the girdle 7° S. of the zenith. The 3 stars forming the girdle are of the 2d, 3d, and 4th magnitude, situated in a row, and are called Merach, *Mu*, and *Nu*. If a straight line, connecting Almaak with Merach, be produced south-westerly 8° further, it will reach to *Delta*, a star of the 3d magnitude in the left breast.

(*Bot.*) A gen. of plants, ord. *Ericaceæ*; distinguished by having a minute, 5-parted, persistent calyx; an ovoid-cylindric corolla; and a 5-valved, naked capsule, which splits up through the back of the cells. The *A. polifolia*, Wild Rosemary, is a beautiful evergreen shrub, ½ ft. high, growing by the side of ponds and in swamps in the Northern States. It gives in June rose-colored flowers in pendulous clusters. It has acrid, narcotic properties, and sheep are sometimes killed by eating it.

(*Zoöl.*) A species of butterfly.

An'dron, *n.* [Gr. from *anēr*, a man.] (*Arch.*) A name formerly applied to the space in a church by which the men were separated from the women.

Andron'icus, of Cyresthes; a Greek architect, celebrated for having constructed, at Athens, the tower of the winds, an octagonal building, on each side of which was a figure representing one of the winds. On the top of the tower was a small pyramid of marble supporting a brazen Triton, which turned on a pivot, and pointed with its rod to the side of the tower on which was represented the wind that was then blowing. As each of the sides had a sort of dial, it is conjectured that it formerly contained a clepsydra or water-clock.

Andron'icus, of Rhodes; a follower of Aristotle, who lived B. C. 65, and wrote commentaries on that author. He also restored and published the works of that philosopher, which Sylla had brought from Greece.

Andron'icus, Comnenus, a Greek emperor, grandson of Alexis Comnenus, B. 1115; put to death by his own subjects, 1185. There are two other emperors of the same name, whose lives present nothing remarkable.

Andron'icus, Livius, the oldest dramatic author in the Latin language. His first piece was performed abt. 240 years B. C. His works are lost.

Andropet'alous, *a.* [Gr. *anēr*, a man, and *petalon*, a petal.] (*Bot.*) A name applied to the double flowers produced by the conversion of the stamens into petals, as in the garden ranunculus.

Andropha'gi, *n. pl.* Anthropophagi. (R.)

Andro'pogon, *n.* (*Bot.*) A gen. of plants, tribe *Andropogoneæ*. The shaloo, *A. saccharatus*, is grown in India for its grain. The lemon-grass, *A. citratum*, is used in the West Indies as a substitute for Chinese tea.

Andropogo'neæ, *n. pl.* (*Bot.*) A tribe of plants, ord. *Graminaceæ*.

An'dros, or **An'dro,** an island of the Grecian archipelago, S. of Eubœa and N. of Fino. It is 25 m. long and 6 broad. Wine is its principal product. *Pop.* abt. 14,000.—Its cap., *Andro* or *Castro*, is situated on the E. coast of the island; *pop.* abt. 5,000.

Andros, Edmund, a governor of the province of New York, and subsequently of New England. On April 18, 1689, the people of Boston, roused into revolt by his capricious and arbitrary conduct, took up arms against him, seized both the council and governor, and had them confined. In the February following he was sent to England for trial, but the case involved the government in such a dilemma, that they dismissed it without coming to a final decision. In 1692 he was made governor of Virginia, where he conducted himself with more discretion. D. in London 1714. Fort Androscoggin was named after him.

Androscog'gin, or **Ameriscog'gin,** the name given to the Margallaway river, after its junction with the outlet of Umbagog Lake, in Coos co., New Hampshire. It enters into Maine, and after a course of abt. 140 m., it falls into the Kennebec river, about 20 m. from its mouth.

Androscog'gin, in *Maine*, a county bounded N. by Franklin and S. by Cumberland counties. It was organized in 1854. *Area*, abt. 500 sq. m. *A.* is washed by Androscoggin and Little Androscoggin rivers; its soil is fertile. Cap. Auburn.

An'dros Islands, or Isles del Espiritu Santo, a group of islands among the Bahamas, extending abt. 120 m. from N. to S.; Lat. 24° to 25° 20′ N.; Lon. 77° to 78° W.

An'dro-sphinx, *n.* (*Sculp.*) A lion with a human head.

An'drous, *a.* (*Bot.*) Denoting the male sex.

An'drusville, in *New York*. See Andrewsville.

Andujar, (*an-doo'hăr.*) [Probably the anc. *Forum Julium.*] A town of Spain, in Andalusia, on the Guadalquivir, at the foot of the Sierra Morena, 20 m. N.N.W. of Jaen; Lat. 38° 1′ 32″ N., Lon. 3° 59′ 33″ W. *Pop.* 10,000.

An'duze, a town of France, dep. of the Gard, on the Gardon, 26 m. N.W. of Nimes; *pop.* 5,676.

An'dy, in *Delaware*, a village of Sussex co.

An'dy, in *W. Virginia*, a post-office of Wetzel co.

-Ane, *suffix.* (*Chem.*) In the terminology of chemistry, according to the classification of Hofman, denotes a hydrocarbon of the paraffine series; as, ethane, methane, &c.

An'ecdotal, *a.* Belonging to, or containing anecdotes; as, an *anecdotal* conversation.

An'ecdote, *n.* [Gr. *anecdoton*, something inedited or unpublished.] In its original sense, some particular relative to a subject to which publicity had not been given in previous works on that subject. — In its actual sense, the narrative of a particular action or saying of an individual.

Anecdot'ic, Anecdot'ical, *a.* Relating or belonging to anecdotes; as, *anecdotical* traditions.

Anecdot'ist, *n.* One who deals in, or relates anecdotes.

Anega'da, the most northerly of the Lesser Antilles, belonging to England; Lat. about 19° N.; Lon. between 64° and 65° W.; *area*, 13 sq. m. *A.* is of coral formation, and a reef, running 10 m. to the S.E., is marked on maps as the scene of numerous shipwrecks. *Pop.* about 300.

An'elace, *n.* A dagger or knife that it was the general use to wear at the girdle, in the middle ages.

Anelec'tric, *a.* and *n.* [From Gr. *an*, priv., and *electric.*] That is not electric.

Anelec'trode, *n.* (*Phys.*) A name given by Faraday to the positive pole of a galvanic battery.

Anel'lides. See Annellides.

Anem'ic Acid, *n.* (*Chem.*) A yellowish-white substance from the infusion of the *anemone nemorosa* by exposure to light.

Anemog'raphy, *n.* [Gr. *anemos*, wind, and *graphe*, description.] (*Phys.*) The description of the winds.

Anemol'ogy, *n.* [Gr. *anemos*, wind, and *logos*, discourse.] (*Phys.*) The doctrine of, or a treatise on the winds.

Anemom'eter, *n.* [Gr. *anemos*, wind, and *metron*, measure.] (*Phys.*) An instrument used for measuring the force and velocity of the wind. Various instruments have been invented for this purpose, the first of which is attributed to Wolfius, who described it in 1709. Considerable improvements have been since made upon the construction of anemometers; nevertheless, that invented by Lind in 1775 (Fig. 124) is still considered to be one of the most convenient and accurate. It consists of two upright glass tubes, A B and C D, about 9 inches high, and $\frac{4}{10}$ of an inch wide, connected below by a much narrower tube, E, varying from $\frac{1}{10}$ to $\frac{1}{20}$ of an inch in width. The tube A B is bent at right angles, so as to receive the wind blowing into it horizontally. A scale, graduated in inches and parts of an inch, is placed between the tubes, and the whole instrument is made to turn round the steel spindle, G, which can be screwed into a block of wood by a screw at the bottom. When the instrument is used, water is poured into the tubes until the level in both stands at the middle of the scale. When no disturbing force acts upon either column of liquid, the level of both is accurately the same; but when the mouth of the tube A B is turned toward the wind, the column in A B is pressed downward, and that in C D rises proportionably, and the difference of the heights of the two columns gives the column of water which the force of the wind sustains. Now, as we know that the pressure of the atmosphere at the earth's surface supports a column of water about 33 feet high, or presses with a force of about 2,060 lbs. on the square foot, this instrument gives us immediately the data from which we can calculate the pressure or force of the wind. Thus, supposing the wind to blow with a force sufficient to raise the one column one inch above the other, we have $\frac{1}{12}$ of $\frac{1}{33}$ of 2060, or about $5\frac{2}{10}$ lbs. of pressure on the square foot as the force of the wind.

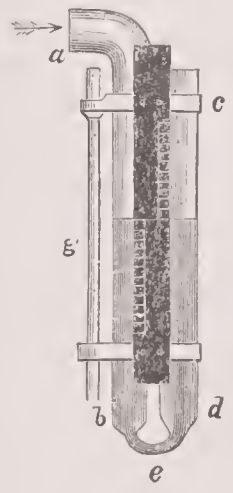


Fig. 124.

Anemom'etry, *n.* The measurement of the force and velocity of the wind. — See Anemometer.

Anem'one (Sea). See Actiniæ.

Anemo'neæ, *n. pl.* (*Bot.*) A tribe of plants, ord. *Ranunculaceæ*. Diag.: calix usually colored, in æstivation imbricated. Achenia one-seeded, tailed. Seed inverted. Principal genus, *Anemone*, *q. v.*

Anemon'ic Acid, *n.* (*Chem.*) A brown little mass, soluble in water, obtained by boiling anemonine with barytes water. *Form.* H_4O_3HO.

Anem'onine, *n.* (*Chem.*) A white crystalline substance, heavier than water, without smell, at first without taste, but afterwards having a permanent burning impression. Obtained as an oil by distilling the root of the *anemone nemorosa* with water.

Anem'oscope, *n.* [Fr., from Gr. *anemos*, wind, and *scopein*, to view.] (*Phys.*) A machine showing from what point of the compass the wind blows. This is done by means of an index moving about an upright circular plate, the index being turned by an horizontal axis, and the axis by an upright staff, at the top of which is the fane moved about by the wind. Some are so made as, even in the absence of the observer, to note down the changes of the wind. But any contrivance, however simple, which indicates the direction of the wind, as a wind-vane, a weathercock, is properly an anemoscope.

Anem'one, *n.* [Gr. *anemos*, wind.] (*Bot.*) A genus of plants, tribe *Anemoneæ*. Their popular name of windflower comes from most of the species growing in elevated or windy places. The species are numerous and generally beautiful. The wood anemone, *A. nemorosa*, is a common and interesting little plant, and its white flowers, externally tinged with purple, are an ornament of many a woodland scene and mountain pasture in April and May. Almost all the beautiful species cultivated in gardens have been originally brought from the Levant. Among them we will name the *A. coronaria*, a hardy plant, with large single or double variegated flowers; and the *A. Hortensis*, star-anemone, one of the finest species, with double and semi-double varieties of red, white, and blue flowers. — The cultivation of the *A.* requires great attention. It prefers a light soil. The root, which consists of clustered tubers, is taken up after flowering. The plant is propagated by parting the roots or by seed. In the latter way, new varieties are obtained. Seedling plants do not flower till the second or third year.

Fig. 125. — Anemone coronaria.

Anencephal'us, *n.* [Gr. *a.*, priv., and *eycephalos*, brain.] (*Physiol.*) A name given to those monsters, more common in the human species than in the lower animals, which are characterized by the want of a brain, and more or less total want of a spinal marrow.

Anent', *prep.* [A Scottish word, perhaps from the prefix *a*, and A.S. *nean*, near.] Concerning; about; as, he said nothing *anent* this particular. — Over against; opposite to; as, he lives *anent* the market-house. Used in Scottish law.

A'ner, a Canaanite chief, who confederated with Abraham.

An'eroid, *a.* [Gr. *a.*, priv., *neros*, moist, and *eidos*, form.] (*Phys.*) The name given to a kind of barometer, invented by M. Vidi, which, by means of a system of levels, connected with an air-tight box and internal spring, measures the pressure of the air without the use of a liquid. — See Barometer.

Anes, *n. pl.* See Awns.

A'net, a town of France, dep. of Eure-et-Loire, 9 m. N. E. of Dreux. Here there are the ruins of a fine castle built by Henry II. for Diana de Poitiers. In the neighborhood is the plain of Ivry, where, in 1590, Henry IV. gained a complete victory over the armies of the League. *Pop.* 1,592.

Aneu'rin, a British poet and chieftain of the 6th century, supposed to be identical with the historian Gildas. He took part in the battle of Cattraeth, which he made the subject of a poem; this, and *Odes of the Months*, form the whole of his known works, and are to be found in the Welsh archæology. D. 570.

An'eurism, *n.* [Gr. *aneurismos*, a widening; Fr. *anévrisme.*] (*Surg.*) The swelling of an artery, or the dilatation and expansion of some part of an artery. This is the *true A.* There is also a spurious kind of *A.*, when the rupture or puncture of an artery is followed by an extravasation of blood in the cellular membrane. If the external membrane of the artery is injured, and the internal membrane protrudes through, and forms a sac, it is called *mixed A.* Lastly, there is the *varicose A.*, the tumor of the artery, when, in bleeding, the vein has been entirely cut through, and at the same time the upper side of an artery beneath has been perforated, so that its blood is pressed into the vein. The genuine *A.* arise partly from the too violent motion of the blood, partly from a preternatural debility of the membranes of the artery, which is sometimes constitutional. They are, therefore, more frequent in the great branches of the arteries; in particular, in the vicinity of the heart, in the arch of the aorta, and in the extremities, for instance, in the ham and at the ribs, where the arteries are exposed to frequent injuries by stretching, violent bodily exertions, thrusts, falls, and contusions. They may, however, be occasioned also, especially the internal ones, by diseases, violent ebullitions of the blood, by the use of ardent spirits, by vehement passions and emotions, particularly by anger; in such cases, the arteries may be ruptured, and sudden death produced. The external *A.* are either healed by continued pressure on the swelling, or by an operation, in which the artery is laid bare, and tied above the swelling, so as to prevent the flow of the blood into the sac of the aneurism, which contracts by degrees. Sometimes the ligature is applied both above and below the *A.*

Aneuris'mal, *a.* Belonging to an aneurism.

Anew', *adv.* [Prefix *a*, and *new.*] Over again; another time; repeatedly. This is the most common use.

"And you,
To show how well you play, must play *anew.*" — *Prior.*

—Newly; in a new manner.

"He who begins late, is obliged to form *anew* the whole disposition of his soul." — *Addison.*

Anfract'nose, *a.* (*Bot.*) Winding or turning about; as, *anfractuose* authors.

Anfractuos'ity, Anfract'uousness, *n.* [From Lat. *an* for *ambi*, and *frangere, fractus*, to break.] The quality of being broken off short, or about, so as to produce the effect of needless coignes or angles. It is used metaphorically of style of speech. — Ambagiousness; angularity; tortuousness.

Anfract'uous, *a.* [Lat. *anfractus.*] Winding; full of turnings and winding passages; as, "There are several *anfractuous* cavities in the ear-bone."

An'gel, *n.* [Gr. *aggelos*: Lat. *angelus*: Fr. *ange*, a messenger of God.] (*Eccl. Hist.*) The name given to those spiritual, intelligent beings who are supposed to execute the will of God in the government of the world. Their office is to serve the Deity, whose agents they are, in effecting his good purposes, as the tutelary spirits of whole nations, as the heralds of his commands, and as the guardians of particular individuals. They were supposed to be spirits with ethereal bodies. This conception of them was established as a doctrine of the church by the council of Nice, in 787, but is at variance with the decision of the Lateran council of 1215, which makes them immaterial beings. Those who regard the body merely as an incumbrance, or prison of the soul, and conceive a very exalted idea of pure spirits, hold angels to be such spirits, and explain their visible appearance by supposing that they have the power of assuming at will bodily forms and a human shape. Those who consider it no imperfection for a spirit to exist in a body, maintain that angels have bodies. As finite beings, they must have some place where they reside. The ancients easily found a habitation for them in their heaven, which was conceived to be a vast azure hall, where God dwelt with his angels; but we, who have very different ideas of heaven and the universe, can only suppose that, if they still operate on human things, they dwell invisibly with and about us. — As to their names, the Catholic Church receives only three as sanctioned by the Scriptures, — *Michael, Gabriel*, and *Raphael*: but their number is always represented as immensely great, and also that there is a subordination among them. Hence, ecclesiastical writers make an hierarchy of nine orders of angels. — But besides these, we read of evil angels, the ministers of God's wrath; as the destroying angel, the angel of death, the angel of Satan, the angel of the bottomless pit, and the fallen angels, or those who kept not their first estate, but fell from their obedience into sin, and were expelled the regions of light. In general, good and bad angels are distinguished by the opposite terms of angels of light, and angels of darkness.

Fig. 126.
ANGEL OF EDWARD IV.

— Figuratively, in the style of love, the name of angel is applied to a beautiful person, as a synonym of *perfection.*

"Sir, as I have a soul, she is an *angel.*" — *Shaks.*

(*Numis.*) An ancient gold coin of England, bearing the figure of an angel, in memory of an observation of Pope Gregory, that the pagan *Angli*, or English, were so beautiful, that, if they were Christians, they would be *angeli*, or *angels.* The coin was worth ten shillings.

An'gel-bed, *n.* A bed without posts.

An'gelet, *n.* (*Numis.*) A half-angel; an angelot; a small gold coin formerly current in England.

An'gel-fish, *n.* (*Zoöl.*) See SQUALIDÆ.

Angel'ic, *a.* Partaking of the character of angels, or their state; pure; ethereal; spiritual; lovely; heavenly; seraphic; rapturous; divine.

Angel'ica, in *New York*, a post-village and township of Alleghany co. The village is on Angelica creek, 262 m. W. by S. from Albany.

Angel'ica, in *Wisconsin*, a post-office of Shawanaw county.

Angel'ica Balsam. (*Chem.*) A blackish-brown resinous, syrupy matter, with a bitter taste, obtained from the root of *Angelica archangelica.*

Angel'ical, *a.* The same as ANGELIC.

Angel'ically, *adv.* Like an angel.

Angel'icalness, *n.* The quality of being angelical; resemblance of angels; excellence more than human.

Angel'ica Tree, *n.* See ARALIACEÆ.

Angeli'cidæ, *n. pl.* (*Bot.*) A tribe of plants, order *Apiaceæ.* The species are mostly herbaceous and perennial, natives of the temperate and colder regions of the northern hemisphere. They have bipinnate or tripinnate leaves.

Angeli'na, in *Texas*, a county situated in the E. part of the State, and bounded on the N.E. by the river Angelina which rises in Smith co., and enters the Neches near Bevilport, in Jasper co. *Area*, about 880 sq. m. *Cap.* Lufkin. *Pop.* (1898) 7,150.

An'gel Island, the largest island in San Francisco Bay, California. It contains 800 acres.

Angel'ica, *n.* (*Bot.*) A genus of water-side plants, tribe *Angelicidæ.* The *A. triquinata*, or *Archangelica atropurpurea*, common in fields, N. and W. of the U. States, is a plant well known for its aromatic properties; stem dark purple, furrowed, 4 to 6 ft. high; flowers greenish-white. The *Garden A.*, or *Archangelica officinalis*, has greenish flowers in almost spherical umbels. The

Fig. 127. — ANGELICA ARCHANGELICA.

fruit is long and straw-colored; the root long and fusiform. The whole plant, but especially the root, is aromatic and bitter, containing much resin and essential oil. The root is admitted into the pharmacopœia as an aromatic stimulant and tonic. Its blanched stalks were formerly eaten as celery. The tender stalks and mid-ribs of the leaves, candied, are a well-known article of confectionery and an agreeable stomachic; the roots and seeds are employed in the preparation of gin and of bitters.

Angelico, FRA, an Italian painter, so called from the beauty of his angels. See FIESOLE.

An'gelo, in *Wisconsin*, a post-village of Monroe co.

An'gelo. See MICHAEL ANGELO.

An'gelo, St., a town of Milan, N. Italy.

An'gelo de Lombardi, St., a town of S. Italy, 48 m. E. of Naples; *pop.* 6,345.

Angelol'ogy, *n.* [From Gr. *aggelos*, angel, and *legein*, to say, to speak.] A treaty or discourse on the angels, their nature, &c.

An'gelot, *n.* (*Numis.*) An ancient English coin of the same value as the angelet, struck at Paris while under the domination of England; — so called from the figure of an angel supporting the escutcheon of England and France.

(*Mus.*) An ancient instrument, somewhat resembling a lute.

Angelot'omy. See ANGIOTOMY.

An'gel's Camp, in *California*, a post-village of Calaveras co.

An'gel-shot. See CHAIN-SHOT.

An'gelus, *n.* [Lat.] A prayer to the Virgin, used by Roman Catholics.

An'ger, *n.* [Gr. *agchein*, to squeeze.] A displeasure or vexation accompanied by a passionate desire to break out in acts or words of violence against the cause of displeasure. — Wrath; ire; resentment; indignation; rage; animosity; fury; choler.

"*Anger* is like
A full hot horse, who, being allow'd his way,
Self-mettle tires him."— *Shaks.*

— *v. a.* To excite to anger; to make angry: to irritate.

An'germanland, an old and extensive district of Sweden, now part of the province of West Nordland, extends along the Gulf of Bothnia, and is watered by the river Angermann, which, in its lower course, becomes navigable for the largest ships. It is one of the best cultivated districts in Sweden. The chief town, Hernœsand, has a *pop.* of abt. 5,000.

An'germunde, a town of Prussia, prov. of Brandenburg, on the lake Munde, 43 m. N.N.E. of Berlin; *pop.* 6,205.

Angero'na, in *West Virginia*, a post-office of Jackson co.

Angero'na, (*Myth.*) The goddess of silence.

Angero'na, in *W. Virginia*, a post-office of Jackson co.

Ang'ers, a town of France, cap. of the dep. of Maine-et-Loire, on the Mayenne, 161 m. S.W. of Paris, Lat. 47° 28′ 9″ N.; Lon. 0° 33′ W. It is the seat of an imperial court, and has a school of arts and trades. There are a public library, a museum with about 600 pictures, a botanical garden, a cabinet of natural history, and a theatre. *Manf.* Fine camlets, serges, and other stuffs, hats, &c., and quarries of slates in the neighborhood. The cathedral church is one of the finest in France. — *A.*, the anc. *Juliomagus* and *Andegavia*, was formerly the cap. of the prov. of Anjou. In its military college both Lord Chatham and the Duke of Wellington studied, and it is the birthplace of David the sculptor. *Pop.* 73,044.

An'ghiara, or AN'GHIARI, a town of Italy, prov. of Arezzo, near the Tiber, 18 m. E. of Arezzo: *pop.* 6,880.

Angi'na, *n.* [Lat., from Gr. *agcho*, to strangle.] (*Med.*) An inflammation of the throat; a QUINSY, *q. v.*

Angiocar'pous, *a.* [Gr. *aggeion*, a vessel, and *karpos*, fruit.] (*Bot.*) Noting seeds or vessels inclosed within a covering that does not form a part of themselves; as the filbert, which is covered by its husk, the acorn seated in its capsule.

Angiog'raphy, *n.* [Gr. *aggeion*, a vessel, and *graphein*, to write.] (*Med.*) A description of the vessels in the human body.

Angiol'ogy, *n.* [Gr. *aggeion*, a vessel, and *logos*, discourse.] (*Med.*) The doctrine of the vessels of the human body.

Angiomonosper'mous, *a.* [Gr. *aggeion*, a vessel, *monos*, single, and *sperma*, seed.] (*Bot.*) Producing but a single seed in a pod.

An'gioscope, *n.* [Gr. *aggeion*, a vessel, and *skopein*, to view.] (*Med.*) An instrument for examining the capillary vessels of a body.

Angiosper'mia, *n.* [Gr. *aggeion*, a vessel, and *sperma*, a seed.] (*Bot.*) In the system of Bentley, the first of the two classes into which are subdivided the Exogens. The characters are: ovules produced within an ovary, and fertilized by the action of the pollen through the stigma; becoming seeds inclosed in a periscarp: embryo with two opposite cotyledons. The oak, rose, &c., are angiosperms.

Angiosper'mous, *a.* (*Bot.*) Belonging to the class of the angiosperms.

Angios'porous, *a.* [Gr. *aggeion*, a vessel, and *spora*, seed.] (*Bot.*) A term applied to plants that have spores inclosed in a hollow shell, or bag, as some fungi.

Angiot'omy, *n.* [Gr. *aggeion*, a vessel, and *temnein*, to cut.] (*Anat.*) The dissection of the vessels of the human body.

An'gle, *n.* [Fr., from Lat. *angulus*, corner.] (*Geom.*) The opening between two straight lines which meet one another. When several angles are at one point *m*, (*Fig.* 128,) any one of them is expressed by three letters, of which the letter that is at the *vertex* of the angle, that is, at the point in which the straight lines that contain the angle meet one another, is put between the other two letters. Thus, the angle which is contained by the straight

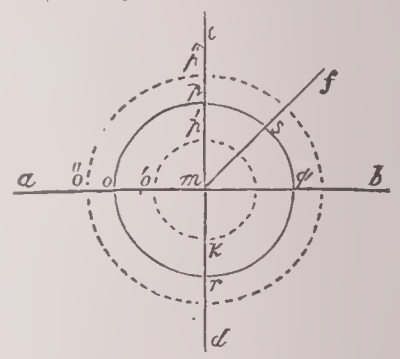


Fig. 128.

lines *c m*, *b m*, is named the angle *c m b*. — When a straight line, *c m*, standing on another straight line, *a b*, makes the adjacent angles equal to one another, each of the angles *c m a*, *c m b*, is called a *right angle;* and the straight lines are said to be *perpendicular* to each other. — An *obtuse angle*, *a m f*, is that which is greater than a right angle. — An *acute angle*, *c m f*, is that which is less than a right angle. — Round a given point, as *m*, no more than four right angles can be constructed, and only three obtuse angles; on the contrary, an infinite number of acute angles may be formed round the same point. — The mutual inclination of the lines including the angle is always determined by the magnitude of the angle. Thus the situation of a point in relation to a plane is partly determined, if we know the angle formed by a line drawn from that point to any point of the plane. This principle renders the angle so exceedingly important, that it is capable of being employed as the key to the most important truths; for a great part of the actual observations of astronomers are dependent on the study of angles. — To determine the size of an angle the circle is employed. Suppose we describe a circle (*o p q c, o*) about the point of intersection *m* of the lines *a b*, *c a*, which cut each other at right angles, there is opposite to every one of the four right angles a curve-line or arc of a circle, which is exactly a fourth part of the circle; for example, over the angle *a m c* is the quadrant or fourth part of the circumference *o p.* That the magnitude of the circle is indifferent, is shown by the dotted lines; for *o″ p″* and *o′ p′* are quadrants as well as *o p.* — The acute angle *c m f* is hence equal to half a right angle, because the arc by which it is subtended is an *octant*, the 8th part of a circle, and the obtuse angle *a m f* is equal to one and a half right angle, because its subtending arc is equal to ¾ of the circle. — Thus we can very accurately determine the magnitude of an angle, when we state the portion of a circle which the arc of that angle forms. For this purpose the circle is divided into 360 equal parts, each of which is called a *degree.* And every degree is again divided into 60 equal parts, called *minutes*, and every one of these again into 60 *seconds.* Hence, when we speak of an angle of 90 degrees, we necessarily mean a right angle, since 90 degrees are the fourth part of the 360 degrees of the whole circle. Every angle less than 90

degrees is an acute angle; and every angle of more degrees is an obtuse angle.—The accurate measure of angles is taken by means of a simple instrument called a *protractor*, q. v.

(*Physiol.*) *Angle-facial*, the angle made by the intersection of two lines drawn, the one from the most prominent part of the frontal bone over the anterior margin of the upper jaw, the other from the external orifice of the ear-passage along the floor of the nasal cavity.—*Angle-frontal*, the angle which the culmen, or upper line of the beak, makes with the forehead.

(*Opt.*) An angle is formed by two rays of light, or two straight lines drawn from the extreme points of an object to the centre of the eye. The apparent magnitude of objects depends on the magnitude of the angle under which they are seen; nevertheless, in observing distant objects, our ideas of their magnitude are greatly modified by the judgment which we form of their distances. See APPARENT MAGNITUDE.

An'gle, *v. n.* To fish with a rod and hook.—Hence, to try to gain by some insinuating artifices, as fishes are caught by a bait.

> "The pleasant'st *angling* is to see the fish
> Cut with the golden oars the silver stream,
> And greedily devour the treacherous bait;
> So *angle* we for Beatrice."—*Shaks.*

Angle-me'ter, *n.* [Eng. *angle*, and Gr. *metron*, measure.] An instrument used by geologists for measuring the dip of strata.

An'gler, *n.* One who fishes with an angle.

(*Zoöl.*) See LOPHIDÆ.

Angles. (*Hist.*) A German nation, which resided in what is now the province of Magdeburg, in Prussia, near the Elbe, and probably succeeded to the former seat of the Lombards, when these latter had driven the Cherusci from the northern half of their country. In the 5th century, they joined their powerful northern neighbors, the Saxons, and, under the name of *Anglo-Saxons*, conquered the country now called *England*. A part of them remained near the Danish peninsula, where, to the present day, a small tract of land, on the eastern coast of the duchy of Schleswig, bears the name *Angeln*.

An'glesey, (the ane. *Mona.*) An island and county of N. Wales, in the Irish sea; connected with England, across the Menai Strait, by the famous Menai-bridge, and the Britannia tubular railway bridge. *Ext.* 20 m. long and 17 broad. *Rivers*, Alam, Braint, Gefni, Efraw, Dulas. *Towns*, Beaumaris, Amlwch, Holyhead. *Manf.* trifling. Its mines of copper, once important, have declined.—*A.* was the last stronghold of the Druids, of whose works it has many ruins, called *Cromlechs*.

An'glesey, ARTHUR ANNESLEY, EARL OF, a native of Dublin, B. 1614. He took an active part in the restoration of Charles II., for which he was created earl of *A.*, and successively made treasurer of the navy and lord privy seal. D. 1686.

An'glesey, or **An'glesea,** HENRY WILLIAM PAGET, MARQUIS OF, B. 1768, was the eldest son of the first earl of Uxbridge, and at an early age entered upon a military life. At Waterloo he led the final charge which destroyed the French Guards, and near the close of the battle received a shot in the knee, which caused him the loss of his right leg. D. 1854. He has been called the English *Murat*, from the impetuosity with which he charged at the head of cavalry.

An'glesite, *n.* (*Min.*) A synonym of sulphate of lead.—See LEAD.

An'glian, *a.* Of or pertaining to the Angles.

—*n.* One of the nation of the Angles.

An'glican, *a.* [From Lat. *Angli*, the Angles.] English; belonging to England, or to the English nation; as, the *Anglican* Church.

—*n.* A member of the Church of England.

An'glican Church. See PROTESTANT EPISCOPAL CHURCH.

An'glicanism, *n.* Strong partiality for England or the English Church.

An'glice, *adv.* [Lat.] In the English manner. (R.)

Anglic'ify, *v. a.* [Lat. *Anglicus*, English, and *facere*, to make.] To make English; to Anglicize. (R.)

An'glicism, *n.* [Fr.] A form of speech peculiar to the English language; an English idiom.

An'glicize, *v. a.* To render English; to introduce into the English language.

An'gling, *n.* (*Sport.*) The art of ensnaring fish with a hook, which has been previously baited with small fish, worms, flies, &c. Among no people has this art attracted so much attention, and nowhere have so many persons of all classes, both clerical and secular, resorted to angling as an amusement, as in England, whose literature is richer than that of any other country in works relating to this sport, both in prose and verse. A similar fondness for angling exists in the United States. In both countries, in England and North America, angling is followed by many sportsmen with a kind of passion. We find occasional allusions to this pursuit among the Greek writers, and throughout the most ancient books of the Bible. Plutarch mentions an amusing anecdote of Antony's unsuccessful angling in the presence of Cleopatra, and a fine trick which she played him. The best season for angling is from April to October: the cooler the weather, in the hottest months, the better; but in winter, on the contrary, the warmest day is the most promising. A cloudy day, after a moonlight night, is always favorable, as the fish avoid feeding by moonlight, and are therefore hungry. Warm, lowering days are always coveted by anglers.

An'glo. [From Lat. *Anglus*, English.] A prefix used in composition for English.—*Anglo-American*, a descendant from English ancestors, born in America.—*Anglo-Danish*, an English Dane, or a descendant of the Danes who settled in England.—*Anglomania*, a ridiculous and blind reverence for all that is English.—*Anglo-Norman*, an English Norman.

An'glo-Sax'ons, the generic name bestowed by historians on that people of Teutonic origin who settled in Britain after the departure of the Romans.

(*Hist.*) In the 5th century, the eastern parts of South Britain were invaded by various tribes of Northern Germany, consisting for the most part of Angles, Jutes, and Saxons. The Jutes, or people of Jutland, now known as Schleswig, are believed to have been the earliest comers. These were followed by the Saxons, a race who inhabited that part of Germany bordering on the Baltic, which forms the modern duchies of Holstein and Mecklenburg. At a later period arrived the Angles, who came, it is supposed, from Frieshand and the adjacent country of Hanover. From 527 to 547 these peoples made frequent descents on that part of Britain now forming the eastern counties of Norfolk, Suffolk, and Essex; settled there, and eventually extended their sway over almost the entire country. Becoming nationalized under the one general name of *Angles*, they founded the seven kingdoms called the *Heptarchy* (*q. v.*), which existed until 827, when Egbert, king of Wessex, united them into one kingdom called *Angle-land*, or *England*. The *A.* retained their supremacy till the invasion of their country by the Danes in 1017. They regained it, however, in 1042, and continued their rule up to the time of the Norman conquest. From the latter period their power declined, and they gradually lost, to a great extent, their national individuality; though, through many generations, and up to the present day, the major portion of the English people proper have preserved in a singular degree the moral, mental, and physical characteristics of their Anglo-Saxon progenitors.

(*Philol.*) The term Anglo-Saxon, as applied to the English language, is of modern date. The *A.* tongue has its origin in the Low-German branch of the Teutonic languages, and is nearly allied to the Old Saxon, Old Dutch (as in the Netherlands), and the Old Frisian. After the conquest of England by the Normans, the *A.* place, as the language of the court, the law, and the schools, was usurped by the Norman-French of the successful invaders; but it still remained the language of the common people, and was the basis of the English language, which gradually formed itself during the 12th, 13th, and 14th centuries. At the present time, in some of the rural and more remote districts of England, the *A.* language is found existing in all its original purity. The *A.* language and literature has, in modern times, been illustrated and enriched by the researches of Thorpe, Guest, Madden, Conybeare, and other well-known English philologists; and perhaps the most perfect examples of *A.* composition may be found in the writings of William Cobbett.

Ango'la, a large district of S. Africa, situate S. of Congo, W. of Loanda-land, embracing a considerable portion of the coast, and extending far inward; Lat. between 8° 20′ and 9° 20′ S., Lon. extending from 14° to 19° E. The country is flat and sterile along the coast, but mountainous in the interior, where the valleys are extremely fertile. Almost all the known wild animals of tropical Africa are found there. The rivers are infested with crocodiles, and the sea-coasts teem with every description of fish. Although situate near the equator, the climate is, on account of the trade-winds, more temperate, and generally more healthy than in other regions of the same latitude; but some parts of *A.* are low, marshy, fever-breeding, and even the natives feel the effects of the damp, hot, malarious climate. The inhabitants, although dark, are seldom, if ever, black, their color being brownish-red, with a tinge of yellow; and although they are so close to the country inhabited by the true negroes, they have but few of the negro traits. The traveller Reade writes of the Angolese women in terms of considerable praise, as far as their personal appearance goes. The chief town is Loanda San Paulo. Fetichism is the general religion. *A.* was discovered in 1486 by the Portuguese, and held by them since that remote period. By the treaty of 1887 with the Congo Free State, the Angola colony was considerably enlarged and now consists of 4 districts, Benguela, Congo, Loanda and Mossamedes. *Pop.* 2,000,000.

Ango'la, in *N. Carolina*, a post-office of Onslow co.

Ango'la, in *Delaware*, a post-office of Sussex co.

Ango'la, in *Illinois*, a village of Lake co., about 45 m. N. W. by N. of Chicago.

Ango'la, in *Indiana*, a town, cap. of Steuben co., 42 m. N. by E. of Ft. Wayne. *Pop.* (1890), 1,840.

Ango'la, in *New York*, a post-office of Erie co.

Ango'la, in *Ohio*, a post-office of Gallia co.

An'gor, *n.* [Lat.] (*Med.*) Agony, or intense bodily pain.

An'gora, [anc. *Ancyra*,] a city of Turkey in Asia Minor, 142 m. N. of Koniyeh; Lat. 39° 56′ 30″ N., Lon. 32° 50′ E. *Manf.* chiefly stuffs made of the silk-like wool of the goat of Angora.—It was there that St. Paul preached to the Galatians.—*A.* came into the possession of the Turks in 1359. In its vicinity was fought, in 1401, the great battle between Sultan Bajazet and Tamerlane. *Pop.* in 1897, about 36,000.

An'gora Goat. (*Zoöl.*) A species of the genus *Capra*, or GOAT, *q. v.* The *A.* goat, *Capra Argorensis*, is by far the most elegant of all the varieties of the goat, and is a native of Angora, a small district of Asia Minor, and remarkable for producing not only this peculiar race of goats, but also sheep, cats, rabbits, &c., with hair of uncommon fineness. The Goat of Angora is generally of a beautiful milk-white color, short-legged, with black, spreading, spirally-twisted horns, and pendulous ears. Its chief and distinguishing excellence, however, is the wool, which covers the whole body in long pendent spiral ringlets; and it is from the hair of this animal that the finest camlets are made. To the same genus belongs the *Cashmere Goat*, so highly prized for its fleece; it is descended from the Goat of Thibet, which pastures on the Himalaya. It is smaller than the common domestic goat, and has long, fine, silky wool. Thibet is situated at the northern descent of the Himalaya mountains, and Cashmere at the southern; hence there is some difference in the climate; it is observed, also, that the colder the region where the animal pastures, the heavier and finer is its fleece. The goats which pasture in the highest vales of Thibet are of a bright ochre color; in lower grounds, the color becomes of a yellowish-white, and still farther downward entirely white. The highest mountains of the Himalaya inhabitable by man, contain also a species of black goats, the wool of which as a material for shawls in India obtains the highest price. The goats of Thibet and Cashmere have the fine curled wool close to the skin, just as the under hair of our common goat lies below the coarse upper hair. The milk of the Cashmere goat is as rich as that of the common one, and is used to make cheese; but these animals owe their great celebrity to the extraordinary beauty and costliness of the shawls for which the Asiatics have been so long famous.—The acclimatization of these goats in the U. States is an established fact. For several years, in different parts of the Union, the Angora goat has been bred, both pure and crossed with the native goat. Far from deteriorating by the transfer, as had been predicted, it is found that in some parts of the country even the unmixed breed of the imported goats has shown evident signs of improvement resulting from the change. This branch of pastoral industry has begun to assume very considerable prominence, as is indicated by the fact that during the year 1866 not less than $100,000 has been paid for these goats in Ohio alone. The supply of Angora fleece in Asia Minor is limited and precarious. Access to it is both difficult and dangerous, from the jealousy of the government and the barbarous bigotry of the people. As the stereotyped character of Asiatic industry gives no reasonable promise of an enlargement of the supply in this quarter, English and Continental manufacturers are looking to the Cape of Good Hope, Australia, and America for an increased production of this staple to meet their necessities; and as the fleece produced in the U. States is unquestionably equal, if not superior in fineness, delicacy, beauty, and facility of manipulation, to the choicest Oriental specimens, a rapidly increasing demand for American fleece may be expected.

Fig. 129.—CASHMERE GOAT.

Manufacture of Goats' Fleece.—Nearly every nation represented at the Universal Exposition at Paris presented some beautiful manufactures of goats' fleece. India, France, England, and Austria seemed to excel in the more delicate fabrics, while Turkey exhibited the greatest variety and richness of the raw material. In England the manipulation of this staple is practically monopolized by a few parties, who appear adverse to imparting any information in regard to the manufacture and sale of their fabrics. The fleece manufactured in England is mainly produced in Asia Minor from the Angora goat. It is imported to the extent of 3,000,000 pounds per annum, and is known in commerce by the name of *mohair*. The market-price of this fleece (for wool it cannot be called with any propriety of language) varies from three to four shillings, or from 75 cents to $1 per pound, gold value. The demand is permanent and increasing; and it will continue to increase until met by a vastly more copious production. The present extraordinary demand results partly from the attempt of the English monopolists to absorb the entire production of Asia Minor, by sending agents over the whole country to secure the clip as soon as it is sheared.—In Europe the fleece is spun into yarn, mostly in England, and at Roubaix in France, and thence distributed over Europe for manufacture into cloth. The excellence of the yarn spun in England and at Roubaix is due partly to superior skill, partly to peculiar and improved machinery, and partly to natural and artificial atmospheric humidity. This latter element, if not absolutely essential to success, is at least very desirable.—From very transparent motives, the process of spinning has been represented by those interested in the monopoly as very expensive and difficult, nay, even a profound secret, known only to those now engaged in the business. But these representations were flatly contradicted by the exhibition at Paris of a great variety of machinery for carding, scrubbing, spinning and weaving the tiftik or Angora fleece. This machinery, purporting to have been made largely in Bradford and Roubaix, two great seats of yarn production, entirely exploded the assumption. A good spinning-machine is worth from $100 to $300, according to the number of spindles. The leading machine in Europe for the weaving of goats' fleece into shawls, is the double Jacquard loom, manufactured by Willibald Schrane, of Vienna, Austria, and worth $200. It is worked by hand, and shawls are made by it of remarkable beauty and cheapness.—Among the prominent shawl manufactories in Europe may be named Duché & Co., of Paris, whose specimens are remarkably close imitations of the real Cashmere shawls, and H. Lawateh, and Isabey, of Vienna. The manufacture of Cashmere, camels' hair, and other shawls, once so flourishing in Asia, is greatly impaired

and in many places entirely discontinued. But few of the once famous Cashmere shawls have been manufactured since the rise of the fatal competition of Lyons, Paris, Paisley, Vienna, and other manufacturing centres in Europe. The immediate introduction of this shawl-weaving into the United States is perhaps impracticable, though its final success here is but a question of time. The obstacles to be overcome are, lack of skilled labor, of machinery, and of an active home demand for fabrics of goats' fleece. None of these, however, are very formidable. Sufficient labor and machinery can be imported to meet present necessities, while the ready intelligence of our workingmen and the profound and subtile genius of our inventors may be relied upon to surpass, very soon, our imported models. The increasing taste and luxury fostered by the rapidly accumulating wealth of the American people, and the enormous reduction in the cost of manufacturing this beautiful staple, from the fancy prices hitherto commanded by Oriental manufacture, will soon create a permanent home demand. This will give a comfortable support to a large industrial population, and assist in arresting the increasing drain upon our circulating medium caused by large importations of manufactures of wool, cotton, silk, and flax.

Angor'now, a town of Bornou, Central Africa, on the W. bank of Lake Tchad, 15 m. S.E. of Konka. It is nothing more than a straggling aggregation of mud huts, but it is the centre of a large trade in cotton, amber, coral, and slaves. *Pop.* estimated at 30,000.

Angostu'ra, a small, but strongly fortified place in Paraguay, on the Paraná river; taken by the allied Brazilian and Argentine troops, Dec. 22, 1868, during the war in which they were engaged against Lopez, the dictator of Paraguay.

Angostu'ra, a city of Venezuela, cap. of Bolivar state, on the Orinoco, 260 m. S. E. of Caracas. It is the principal emporium for the commerce of the Orinoco; does a very large trade with Europe and also with the U. S. *Pop.* (1895) 11,686.

An'goulême, a town of France, cap. of the dep. of the Charente, on the river Charente, 66 m. N.E. of Bordeaux. It is celebrated for the extensive paper manufactories in its vicinity. The delicious *pâtés de perdrix aux truffes d'Angoulême* are sent to all parts of the world. *Pop.* 24,961.

An'goulême, Charles de Valois, Duke of, b. 1573; was the illegitimate son of Charles IX., and married the daughter of the Connétable Henri de Montmorenci. He was actuated by a restless and ambitious spirit, and as a military commander acquired considerable reputation. In 1628, the siege of La Rochelle was commenced under him, and he was engaged in the wars of Germany, Languedoc, and Flanders. D. 1650.

An'goulême, Louis Antoine de Bourbon, Duc d', son of Count d'Artois, afterwards Charles X., and of Marie Thérèse of Savoy; was born at Versailles in 1775. With his brother, the Duke de Berri, he accompanied their father, when, in 1787, foreseeing the course of events, he left France and repaired to Turin. In 1799 he married at Mittau, his cousin, Marie Thérèse, the daughter of Louis XVI. and of Marie Antoinette of Austria. The Duke d'Angoulême, joining the Anglo-Spanish army which crossed the Pyrenees in the beginning of 1814, addressed a proclamation to the French nation on 11th February, and on 12th March entered Bordeaux. He commanded the French army which, in 1823, entered Spain to aid Ferdinand in suppressing the constitution; and, during his stay there, displayed considerable prudence and moderation. At Rambouillet, on the 2d August, 1830, he renounced, jointly with his father, his rights to the throne in favor of the Duke de Bordeaux, and on the 16th arrived in England with the duchess and the other members of the exiled royal family. After residing a short time in Scotland, he and his wife quitted Britain, and spent the rest of their lives in various parts of the Continent. He died at Goritz in 1844. The duchess, of whom Napoleon said that she was the only member of the family that had the spirit and energy of a man, d. in 1851.

An'goumois, a dist. in France, previous to the revolution, formed, in connection with the dist. of Saintonge, one of the provinces into which France was formerly divided. It coincided nearly with the dep. of the Charente.

An'gra, a seaport town of the island of Terceira, one of the Azores. It is the cap. of the Archipelago.

An'gra dos Reis, a port of Brazil, prov. Rio Janeiro, on a bay of the same name, 78 m. S.W. of Rio Janeiro.

An'gra Pequena, in *Africa*, extends from the Orange R. to Lat. 26° 38′ S., and inward 80 m. from the coast. *Prod.*, copper, iron, gold, and silver. A German protectorate was established in 1884.

An'grily, *adv.* In an angry manner; peevishly.

An'gry, *a.* [See Anger.] Touched with anger; provoked. It seems properly to require, when the object of anger is mentioned, the particle *at* before a thing, and *with* before a person; but this is not always observed.

"Now therefore be not grieved nor *angry with* yourselves, that ye sold me hither."—*Gen.* xiv. 5.

—Having the appearance of anger; having the effect of anger.

"The north-wind driveth away rain; so doth an *angry* countenance a backbiting tongue."—*Prov.* xxv. 23.

(*Surg.*) Painful; inflamed; smarting.

"This serum, being accompanied by the thinner parts of the blood, grows red and *angry*."—*Wiseman.*

Anguil'la, *n.*, and **Anguil'lidæ,** *n. pl.* (*Zoöl.*) See Eel.

Anguil'la, in *Indiana*, a village of Clay co., on the Eel river, abt. 20 m. S.E. of Terre Haute.

Anguil'la, or Snake Island, the most northerly of the Caribbee islands, in the W. Indies, 16 m. in length by 3 in breadth: Lat. 18° 8′ N.: Lon. 63° 12′ E. It is so called from its tortuous figure, and belongs to the English. *Pop.* abt. 2,500.

Anguil'liform, *a.* [Lat. *anguilla*, eel, and *forma*.] Resembling an eel.

—*n.* (*Zoöl.*) The *Anguilliformes* of Cuvier are now generally called *Muranidæ*.

Anguin'eal, *a.* [From Lat. *anguineus*, snaky.] Shaped as, or belonging to, a snake.

An'guish, *n.* [Fr. *angoisse*, from Lat. *angor*.] Excessive pain either of mind or body:—applied to the mind, it means the pain of *sorrow*, and is seldom used to signify other passions.

"Perpetual *anguish* fills his anxious breast,
Not stopt by business, nor compos'd by rest."—*Dryden.*

—*v. a.* To distress with excessive pain of mind. (R.)

Anguil'lula, *n.* [Lat., a little eel.] (*Zoöl.*) A gen. of minute animals belonging to the nematoid worms of the class *Entozoa*, and including the little creatures known as the eels of vinegar, porter, &c.—The *A. fluviatilis* (found in wet moss and moist earth), though dried up till it becomes hard and brittle, will recover, swell up, take food, and resume its reproductive powers, soon after it is moistened with water. *A. tritici*, found in blighted wheat, has been known to revive in the same way after having been kept dry for five years.

An'guis, *n.* (*Zoöl.*) The blind-worms, a gen. of reptiles, fam. *Chalcidæ*. They are innocent and harmless animals, feeding on worms and insects. Their eyes are very small, and in consequence they have often been supposed to be blind. The body is very brittle; the tail is easily broken off, but readily sprouts out afresh. They remain torpid during winter.

An'gular, *a.* Relating to angles, or having angles; as, an *angular* figure.—Hence, figuratively, sharp or stiff in character.

An'gular Motion. (*Astron.*) The motion of a body moving circularly, or oscillating about a fixed point. The angular motion of a planet is measured by the angle described at the centre of the sun, by a straight line drawn from that point to the planet, called the radius vector; and its amount is reciprocally proportional to the periodic time of the planet.

An'gular Section. (*Geom.*) The division of an angle into any number of equal parts. The bisection of an angle is accomplished by elementary geometry. The trisection requires the aid of solid geometry, being equivalent to the solution of a cubic equation. The general division of an angle into any proposed number of equal parts is a problem which mathematicians have not yet been able to solve. In modern mathematics, the term Angular Sections is used to denote that branch of analysis which is employed in the investigation of the properties of circular functions.

Angular'ity, *n.* The quality of being angular, or having corners.

An'gularly, *adv.* In an angular manner; with angles or corners.

An'gularness, *n.* The quality of being angular.

An'gulated, *a.* Formed with angles or corners; as, *angulated* figures.

An'guloden'tate, *a.* (*Bot.*) Angularly toothed, as certain leaves.

Angulom'eter, *n.* (*Geom.*) An instrument for measuring external angles.

Angulos'ity, *n.* The state of being angular. (o.)

An'gus. See Forfar, County of.

An'gus, Earls of, several members of the Douglas family, who, under the reign of the Stuarts in Scotland, distinguished themselves by the fierceness with which they exercised the great power they possessed.

Angus'tate, *a.* [Lat. *angustus*, narrow.] When any part sensibly diminishes in breadth.

Angustifo'liate, Angustifo'lious, *a.* [From Lat. *angustus*, narrow, and *folium*, leaf.] (*Bot.*) Having narrow leaves.

An'halt, a duchy of German empire, bet. Lat. 51° and 52° N., and Lon. 11° and 12° E., almost surrounded by Prussian Saxony. *Area*, 869 sq. m. Its surface, watered by the rivers Saale and Elbe, is hilly to the N.W., but in the centre forms a fertile plain. It contains the forest of Bernberg, embracing within its limits mines of iron, copper, and lead.—*Prod.* Corn, wine, tobacco, flax, fruits, &c.; it also possesses manufactures of woollens, earthenware, and hardware. The inhabitants are chiefly Protestant, and engaged in agricultural pursuits.—*A.* was formerly divided into three distinct sovereign dukedoms. *A.-Cöthen*, *A.-Bernberg*, and *A.-Dessau*. After 1863, however, the two former lines dying out, they became merged into the remaining one of *A.-Dessau*. The Princes of *A.* took the title of Dukes in 1806. *Chief towns:* Dessau, Bernberg, and Cöthen (q. v.). *Pop.* 213,565.

Anharmon'ic, Anharmon'ical, *a.* (*Geom.*) Noting a kind of double ratio.

Anhela'tion, *n.* [Lat. *anhelatio*.] The act of panting; the state of being out of breath.

An'holt, a small Danish island in the Cattegat, between Lessoe and Zealand; Lat. 56° 44′ 20″ N.; Lon. 11° 38′ 51″ E. It has a lighthouse.

An'hydrite, *n.* (*Min.*) An orthorhombic mineral; color white; usually associated with common salt. Spec. grav. 2·899 to 2·94. *Comp.* lime 41·2, sulphuric acid 58·8 = 100.

Anid'æi, *n.* [Gr. *a.* priv., and *eidea*, form.] (*Physiol.*) The name given to monsters characterized by a total want of specific form or shape, occurring sometimes in the cow and human species.

Anight', Anights', *adv.* [Pref. *a* and *night*.] In the night-time.

"Sir Toby, you must come in earlier *anights*; your niece, My lady, takes great exceptions at your ill hours."—*Shaks.*

Anhy'drous, *a.* [Gr. *a.* priv., and *ydor*, water.] (*Chem.*) Without water. A term applied to salts, and to certain acids when deprived of water.

A'ni. The former capital of Armenia, now in ruins.

Fig. 130.—keel-bill. (*Crotophaga ani.*)

(*Zoöl.*) The Keel-bill, *Crotophaga ani*, a bird of the family *Cuculidæ*, which is a common inhabitant of the hotter regions of South America, and particularly of Brazil, but is also met with in some parts of North America, as well as in several of the West India islands. The general color of these birds is black, with more or less metallic reflections, and they have a short, arched bill, very much compressed. They live in flocks: the skirts of woods and the borders of flooded savannas being their favorite haunts. Many pairs are said to use the same nest, which is built on the branches of trees, and of a large size. Their flesh being rank, is not edible.

An'il, *n.* [Sanskr. *nili*, indigo.] (*Com.*) A kind of indigo, obtained from the plant *Indigofera anil*, native of West Indies. It differs from the *Indigofera tinctoria*, the true indigo, in having compressed legumes which are not torulose.

An'ile, *a.* [Lat. *anilis*, from *anus*.] Resembling an old woman; doting.

Anil'ic Acid, Indigotic Acid. (*Chem.*) A light yellowish-white, crystalline substance, soluble in 1,000 parts water, fusible and volatile; it unites readily with bases, and forms well crystallized salts. It is obtained by adding pounded indigo to nitric acid, diluted with an equal volume of water.—*A.* acid is also formed by the action of nitric acid on salicine or salicilic acid. *Form.* $C_{14}H_4O_3HO$.

Anil'ine, Phenylamine, *n.* (*Chem.*) A powerful base; colorless oily fluid of spec. grav. 1·020. Taste burning, aromatic; smell vinous: boiling-point 320°; evaporates at all temperatures, and becomes brown in air; it does not, in solution, affect vegetable colors; dissolves phosphorus, sulphur, camphor, and resin; coagulates albumen, and forms crystalline salts with acids. It is obtained from nitro-benzine by dissolving the latter in alcohol, saturating the solution with ammonia, and passing a current of sulphuretted hydrogen through the deep-red mixture. The current of gas is again to be renewed, until sulphur ceases to separate on standing. Hydrochloric acid is then added in excess to the solution, and the alcohol being removed by evaporation, a clear, slightly colored fluid, *aniline*, remains, possessing the characters of an organic base.—*A.* has a remarkable analogy with ammonia. It is readily detected by its producing, in minute quantities, with solutions of chloride of lime, a fine violet-blue, resembling ammoniacal oxide of copper. *Form.* C_6H_7N. *A.* is a highly acrid poison. Its readiness in producing very brilliant colors was known from the time Runge and others produced it from coal tar, but it was only in 1858 that the first *A.* dyes were manufactured in France, a discovery which has revolutionized the arts and manufactures connected with the dyeing of textile fabrics. Besides their great use as dyeing materials, *A.* colors are employed for numerous other purposes in the industrial arts. The greater proportion of them are now produced from another basic body termed Rosaníline, name under which the most important of them are described.

Anil'ity, An'ileness, *n.* [Lat. *anilitas*.] The state of being an old woman; the old age of woman; dotage.

Anil'o-cyanic Acid, *n.* (*Chem.*) A volatile liquid, with a pungent odor, boiling at 354°, obtained by heating melanoximide. *Form.* $C_{14}NH_5O_2$.

Anil'o-mellone, Phenile-mellone, *n.* (*Chem.*) A fluid obtained by heating melaniline. It consists of melline (C_6N_4), coupled with phenile ($C_{12}H_4$), less hydrogen.

An'ima, *n.* [Lat., the soul.] This Latin word was formerly more than now used among divines and naturalists, to denote the soul, or principle of life in animals; also among chemists, to denote the volatile or spiritnous part of bodies.—*Anima Mundi*, a phrase formerly used to denote, a certain pure ethereal substance or spirit diffused through the mass of the world, organizing and actuating the whole and the different parts.

(*Mus.*) With animation; in a spirited manner.

Animadver'sion, *n.* [Fr., from Lat. *animadversio*.] Reproof; severe censure; blame.

"He dismissed their commission with severe and sharp *animadversion*."—*Clarendon.*

Animadver'sive, *a.* That has the power of judging or perceiving.

"The representation of objects to the soul, the only *animadversive* principle, are conveyed by motions made on the immediate organs of sense."—*Granville.* (o.)

Animadver'siveness, *n.* The power of animadvertiug. (o.)

Animadvert', *v. n.* [Lat. *animadvertere*.] To pass censures upon.

GOOSE

TURKEY

CHICKEN

DUCK

PIGEON

PIG

GOAT

CATTLE

SHEEP

RABBIT

REINDEER

PRAIRIE CHICKEN

QUAIL

GROUSE

CANVAS-BACK DUCK

SNIPE

WOODCOCK

BLACKHEAD DUCK

COMMON BUFFALO

ANTELOPE

OPOSSUM

SQUIRREL

EUROPEAN DEER

BEAR

FOOD ANIMALS

COPYRIGHT 1899. F.E. WRIGHT.

"I should not *animadvert on* him, who was otherwise a painful observer of the decorum of the stage, if he had not used extreme severity in his judgment of the incomparable Shakspeare." — *Dryden.*

Animadvert'er, *n.* One who animadverts or passes censure.

An'imal, *n.* [Lat., Fr., Sp., *animal;* from Lat. *anima*, breath, life.] A being which lives, moves, and feels. It is very difficult to define properly what an animal is, as the ordinary characters of animal life seem to be possessed by vegetables also, and thus it becomes almost impossible to say when animal life ceases and vegetable life begins. It is very easy for any person to tell the difference between a *lion* and an *oak*, and to refer them to their proper kingdoms in nature; but when we descend to the minute forms of each kingdom, it becomes exceedingly difficult to assert which is an animal and which is a plant. Many minute forms, which have occupied the attention of microscopic observers, and which for a length of time have passed undisputed for animals, are now proved to be vegetables; and there are still many which the zoölogist and botanist must, for the time being, accept as common property. In general terms, however, an animal may be defined as a being which is capable of nourishing itself and of reproducing its species, which has sensation, and is endowed with the power of voluntary motion.

—*a.* Pertaining to animals.—Generally used in contradistinction of *rational, spiritual, intellectual*, or vegetable.

Animal Kingdom.—There are three great divisions of natural objects called kingdoms of nature, — the mineral, vegetable, and animal kingdoms. The animal kingdom embraces all living creatures defined to be animals, and it is the province of the zoölogist to arrange this into classes, orders, families, and genera, according to their natural affinities. Zoölogy being the department of Natural History which treats of animals, it is under this name that an account will be given of the different systems adopted by the masters of the science, such as Linnæus, Cuvier, Geoffrey St. Hilaire, and Agassiz.

Animal'cular, Animal'culine, *a.* Belonging to, or looking as animalcules.

Animal'cule, *n.* [Fr., from Lat. *animalculum*, a little animal.] (*Zoöl.*) The name commonly given to those minute forms of animal life only visible by means of magnifying-glasses.—Nothing can be more vague or inappropriate than this name, since it only expresses the small dimensions of the beings to which it is applied, and does not indicate any of their characteristic peculiarities. In the infancy of microscopic knowledge, it was natural to associate together all those creatures whose internal structure could not be clearly made out with the instruments then in use; and thus the most heterogeneous assemblage of plants, zoöphytes, minute crustaceans, &c., came to be aggregated with the true animalcules under this head. The class was being gradually limited by the removal of all such forms as could be referred to others; but still very little was known of the real nature of those that remained in it, until the study was taken up by Prof. Ehrenberg, with the advantage of instruments which had derived new and vastly improved capabilities from the application of the principle of Achromatism. The most important result of his study was the separation of the entire assemblage into two distinct groups, one, the *Infusoria*, being of very low, and the other, the *Polygastrica*, of comparatively high organization. Lately the name *Rotifera*, or *Rotatoria*, has been substituted for Polygastrica, and a group has been separated from the Infusoria to form the lowest order of the Protozoa under the name of Rhizopoda.—See Infusoria, Rotifera, and Rhizopoda. See also Protozoa.

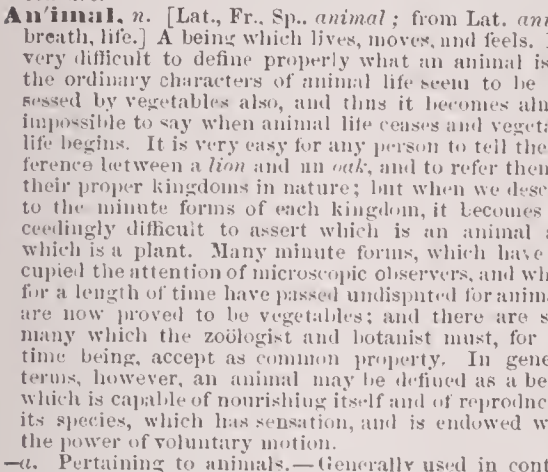


Fig. 131.

1. Infusoria (*Vorticella nebulifera*). 75 times its size. — 2. Separate body of the same, 300 times its size; *a*, mouth; *b*, nucleus; *c*, contractile vesicle.
3. Rotifera (*Triophthalmus dorsualis*), 300 times its size.

Animal'cular, *a.* Like animalcules.

Animal'culist, *n.* A person versed in the knowledge of animalcules.

Animal'culum, *n*; *pl.* Animalcula. [Lat.] An animalcule.

An'imal-Flow'er, *n.* (*Zoöl.*) The popular name of some species of the Actiniæ, *q. v.*

An'imalish, *a.* Like an animal.

An'imalism, *n.* [Fr. *animalisme.*] The state of a being only actuated by sensual appetites; animal nature; sensuality.

Animal'ity, *n.* [Fr. *animalité.*] The state of animal existence or nature.

Animaliza'tion, *n.* [Fr. *animalisation.*] The act of animalizing.—The assimilation of food by the process of digestion.

An'imalize, *v. a.* [Fr. *animaliser.*] To give animal life to; to endow with the properties of an animal.—To assimilate or convert into animal matter by the process of digestion.

An'imalness, *n.* The same as Animality. (o.)

An'imas City, in *Colorado*, a village of Conejos co., abt. 245 m. S.W. of Denver.

An'imate, *v. a.* [Lat. *animare.*] To quicken; to make alive; to give life to: as, the soul *animates* the body; man must have been *animated* by a higher power.—To give powers to; to heighten the powers or effect of any thing.

"But none, ah! none can *animate* the lyre,
And the mute strings with vocal souls inspire." — *Dryden.*

—To encourage; to incite; to give spirit to.

"The more to *animate* the people, he stood on high .... and cried unto them with a loud voice." — *Knolles.*

An'imate, *a.* Alive; possessing animal life.

"The admirable nature of *animate* bodies." — *Bentley.*

Animated, *v. a.* Lively; vigorous; full of life or spirit.

"Warriors she fires with *animated* sounds,
Pours balm into the bleeding lover's wounds." — *Pope.*

An'imater, *n.* One who animates; an animator.

An'imating, *p. a.* Giving life; enlivening; quickening.

Anima'tion, *n.* [Fr., from Lat. *animatio.*] The act of animating, or the state of being animated.—Life; liveliness; vivacity; cheerfulness; briskness; alacrity; activity; alertness.

An'imative, *a.* That which has the power of giving life, or animating.

An'imator, *n.* [Lat.] That which animates or gives life.

An'ime, *n.* [Fr. *animé*, living.] (*Com.*) A resin exuding from the stem of the *Hymenæa courbaril*, and containing insects entrapped in it, whence its name. It is distinguished from copal by its ready solubility in alcohol. It is used by varnish-makers, and for scenting pastilles.

An'imé, *a.* [Fr., living.] (*Her.*) Applied to the eyes of a rapacious animal when borne of a different tincture from the creature itself.

An'imine, *n.* (*Chem.*) An oily base, with a peculiar smell, soluble in 20 parts cold water, very soluble in alcohol; obtained from rectified oil of Dippel by saturating with ammonia, and distilling. It changes reddened litmus to a violet blue.

An'imism, *n.* [Fr., from Lat. *animus*, the soul.] (*Philos.*) The doctrine of the *anima mundi*, as held by Stahl; the doctrine that all the phenomena of animal economy are produced by the agency of the soul, or by a vital principle, distinct from the substance of the body.

An'imist, *n.* An adherent to the doctrine of animism.

Animose', *a.* [Lat. *animosus.*] Full of spirit; hot; vehement.

Animos'ity, *n.* [Fr. *animosité*, from Lat. *animositas.*] Vehemence of hatred: passionate malignity. It implies rather the disposition to break out into outrages than the outrage itself.

An'ion, *n.* [Gr. *ano*, upwards, and *io*, I go.] (*Chem.*) When a substance is decomposed by the galvanic battery, the elements into which it is resolved are termed *ions*; the element going to the *anode* is an electro-negative body, or *an-ion*, while the element which proceeds to the *cathode* is an electro-positive, or *cat-ion*. When water is decomposed, oxygen is attracted by the positive plus, or zinc pole, or anode, and is therefore the anion, or electro-negative body; while hydrogen, going to the cathode minus, or negative pole, is the *cation*.

An'isamide, *n.* (*Chem.*) An amid obtained by acting on chloride of anisyle with ammonia.

Anisan'iline, *n.* (*Chem.*) White brilliant subliming needles, formed by the action of aniline on chloride of anisyle. *Form.* $C_{24}H_{13}NO_4$.

An'ise Stearoptene, Anise Camphor. (*Chem.*) *Form.* $C_{10}H_6O$. Crystalline plates obtained from anise oil. Identical with the stearoptene of fennel.

Anisette', *n.* [Fr.] A liquor obtained by distilling anise, fennel, and coriander-seed with brandy, and sweetening the product. The *A. of Bordeaux*, when genuine, is a delicious and very stomachic drink.

An'isic Acid, Draconic Acid. (*Chem.*) Colorless brilliant needles, very soluble in alcohol, obtained by the action of nitric acid on anise or estragon stearoptene. *Form.* $C_{16}H_7O_5HO$.

Anisomer'ic, *a.* [Gr. *a*, priv., and *meros*, parts.] Having not similar or symmetrical parts.

An'jar, a British town of Hindostan, prov. Cutch, near the N.E. shore of the Gulf; Lat. 23° 3′ N.; Lon. 70° 11′ E. *Pop.* about 10,000.

Anjen'go, a seaport town of S. Hindostan, prov. of Travancore, 18 m. N.N.W. of Cape Comorin; Lat. 8° 37′ N.; Lon. 76° 53′ E.

An'jou, an ancient prov. of France, now distributed among the deps. of Maine et Loire, Loire-inférienre, Vendée, Indre et Loire, Sarthe, Ile et Vilaine, Mayenne, and Deux-Sèvres.

An'jou, Counts, afterwards Dukes of, a powerful French family, closely connected with the royal house of Valois, who maintained a considerable share of independence until the reign of Louis XI. The most ancient branch of these princes derives its origin from Ingelbert, a favorite of Charles the Bald, A. D. 870. In the 13th century, Charles, fourth son of Louis VIII., began the second branch of the house of Anjou, and became the head of the Guelphic party in Italy. He endeavored by crushing the Ghibelins to found an empire in Italy, but was unsuccessful. Whilst engaged in this work, the celebrated massacre, historically known as the "Sicilian Vespers," took place, in which 4,000 of his French soldiers were butchered by the Sicilians in Palermo, on the Easter Monday of 1282. He had laid siege to Messina, where his fleet was captured by the admiral of Peter of Aragon, who had assumed the title of king of Sicily. This event filled him with fury, and he sent a challenge to Peter to meet him in single combat. In order to gain time, the challenge was accepted, though subsequently declined; shortly after which Charles died, in his 75th year, 1285.—He was by far the most distinguished of his house.

An'ise, *n.* [Fr. *anis*; Lat. *anisum*; Gr. *anison.*] (*Bot.*) The common name of the *Pimpinella anisum*, gen. *Pimpinella*, *q. v.*—The *A.* seed imported from Spain and Italy is used as a condiment, and in the preparation of liquors; also in medicine, as a stimulant stomachic

Fig. 132.—Anise (*Pimpinella anisum*).

to relieve flatulence, &c., particularly in infants. It has an aromatic, agreeable smell, and a warm, sweetish taste. It contains a volatile oil, which is nearly colorless, has the odor and taste of the seed, and is employed for similar purposes. Sp. grav. ·9857. It is soluble in alcohol.

An'jou, Francis, Duke of, b. 1554, and created at his birth, Duke of Alençon. He was the youngest son of Henry II. of France, by his queen Catharine de Medicis. In 1573 he was present at the siege of La Rochelle. On the death of his brother Charles IX., a plot was formed to place *A.* on the throne; on the failure of which, he, along with his brother-in-law Henry, king of Navarre, was imprisoned. Afterwards, being reconciled with the king, Henry III., he received the dukedom of Anjou. In 1576 he headed the Catholic party, and in the next year assisted the Flemings, then at war with the Spanish power. In 1581 he was chosen sovereign of the Netherlands; but his despotic mode of government made the people revolt, and he was finally expelled from the country. D. in France, 1584.

An'ker, *n.* [Dut. *ancker.*] (*Com.*) An old Dutch measure of capacity still used in Russia, and equal to 9¾ wine gallons.

An'kerite, *n.* (*Min.*) A rhombohedral mineral; white with tints of gray, red, and brown; foliated, slightly translucent, brittle, lustre pearly. B.B. it becomes black magnetic. Spec. grav. 3·080; *comp.* as a dolomite in which the magnesia is more or less replaced by protoxide of iron.

Ank'lam, a town of Prussia, prov. of Pomerania, on the Peene, 47 m. N.W. of Stettin. It carries on a considerable trade in shipbuilding and shipping. *Pop.* 10,000.

An'kle, *n.* [A. S. *ancleow*; Ger. and D. *anker.*] (*Anat.*) The joint which connects the foot to the leg.

An'kle-bone, *n.* The bone of the ankle; the astragalus.

An'kled, *a.* Having, or relating to ankles; as, a well-*ankled* foot.

Ank'let, *n.* An ornament that women fastened to the ankle-band of each leg, mentioned in the Bible (Is. iii. 18., "tinkling ornaments about their feet.") They were as common as bracelets and armlets, and made of much the same materials. They are still worn in the East, and Lane (*Mod. Egypt*) quotes from a song, in allusion to the pleasure caused by their sound, "the ringing of thine *anklets* has deprived me of reason." Hence, Mohammed forbade them in public; "let them not make a noise with their feet, that their ornaments which hide may (thereby) be discovered." (*Koran*, xxiv. 31.)

Fig. 133.—Anklets.

Anko'bar, an Abyssinian town in the State of Shoa, built on a mountain 8,198 feet above the level of the sea. *Pop.* between 12,000 and 15,000, living in thatched houses shaded with trees.

Ank'oi, or ANDKHO, a town of Bokhara, Asia, 75 m. W. of Balkh; Lat. 36° 48′; Lon. 66° E.; *pop.* about 25,000.

Ankylo'sis, *n.* See ANCHYLOSIS.

An'lace, *n.* See ANELACE.

Ann, St., the mother of the Blessed Virgin, and the wife of Joachim.

Ann, or **Anne, St.,** in British N. America, a lake situated 50 m. N. of Lake Superior, into which by a small river it empties itself.

Ann, St., in British N. America, a seaport on the E. side of Cape Breton.

Ann, St. See FREDERICTON.

Ann, St., in Jamaica, a village and parish in Middlesex co., on the N. coast, 20 m. W. of Port Maria.

An'na. [Gr., Lat., and Hind.; Heb. *Hannah.*] The sister of Dido (Virgil, *Æneid*, iv.) — The wife of Tobit, and his support in poverty.—The daughter of Phanuel, and a prophetess.

An'na. *n.* (*Com.*) In the E. Indies, a coin of 12 pie, or the 16th part of a rupee, worth about $0.03.

An'na, in *Illinois*, a city, in township of same name, of Union co. *Pop.* 2,295.

Anna Comnena, a daughter of the Byzantine emperor Alexius Comnenus I.; conspired at his death to give the crown to her husband Nicephorus Brennius, but in vain. She had considerable literary taste, and wrote the *Alexiad*, a history of her father's reign. D. 1148.

Anna Ivanowna, empress of all the Russias. B. 1694. She was the daughter of the Czar Ivan Alexiowitch, married the Duke of Courland in 1710, and succeeded to the throne on the death of Peter II., in 1730. She invested her favorite Biron with almost absolute power, and he governed the empire with intolerable tyranny. During *A.'s* reign, Russia was at peace with her neighbors, excepting only the war in which she engaged to place Augustus III. on the throne of Poland; and that with the Turks in 1736, terminated by the peace of Belgrade in 1739. D. 1740. She was succeeded by her grand-nephew Ivan.

An'naberg, (St.,) a mining town of Saxony, in the circle of the Erzgebirge, 8 m. S.W. of Marienburg. Its inhabitants are principally occupied in its mines, which produce tin, silver, and cobalt. *Pop.* about 10,500.

An'nabergite, *n.* (*Min.*) A synonym of arseniate of nickel.—See NICKEL.

Ann'aghdown, a parish of Connaught, Ireland, 7 m. from Galway; *pop.* 4,500.

An'nalist, *n.* A writer of annals.

An'nalize, *v. a.* To record in annals.

An'nals, *n. pl.* [Fr. *annales*, from Lat. *annalis.*] A species of history, in which events are related in the exact order of chronology. They differ from perfect history in this, that annals are a bare relation of what passes every year, as a journal is of what passes every day; whereas, history relates not only the transactions themselves, but also the causes, motives, and springs of action. The name comes from the first annual records of the Romans, which were called *Annales Pontificum*, or *Annales Maximi.*—The word *A.* is also applied to periodicals containing the transactions of societies, &c.

Annam. See COCHIN-CHINA.

An'namboe, or ANNAMABOE, one of the several strong forts occupied by Britain on the Gold Coast of Africa, 11 miles E. N. E. of Coast Castle.

Annamoo'ka, or ROTTERDAM, one of the Friendly Islands, about 10 m. in circuit.

Ann'an, a seaport-town of Scotland, co. of Dumfries, on a small river of the same name; *pop.* of borough, 3,473.

An'nandale, in Scotland, the name given to the valley traversed lengthwise by the river Annan. It contains many Roman antiquities.

Annap'olis. ["The city of Anne."] A town of Nova Scotia, on the river of the same name, and on the S.W. side of the Bay of Fundy; Lat. 40° 47′ N.; Lon. 65° 50′ W. Although the first European settlement in N. America, having been founded in 1604, it has never flourished. It was called Fort Royal by the French. *Pop.* of town and county of the same name, 18,121

Annap'olis, in *Maryland*, a city and port of entry, cap. of the State and of the co. of Anne Arundel, on the S.W. side of the Severn, 2 m. from its mouth, 40 m. E.N. E. of Washington. *A.* was at first settled in 1649, under the name of Providence, afterward changed to Anne Arundeltown, and finally named *A.*, in honor of Queen Anne. It is the seat of St. John's College, incorporated in 1787, and of the U. S. Naval Academy. *Pop.*, 7,604.

Annap'olis, in *Illinois*, a post-office of Crawford co.

Annap'olis, in *Indiana*, a post-village of Parke co., 75 m. W. of Indianapolis.

Annap'olis, in *Ohio*, a village of Crawford co., 70 m. N. of Columbus.

—A post-vill. of Jefferson co., 15 m. W. of Steubenville.

Annap'olis Junction, in *Maryland*, a post-office of Howard co.

Ann Ar'bor, in *Michigan*, a flourishing city, cap. of Washtenaw co., on the river Huron, 38 m. W. of Detroit. The State University, established here in 1837, possesses an extensive library, an astronomical observatory, and a well appointed chemical laboratory; its fine buildings, pleasantly situated, constitute one of the attractions of the town.—*Manf.* Wool, iron, agricultural implements and flour. *Pop.* (1898) 13,100.

An'nates, *n. pl.* [From Lat. *annus.*] (*Eccl. Hist.*) A year's income due to the Pope, on the death of any bishop, abbot, or parish-priest, to be paid by his successor. In 1789, they were finally abolished in France.

An'naton, in *Wisconsin*, a post-office of Grant co.

Annawai'ka, in *Alabama*, a village of De Kalb co.

An'nawan, in *Illinois*, a post-village and township of Henry co., on the Chicago and Rock Island Railroad, 146 m. W.S.W. of Chicago, and 36 m. E. by S. of Rock Island.

Anne, (*ann,*) Queen of Great Britain, B. 1664. The second daughter of King James II. by his first wife Anne Hyde. She married, in 1683, Prince George of Denmark, and succeeded to the crown upon the death of William III. in 1702. The principal events in her reign were the war of the Spanish succession; the great achievements of the English troops under the celebrated Duke of Marlborough (*q. v.*) in Flanders and Germany, by which the military supremacy of France was shattered: the establishment of the union of the until then separate kingdoms of England and Scotland in 1705; and the dashing successes of the Earl of Peterborough in Spain. During the reign of *A.*, the rivalry of the two great political parties, the Whigs and the Tories, rose to extreme violence; the latter, or Jacobite faction, looking upon the queen as secretly favoring the views of her brother, the exiled Pretender, to the succession.—*A.* was of an easy and placable disposition, and during the greater part of her life was entirely under the control of her imperious friend and confidante, Sarah, Duchess of Marlborough. She, however, at last fell into disgrace, and was succeeded in the post of favorite by Mrs. Masham, one of her attendants, a woman of obscure birth and mediocre character. Her reign is especially celebrated as a literary æra, from the number of great writers who then flourished, the munificent patronage bestowed upon them, and the high esteem in which the world of letters was generally held. Among the illustrious literati of this period are found the names of Pope, Swift, Bolingbroke, Newton, &c. D. 1712.

Anne OF AUSTRIA, Queen of France, B. 1604, was the eldest daughter of Philip II. of Spain, and married King Louis XIII. in 1615. During the lifetime of her husband she was constantly at variance with his great minister, Cardinal Richelieu. The Duke of Buckingham was deeply attached to Anne, and made open love to her. She reprimanded him so gently that it was thought she returned his affection. When Louis XIII. died, in 1643, Anne, as mother of the infant monarch, was appointed regent, and displayed no ordinary political tact in making Cardinal Mazarin her minister. The Parisians, however, were uneasy; Mazarin was a foreigner, his financial policy was unpopular, and an insurrection arose which might have assumed fearful dimensions. It is known in French history as the war of the *Fronde*, q. v. The queen, the cardinal, and their partisans were opposed to the nobility of the kingdom and the citizens of the capital. The former finally prevailed. She died at the age of sixty-four in 1666. She was beautiful in person, had much of German phlegm and Austrian pride, yet she was amiable and forgiving.

Anne DE BEAUJEU, the eldest daughter of Louis XI. of France, B. 1462. Her father, jealous of her talents, married her to Pierre de Bourbon, Sire de Beaujeu, a prince of dull understanding. On the death of Louis XI. she was acknowledged governess of the kingdom, during the minority of her brother, Charles VIII. The Duke of Orleans having insulted Anne, she ordered him to be arrested, when he speedily fled, and sought refuge in Brittany. Anne attacked the Bretons and routed them, took the Duke, their leader, prisoner; and by the politic marriage of the young king of France to her namesake, the youthful duchess of Brittany, that country was annexed to the French crown. She retained her rank and influence after Charles VIII. had ascended the throne; and when, dying childless in 1498, he was succeeded by the Duke of Orleans, that prince respected her claims and position, and said, "that it did not become the king of France to avenge the feuds of the Duke of Orleans." D. 1522.

Anne OF BOHEMIA, B. 1367, was the eldest daughter of the Emperor Charles IV., and married Richard II., king of England, in 1380. She may justly be regarded as one of the nursing-mothers of the Reformation, for she protected Wickliffe towards the close of his life, when threatened by the Council of Lambeth in 1382. It was she who obtained an amnesty for the multitude who had become involved in the insurrection headed by Wat Tyler. This mediation, and her conspicuous virtues, acquired for her the title of the "Good Queen Anne." D. without issue, 1394.

Anne Boleyn. See BOLEYN.

Anne DE BRETAGNE, or of BRITTANY, B. at Nantes, 1476, was the only daughter of Francis II., duke of Brittany. Louis of Orleans, heir-presumptive to the French throne, when he fled to Brittany (see ANNE DE BEAUJEU), became deeply enamored of her: and Anne, not yet fifteen, gave him in return her first love. Compelled to marry the young King Charles VIII., she acted with fidelity and discretion, and at his death displayed deep grief. But her old lover, now Louis XII., divorced the deformed lady he had been compelled to espouse, and soon persuaded Anne to forget her sorrow by marrying him at Nantes. It is said that as queen of France she exercised unbounded influence over her husband, and her detractors affirm that she sacrificed France to the petty intrigues of Brittany. D. 1514.

Anne of Cleves, daughter of John, 3d duke of Cleves, B. 1515. She married in 1540, Henry VIII., king of England, and became his fourth wife. She was divorced from him in a few months afterward, and lived in privacy until her death in 1557.

Anne Ar'undel, in *Maryland*, a county situated in the central part of the State, on the W. shore of Chesapeake Bay, about 5 m. S. of Baltimore. *Area*, 750 sq. m. The Patapsco river bounds it on the N. and N.E., the Patuxent on the S.W., and its eastern part is traversed by South and Severn rivers. Surface, varying from undulating to hilly; soil, generally fertile. Its staple products are wheat, oats, maize, tobacco, hay, and butter. Copper and iron are found here. *A.* is the third co. in the State as respects population, and contains Annapolis the capital of Maryland. It takes its name from Anne Arundel, wife of Cecil, Lord Baltimore.

Anne, St., in *Illinois*. See ST. ANNE.

Anne, St., in Central America. See SANTA ANNA.

Anne, St., a river of prov. of Quebec, which after a S.W. flow of abt. 120 m., effects a junction with the St. Lawrence on its N. side, 50 m. W.S.W. of Quebec. At its embouchure it is 1,500 ft. broad. It is scarcely navigable, owing to its numerous shoals and rapids.

Anne, St., a seaport of Marie-Galande, in the West India islands.

Anne, St., in prov. of Quebec, a town on the S. side of the river St. Lawrence. Lat. 49° N.; Lon. 66° 25′ W.

Anne, Ste., in Guadaloupe, a village of Grand-Terre on the S. coast, about 12 m. E.S.E. of Point-a-Pitre.

Anneal', *v. a.* [A.S. *anælan*, to kindle.] To soften and temper glass, iron, &c., by heating and gradually cooling.

Anneal'ing, *n.* (*Chem.*) A process applied in the manufacture of glass or some metals, to prevent the particles arranging themselves in that condition which produces a brittle quality. When glass and metals, more particularly iron or steel, have been heated to a red heat, they are very brittle. Glass drops, for example, made in the form of what are termed *Prince Rupert's drops*, are so brittle, that when touched sharply with a stone, or when a portion is broken off, they fly into a thousand fragments; glass requires, therefore, to be annealed—a process consisting in placing it into a furnace for many hours, and gradually drawing it to a cooler part of the oven. Malleable iron, when it is to be subjected to pressure, requires annealing. Thus, boiler-plates, which are drawn out by rollers, are placed for some time in an annealing furnace. Tempering of steel is an analogous process, and consists in heating the metal at various temperatures. The explanation of the process of annealing depends upon the theory of heat which may be adopted. According to the immaterial theory, the particles of iron and glass are placed by the high temperatures of preparation in a peculiar condition, opposed to the attraction of cohesion; the cohesive force being restored by the modified application of heat in the annealing and tempering process.

Annec'tant, *a.* Annexing.

Annecy', a town of France, dep. of Haute-Savoie, 22 m. S. of Geneva; *pop.* 10,737.—The town is situated on the N. side of the lake of the same name, 9 m. long, and between 1 and 2 m. broad; 1,426 ft. above the sea-level.

Anne-de-la-Pérade, Ste., in prov. of Quebec, a post-village of Port Neuf co., on St. Anne river, 57 m. W. by N. of Quebec.

Anne-de-la-Pocatière, Ste., in prov. of Quebec, a post-village and parish in Kamouraska co., on the S. bank of the St. Lawrence, 75 m. below Quebec. It is a considerable place, and possesses a well-attended college. *Pop.* of parish about 2,850.

Anne-des-Plaines, Ste., in prov. of Quebec, a parish and village in Terrebonne co., 26 m. N.W. of Montreal; *pop.* about 1,620.

Anne-du-Machiche, Ste., in prov. of Quebec, a post-village and parish in St. Maurice co., on a river of the same name, 75 m. N.E. of Montreal. *Pop.* abt. 2,020.

Anne-du-Nord, Ste., in prov. of Quebec, a village and parish of Montmorenci co., on the N. bank of the St. Lawrence, 18 m. from Quebec. *Pop.* about 910.

Annel'ides, ANNELIDA, or ANNELIDS, *n. pl.* [From Lat. *annulus*, a little ring.] (*Zoöl.*) An order of *Annulosa*, including all the higher kinds of worm-like animals, often called red-blooded worms, the greatest part of which are marine, though there are several species which inhabit fresh water, and some which live on land. Their body is usually very long, divided into numerous segments similar and equal to each other, except at the two extremities; but in the lower forms, such as the *Leech*, the segmentary division is very indistinctly seen, on account of the general softness of the integument. A large portion of the marine annelids have special respiratory appendages, into which the fluids of the body are sent for aëration, and these are situated upon the head (*Fig.* 134) in those species which (like the *Serpula*, *Terebella*, *Sabellaria*, &c.) have their bodies enclosed by tubes, either formed by a shelly substance produced from their own substance, or built up by the agglutination of grains of sand, fragments of shell, &c.; whilst they are distributed along the two sides of the body in such as swim freely through the water, or crawl over the surface of rocks, as is the case with the *Nereidæ*; or simply bury themselves in the sand, as the *Arenicol*

Fig. 134.—SERPULA LACTATA.

or "Lob-worm." In these respiratory appendages the circulation of the fluids may be distinctly seen by microscopic examination. These fluids are of two kinds, the one colorless, and the other usually red. Authors are divided on the question of which of these two fluids represents the blood of other articulated animals.

Annella'ta, *n. pl.* See ANNULOSA.

Anns'burg, in *Maine*, a township of Washington co., 45 m. E. by S. of Bangor.

Anne's, St., in prov. of Quebec, a post-vill., parish of St. *A.* Bout de l'Isle, distant from Montreal 24 m.; *pop.* abt. 320.

Anne's, St., in prov. of Ontario, a vill. of Nelson township, Halton co.; *pop.* 300.

Ann'et, one of the Scilly islands, near that of St. Agnes.

Annex', *v. a.* [Fr. *annexer*, from Lat. *annectere*.] To unite at the end; to affix; as, he *annexed* a codicil to his will. — To unite, as a smaller thing to a greater; as, he *annexed* a province to his kingdom. — To unite *à posteriori;* annexation always presupposing something. Thus we may say, punishment is *annexed* to guilt, but not guilt to punishment.

—*v. n.* To join; to be united.

—*n.* The thing annexed.

Annexa'tion, and ANNEXION, *n.* The act of annexing; conjunction; addition: union; as, the *annexation* of Texas to the U. States.

Annex'ion, *n.* The act of annexing. (R.)

Annex'ment, *n.* The act of annexing, or the thing annexed. (R.)

Anni'hilable, *a.* [Fr.] That which may be anuihilated.

Anni'hilate, *v. a.* [Fr. *annihiler.*] To reduce to nothing; to put out of existence. — To destroy, so as to make the thing otherwise than it was. — To annul; to destroy the agency of anything.

Annihila'tion, *n.* The act of reducing to nothing; the state of being reduced to nothing.

Anni'hilator, *n.* The person who, or the thing which, annihilates.

Anni'hilatory, *a.* Tending to annihilate.

An'nin Creek, in *Pennsylvania*, a township of McKean co.; *pop.* 760.

An'nisquam, in *Massachusetts*, a post-office of Essex co.

Anniver'sarily, *adv.* Annually. (O.)

Anniver'sary, *a.* [Fr. *anniversaire*, from Lat. *anniversarius.*] Returning with the revolution of the year; annual: yearly.

—*n.* A day celebrated as it returns in the course of the year — The act of celebration, or performance, in honor of the anniversary day.

An'no Dom'ini. [Lat.] Abbreviated A. D., the year of our Lord; the computation of time from our Saviour's incarnation It is used in America for all public deeds and writings, on which account it is called the "Vulgar era."

Annomina'tion, *n.* [Lat. *annominatio.*] Alliteration; agnomination. (R.)

An'no Mun'di. [Lat.] Abbreviated A. M., in the year of the world; the computation of time from the creation of the world.

Anno'næ, *n.* [Lat., from *annus*, a year.] A name formerly given to the allowance of oil, salt, bread, flesh, corn, wine, hay, and straw, which was annually provided by contractors for the maintenance of an army. It was also applied, in English law, to denote anything contributed by one person towards the support of another.

Ann'onay, a town of France, dep. of the Ardèche, 7 m. from the Rhone. It is principally distinguished by its manufactures of paper, long reckoned the best in France. *Pop.* 16,271.

An'notate, *v. a.* [Fr. *annoter*, from Lat. *annotare.*] To make annotations.

Annota'tion, *n.* [Fr.] Explications or remarks written upon books; notes; — ordinarily used in the plural.

"It might appear very improper to publish *annotations*, without the text itself whereunto they relate." — *Boyle.*

An'notator, and **Annota'tionist,** *n.* [Fr. *annotateur.*] A writer of notes, or annotations; a scholiast; a commentator.

Anno'tatory, *a.* That contains annotations.

Annot'to, ANNATTO, ARNOTTO, ONOTO, *n.* (*Chem.*) Brown cakes, being the pulp of the seeds of the *Bixa orellana*, a shrub of S. America. It has no taste, but a smell of urine, which is said to be added to it; soluble in water, slightly in alcohol and ether with orange color, and in caustic potash with a red color. Sulphuric acid makes it indigo-blue; nitric acid makes it green; it contains a yellow and red-coloring matter. *A.* is sometimes employed for dyeing silk of an orange color, by immersing the goods in a solution of the dye in potash, or soda, and brightening by means of alum, vinegar, or lime juice. It is extensively used for dyeing cheese and butter.

Announce', *v. a.* [Fr. *annoncer*, from Lat *annunciare.*] To publish; to proclaim; to make known. — To pronounce; to declare by a general sentence.

Announce'ment, *n.* The act of announcing; proclaiming, or making known by public notice.

Announ'cer, *n.* The person who announces.

Annoy', *v. a.* [Fr *ennuyer.*] To incommode; to vex; to tease; to molest.

"Woe to poor man: each outward thing *annoys* him;
He heaps in inward grief, that most destroys him."—*Sidney.*

—*n.* [Fr. *ennui.*] Injury; molestation; trouble.

"What then remains, but, after past *annoy*,
To take the good vicissitude of joy."—*Dryden.*

Annoy'ance, *n.* [O. Fr. *annoiance.*] That which annoys; the state of being annoyed; or the act of annoying.

Annoy'er, *n.* The person who annoys.

Annoy'ing, *p. a.* Incommoding; vexing; teasing; molesting.

Anns'ville, in *New York*, a township of Oneida co., 40 m. N.E. of Syracuse.

—A small but ancient settlement in Cortland township, Westchester co., 2 m from Peekskill village, on a large creek, to which it gives its name. It was formerly called Ampersand.

Anns'ville, in *Virginia*, a village of Dinwiddie co., 75 m. N.W. by W. of Norfolk.

An'nual, *a.* [Fr. *annuel*, from Lat. *annualis.*] That which comes yearly.

"*Annual* for me, the grape, the rose, renew,
The juice nectareous, and the balmy dew."—*Pope.*

—That which is reckoned by the year, or performed in a year; as, an *annual* support; the *annual* motion of the earth.—That which lasts only a year, as, an *annual* plant.

—*Annual* is sometimes used as a noun; specially applied to a plant that lasts but one season, or to a book published once a year.

An'nually, *adv.* Yearly: every year; once a year.

Annu'itant, *n.* One who receives or possesses an annuity.

Annu'ity, *n.* [Fr. *annuité*, from Lat. *annuitas.*] The periodical payment of money, either yearly, half-yearly, or quarterly; for a determinate period, as ten, fifty, or a hundred years; or for an indeterminate period, dependant on a certain contingency, as the death of a person; or for an indefinite term, in which latter case they are called perpetual annuities. As the probability of the duration of life at every age is known, so annuities may be purchased for fixed sums during the life of the party. —See INSURANCE (LIFE), and MORTALITY (LAWS OF).

Annul', *v. a.* [Fr. *annuller*, from Lat. *ad*, to, and *nullum*, nothing.] To make so that none shall be affected; said peculiarly of laws, edicts, rights, and customs. To cancel; to obliterate; to abrogate; to abolish; to extinguish.

An'nular, *a.* [Fr. *annulaire*, from Lat. *annulus*, a ring.] Anything in the form of, or resembling a ring.

(*Anat.*) An appellation given to several parts of the body; thus, the *A. cartilage* is the second cartilage of the larynx; the *A. ligament* is a strong ligament encompassing the wrist, after the manner of a bracelet; and the *A. process* is that which surrounds the medulla oblongata.

(*Astron.*) *A. Eclipse.* See ECLIPSE.

(*Mech.*) *A. Advance.* The angle which the eccentric forms with its position at half-stroke, when the piston is at the commencement of its stroke.

An'nularis, *n.* [Lat.] The ring-finger; the one between the little and middle fingers.

An'nularly, *adv.* In the manner of a ring.

An'nulary, *a.* Having the form of a ring.

An'nulata, *n. pl.* See ANNULOSA.

An'nulate, An'nulated, *a.* [Lat *annulatus.*] (*Bot.*) Ringed; exhibiting circular prominences.

Annula'tion, *n.* (*Bot.*) A circular prominence to a stem.

An'nulet, *n.* A little ring.

(*Arch.*) A small flat fillet encircling a column, used either by itself or in connection with other mouldings. It is used several times repeated under the *ovolo* or *echinus* of the Doric capital. The capital in *Fig.* 135, which is of the dentilated Doric order, is ornamented with only three annulets.

(*Her.*) A little circle, borne as a charge in coats-of-arms, intended to denote strength and eternity. It is also added to them as a *difference*, and borne by the 5th brother of a family.

Fig. 135.

Annul'ment, *n.* [From Fr. *annuller*, to annul.] The act of annulling; cancellation; nullification.

Annulo'sa, *n. pl.* [From Lat. *annulus*, a ring.] (*Zoöl.*) The *annulose* animals or worms, a class including all that lower portion of the great *articulated* sub-kingdom, in which the division of the body into longitudinally-arranged segments is not distinctly marked out, and in which there is an absence of those *articulated* or jointed limbs that constitute so distinct a figure of insects and their allies. This class is divided into the three orders, *Annelides*, *Nematoids*, and *Trematods.*

Annulose', *a.* That has rings, or is annulated; as the worms.

Annu'merate, *v. a.* [Lat. *annumero.*] To make an addition to a former number. (R.)

Annumera'tion, *n.* An addition made to a former number. (R.)

Annunciata. See ANNUNCIATION.

Annun'ciate, *v. a.* [Lat. *annuncio.*] To give notice of; to proclaim; to report; to announce.

Annuncia'tion, *n.* The act of announcing. The declaration of the angel Gabriel to the Virgin Mary of the incarnation of Christ in her womb.

(*Eccl. Hist.*) A Catholic feast in honor of the annunciation, instituted in the 7th century, as it is generally believed, and celebrated March 25.

Order of the A.—An order of knights instituted in 1360, by Amadeus VI., Duke of Savoy, under the name of Order of the Neck-chain or Collar; raised in 1720 by Victor Amadeus to be the first order of the kingdom of Savoy, under the name of *Ordine suprema dell' annunciata.* The present king of Italy, Victor Emmanuel is grand-master of the order. The decoration is a gold medal, worn suspended by a gold chain on which is represented the Annunciation, surrounded by love-knots. The knights wear also on the left breast a star embroidered in gold. They are not limited in number, but must be of high rank, and already admitted to the orders of St. Maurice and St. Lazarus.

Annun'ciator, *n.* One who announces.

Annun'ciatory, *a.* Making known publicly.

Ann'ville, in *Pennsylvania*, a village of Lebanon co., 6 m. W. of Lebanon, and 20 from Harrisburg.

Ano'a DEPRESSICORNIS, *n.* (*Zoöl.*) A ruminating animal of Sumatra, by some considered a small species of wild buffalo, and by others a kind of antelope. The horns are wrinkled, but perfectly erect and straight, and the head is long and narrow.

Ano'bium, *n.* (*Zoöl.*) A genus of coleopterous insects, some of which inhabit the interior of our houses, where they do much injury in their larval state by gnawing furniture, books, &c., which they pierce with little round holes. Others feed upon wafers, preserved specimens of natural history, &c. — One species, the *A. tesselatum*, popularly the *Death-watch*, or tick, is remarkable for the superstitious feeling connected with it. This little timber-boring insect is about a quarter of an inch long, and the popular superstition alluded to is, that when its beating is heard, it is a sign that some one in the house will die before the end of the year. It is chiefly in the advanced state of spring that this little creature commences its sound, which is no other than the call or signal by which the male and female are led to each other, and which may be considered as analogous to the call of birds, though not owing to the voice of the insect, but to its beating on, or striking any hard substance with the shield or fore part of its head. The prevailing number of distinct strokes which it beats is from seven to nine or eleven; and this very circumstance may perhaps still add to the ominous character which it bears among the vulgar. These sounds or beats are given in pretty quick succession, and are repeated at uncertain intervals; and in old houses, where the insects are numerous, may be heard at almost any hour of the day, especially if the weather be warm. The sound exactly resembles that which may be made by tapping moderately hard with the finger-nail on a table. The insect is of a color so nearly resembling that of decayed wood, viz., an obscure grayish-brown, that it may for a considerable time elude the search of the inquirer. It is singular that this insect may so far be familiarized as to be made to beat occasionally, by taking it out of its confinement and beating on a table or board, when it will readily answer the noise, and will continue to beat as often as required.

An'ode, *n.* [Gr. *ano*, upwards, and *odos*, a way — the way that the sun rises.] (*Chem.*) That surface of which the electric current enters, being the negative extremity of the decomposing body, by the agency of a galvanic battery, and is where oxygen, chlorine, acids, &c. are evolved. The term is founded on the view that in any case of electric decomposition, the decomposing body is considered as placed so that the current passing through it shall be in the same direction, and parallel to that supposed to exist in the earth from east to west, then the surfaces at which the electricity is passing into and out of the substance, would have an invariable reference; that toward the east is the *anode*, and that toward the west the *cathode.*

Anodon'ta, *n.* [Gr. *a*, priv., and *odontos*, tooth.] (*Zoöl.*) A fresh-water molluscons animal, inhabiting a thin, inequivalve shell; hinge straight, with either no teeth or mere rudiments. The valves are thin, large, and pearly; and from their shape and lightness they are used in France for skimming milk. The *A.* is found in every quarter of the world.

An'odyne, *n.* [Gr. *a*, priv., and *odynē*, pain.] (*Med.*) A medicine which eases pain and procures sleep.

—*a.* Assuaging pain; as, an *anodyne* potion.

An'odynous, *a.* That has the power of assuaging pain, as an anodyne.

Anoint', *v. a.* [From Fr. *oindre*; pp. *oint.*] To rub over with an unctuous matter. — To consecrate by unction.

Anoint'er, *n.* The person who anoints.

Anoint'ment, Anoint'ing, *n.* The act of anointing, or the state of being anointed.

(*Hist.*) Anointing the body or head with oil was a common practice with the Jews, and with other Oriental nations. Abstinence from it was a sign of mourning. Anointing the head with oil or ointment seems also to have been a mark of respect sometimes paid by a host to his guests, and was an ancient Egyptian custom at feasts. The Jewish priests and kings were anointed when inducted into office, and were called the *anointed of the Lord*, to show that their persons were sacred, and their office from God. In the Old Testament, also, the prophecies respecting the Redeemer, style him, on account of his royal descent and his dignity, *Messias*, that is, the *Anointed.* The custom of anointing priests still exists in the Roman Catholic Church, and that of anointing kings in some of the Christian monarchies. The Greeks and Romans, particularly the former, anointed themselves after the bath, and thus gave a yellow color to the body. Athletæ anointed themselves, in order to render it more difficult for their antagonists to get hold of them.

Ano'ka, in *Indiana*, a post-village of Cass co., on the Chicago and Great Eastern Railroad, 8 m. S.E. of Logansport.

Ano'ka, in *Minnesota*, an E. county, bounded on the S.W. by the Mississippi river, and intersected by Rum river. It contains a number of small lakes, is well wooded, and among the forest-trees the sugar maple is found. Surface, diversified; and soil, fertile. *Pop.* in 1880, 7,108; in 1890, 9,884.

—A thriving city, the capital of the above county, on the left bank of the Mississippi, at the junction of Rum river. *A.* is 27 m. N. of St. Paul. Was visited by an extensive fire in 1884. *Pop.* (1890), 4,252; in 1897 ab. 5,500.

Ano'lis, *n.* (*Zoöl.*) A genus of reptiles peculiar to America, belonging to the family *Iguanidæ*, and supplying the place that is occupied by the chameleons in the old world. They are distinguished by their having teeth in the palate of the mouth as well as in the maxillary bones. The *Anolis* is a small, slender, active animal, frequenting woods and rocky places, and running, leaping, and climbing with singular agility. It is furnished with a loose skin or bag beneath its throat, which, when inflated, frequently changes its color: in short, whenever these creatures are under the excitement of fear, anger, or love, the skin assumes an endless succession of varying hues. They are of more slender proportions than the chameleon, and more agile in their movements; they feed chiefly upon flies and other insects, and inhabit the neighborhood of marshes and other moist places where

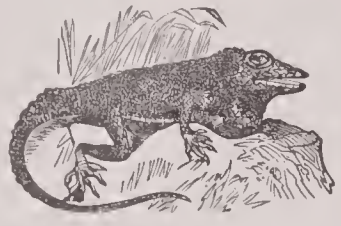


Fig. 136. — ANOLIS.

insects mostly abound. The head is long, straight, and flattened; the body and tail are long and slender, both being covered with small, round scales, which give the skin the appearance of fine shagreen. The hind legs are rather longer than the fore ones, and each foot has five toes. Several species of this genus inhabit the West India Islands, the largest of them not being more than a foot long.

An'omal, *n.* (*Gram.*) An irregular word.—See ANOMALY.

Anom'alism, *n.* The same as anomaly, *q. v.*

Anomalis'tic, Anomalis'tical, *a.* Irregular; contrary to established rule or order.

Anomalistic Year. See YEAR.

Anomalis'tically, Anom'alously, *adv.* Irregularly.

Anom'alite, *n.* [From Gr. *anomalos*, irregular, and *lithos*, stone.] (*Min.*) An irregular mineral.

Anom'alous, *a.* Irregular.

(*Med.*) A disease is said to be anomalous when the symptoms are so varied as not to bring it under the description of any known affection.

Anom'aly, *n.* [Gr. *anomalos*, irregular.] Contrariety to, or deviation from established rule or order.

(*Astron.*) The deviation of the planets from the perihelion, which is owing to their unequal velocity. It is so called because it was in it that the first irregularities of planetary motion were discovered.

Ano'mia, *n.* [Gr. *a*, neg., and *nomos*, law.] (*Zoöl.*) A gen. of marine Mollusca, allied to the oyster, and remarkable for the perforation of one of its valves by a large aperture, through which a strong tendinous ligature passes, to be inserted into a third plate, by which the animal adheres to foreign bodies. They are usually found attached to oyster and other shells. This family has long been known in a fossil state, and contains many species, distributed over America, Europe, and Asia.

Anomorhom'boid, *n.* [Gr. *anomos*, without law, and Eng. *rhomboid*.] (*Min.*) An irregular spar or crystal.

Ano'moura, or ANOMURA, *n.* [From Gr. *anomoios*, dissimilar, *oura*, a tail.] (*Zoöl.*) A section of decapod crustaceans, consisting of many genera; the habits of some of which, as the Hermit or Soldier-crab (the type of the genus *Pagurus*) are highly curious and interesting. See HERMIT-CRAB.

Anon', *adv.* [A.S. *on*, *an*, in one.] In one moment: immediately; quickly; forthwith; soon after; at times; now and then.

Ever and anon; now and then; frequently.

> "And 'twixt his finger and his thumb he held
> A pouncet-box, which *ever and anon*
> He gave his nose."—*Shaks.*

Anona'ceæ, ANONADS, *n. pl.* (*Bot.*) An ord. of plants, alli. *Ranales.* DIAG.: Distinct carpels, no stipules, a valvate corolla, and ruminate albumen. They are trees or shrubs, chiefly native within the tropics. Leaves alternate, simple, entire, without stipules; flowers usually green or brown, axillary, large, shorter than the leaves, 3 to 4 sepals, persistent. 6 petals in two rows, hypogenous, æstivation valvate; fruit dry or succulent. They are characterized by having a powerful aromatic taste and smell in all the parts.

Ano'neæ, *n. pl.* (*Bot.*) A tribe of plants, ord. *Anonaceæ.*

Ano'na, ASIMINA, UVARIA, *n.* (*Bot.*) A gen. of plants, ord. *Anonaceæ.* The *A. sylvatica*, called Araticu do Mato, in Brazil, has a light white wood, very fit for the use of turners. The wood of the root of *A. palustris* is employed in Brazil for corks.—The *A. triloba* is a small and beautiful tree, 15 to 20 ft. high, found on the banks of streams in S. and W. of the U. States. It flowers in March, and gives a fruit 1 to 3 inches long; yellowish, fragrant, eatable, and ripe in October.

Fig. 137. — ANONA TRILOBA.

Anon'ymous, *a.* and *n.* [Gr. *a*, priv., and *onoma*, a name.] Nameless: unattested: unauthenticated: unidentified. A term usually applied to an author who keeps his name a secret, or to a book whose author is unknown. When an assumed name is given, the term *Pseudonymous* is used.

Anon'ymously, *adv.* Without a name.

Anoop'shehr, a town of Hindostan, prov. of Agra, on the Ganges, 68 m. E.S.E. of Delhi. Lat. 28° 23′ N.; Lon. 78° 8′ E. *Pop.* 8,900.

Anoplothe'rium, *n.* [From Gr. *a*, priv., *oplon*, a weapon, and *therion*, a wild beast.] (*Pal.*) A genus of extinct quadrupeds, found in a fossil state, and which seem to range between the Pachydermata and the Ruminantia. They had six incisor, four canine, and four molar teeth, in each jaw, forming a continued line; and the feet had only two toes, sheathed by separate hoofs. The skull partook of the form of that of the horse and the camel, not having a prolonged snout. It seems fully demonstrated that these animals were all herbivorous, differing but little in this respect from the Tapirs and Rhinoceroses at present existing.

Anoplu'ra, *n.* (*Zoöl.*) An order of parasitic insects, including the Louse and its allies, *Pediculidæ*, whose presence on the human body is usually regarded as an indication of habitual filthiness. It is to be observed, however, that the inferior animals are subject to them, and that almost every quadruped and bird is infested with some one or other of these parasitic insects. Upward of 500 species have been described, and as they are so universally diffused, they no doubt serve an important purpose in creation. Three species infest the human race: *Pediculus humanus*, or body-louse; *Pediculus cervicalis*, or *P. humanus capitis*, which inhabits the head, particularly of children, and *Pediculus pubis*, or *Morpho*, the crab-louse, which inhabits the hair of the pubis. Then superabundance upon a person is either the cause of, or is intimately connected with grave diseases; and many cases have been related of persons having died from this cause.

An'opsy, *n.* [Gr. *a*, priv., *opsis*, sight.] (*Anat.*) A condition of monstrosity in which the eye and orbit are wanting.

An'orexy, *n.* [Gr. *a*, priv., and *orexis*, appetite.] (*Med.*) A want of appetite, without loathing of food.

Anor'mal, *a.* Irregular; abnormal.—See ABNORMAL.

Anor'thite, INDIANITE, CHRISTIANITE, *n.* (*Min.*) A triclinic mineral, of the Felspar group; color white: lustre vitreous; B.B. it fuses on the edges with great difficulty. Sp. grav. 2·762 to 2·656.—*Comp.* silica 43·1, alumina 36·9, lime 20·0 = 100. It occurs in Mount Vesuvius.

Anos'mia, *n.* [From Gr. *a*, priv., and *osme*, smell.] (*Med.*) A loss of the sense of smelling.

Anoth'er, *a.* [*An* or *one* and *other*.] One more; not the same; different; any other; any one else.

> "I would not spend *another* such a night."—*Shaks.*
> "Discover not a secret to *another*."—*Prov.* XXV. 9.

An'oxidic Bodies. (*Chem.*) Those bodies whose carbon, when they are charred, yields nothing to solvents, as in blood.

An'quetil, LOUIS PIERRE, a French historian, B. at Paris, 1723, D. 1808. His *Histoire de France* acquired considerable celebrity, and has enjoyed a long popularity. Among his other works are: *Précis de l'Histoire Universelle*, 9 vols.; and *L'Esprit de la Ligue.*

An'quetil du Perron, ABRAHAM HYACINTHE, brother of the preceding, B. 1731. To gratify his taste for Oriental literature, he joined the expedition to India in 1754 as a private soldier, and there employed all his leisure in studying the Sanscrit. He subsequently returned to Europe, visited London and Oxford, and conveyed his collection of MSS. to Paris. He was then appointed Oriental interpreter to the royal library, and devoted himself to the publication of the knowledge he had acquired. His principal work was the translation of the *Zendavesta*, in 1771. D. 1805.

An'selm, St., Archbishop of Canterbury in the reigns of William Rufus and Henry I. of England, B. in Piedmont, 1033. He was at first a monk, and afterward superior of the abbey of Bec, in Normandy. In 1093 he was appointed to the English primacy; but, differences arising in respect of the temporalities of his See, he quitted that kingdom. He was recalled by Henry I. and well received, when difficulties again arose, which were referred to the Pope, who decided in favor of *A.* Concessions were made ultimately, which led to his reinstation. D. 1109, and was canonized during the reign of Henry VII. *A.* was a man of great piety and understanding, and is accounted as being the first of the long line of scholastic metaphysicians.

An'selm, in *Ohio*, a post-office of Gallia co.

An'selme, (St.,) in prov. of Quebec, a post-village of Bellechasse co., 18 m. E. of Quebec.

An'seres, *n. pl.* [Lat. *anser*, a goose.] The third order of the Linnæan class *Aves*, corresponding to the order *Natatores.* This order is thus characterized: A smooth beak covered with skin, gibbous at the base, and broader at the point; feet formed for swimming, having palmated toes connected by a membrane; the legs thick and short, and the body bulky, plump, and downy; food, fishes, frogs, aquatic plants, and worms. The ord. *A.*, of which the goose furnishes a ready example, includes the fam. *Anatidæ*, *Colymbidæ*, *Alcidæ*, *Procellaridæ*, *Lariadæ*, and *Pelicanidæ.*

An'ser et Vulpec'ula, *n.* [Lat., the fox and goose.] (*Astron.*) A modern constellation, situated between the Swan on the N., and the Arrow, or the Dolphin and Eagle on the S. It is composed of some 30 stars, the largest of which is of the 3d magnitude.

An'serated, *a.* (*Her.*) Applied to a cross whose extremities are formed into the shape of the heads of lions, eagles, &c.

Anseri'nar, *n. pl.* (*Zoöl.*) A sub-fam. of birds, of the fam. *Anatidæ*; the geese. The species are numerous, and they are found in various parts of the world during their periodical flights. Their food consists of grain and grass, and, during summer, they inhabit marshy districts. The common wild goose (*anser ferus*), measuring 5 ft. in extent of wings, is widely and numerously spread over all the more northerly parts of the globe, whence some flocks of them migrate a long way southward in the winter. These birds are often seen in flocks of 50 or 100, flying at very great heights, and preserving a perfect regularity in their motions; sometimes forming a straight line, and at others assuming the shape of a wedge, which is supposed to facilitate their progress. Their cry is frequently heard when they are at an imperceptible distance above us. When on the ground, they range themselves in a line after the manner of cranes, and seem to have descended rather for the sake of rest than for any other refreshment. Having continued in this situation for an hour or two, one of them, with a long loud note, sounds a kind of signal, to which the rest punctually attend, and rising in a group, they pursue their journey with renewed alacrity. Their flight is conducted with singular regularity; they always proceed either in a line abreast, or in two lines joining in an angle at the middle, like the letter V. In this order they generally take the lead by turns, the foremost falling back in the rear when tired, and the next in station succeeding to his duty. Their track is generally so high that it is almost impossible to reach them from a fowling-piece; and even when this can be done, they file so equally, that one discharge seldom kills more than a single bird. They are very destructive to the growing corn in the fields where they happen to alight in their migrations. In some countries they are caught at such times in long nets, to which they are decoyed by tame geese placed there for that purpose. Other schemes are contrived to take them; but as they are very vigilant, feed only in the daytime, and betake themselves to the water at night, the fowler must exert the utmost care and ingenuity in order to accomplish his ends; all must be planned in the dark, and every trace of suspicion removed: for nothing can exceed the wary circumspection and acute ear of the sentinel, who,

Fig. 138. — ANSER FERUS, (*Wild goose.*)

placed on some eminence, with outstretched neck, surveys everything that moves within the circle of his observation, and the instant he sounds the alarm, the whole flock betake themselves to flight. This wild species is the original of the domesticated goose, a bird of great value, both as an article of food and as furnishing very fine down and feathers. The tame goose lays from seven to twelve eggs, and sometimes more; these are carefully divided among the brood-geese when they begin to sit; those which lay a second time in the course of the summer are seldom, if ever, permitted to have a second hatching: but the eggs are used for household purposes. It is universally believed that the goose lives to a great age, and particular instances are recorded by ornithologists which confirm the fact—some even emulating the human period of "threescore years and ten." It has been remarked that none of our domestic birds are so apt to bring forth monstrous productions as geese—a circumstance which has been attributed to the excessive fatness to which they are liable. The liver of a fat goose is often larger than all the other viscera, and was a dish in such great reputation among Roman epicures, that Pliny thought it deserved a serious discussion, to whom the honor of inventing so excellent a dish was due. In our days, the *Pâtés de foie gras de Strasbourg*, made of the liver of

geese, have inherited the reputation of the Roman dish. —The SNOW GOOSE, *Anser hyperboreus*, is two feet eight inches in length, and its extended wings are five feet. The bill of this bird is very curious, the edges having each twenty-three indentations or strong teeth, on each side. The head, neck, and body are pure white; the quills are white for half their length, the rest black; the legs are of a very deep-red. These birds inhabit the regions of the arctic circle, occasionally migrating to the more temperate climates of Prussia, Austria, Hudson's Bay, and the United States of America. They arrive in the river Delaware from the north early in November, sometimes in considerable flocks, and are very noisy; their note is more shrill than that of the Canada Goose. — The CANADA GOOSE, or CRAVAT GOOSE, *Bernicla Canadensis*, is the common Wild Goose of the United States, and is known in every part of the country. It usually weighs about ten pounds. The general color is a dark ash; head, neck, and tail black; cheeks and throat white; bill and feet black. In their annual migrations to the North, it is the general opinion that they are on their way to the lakes to breed; but it is highly probable that they extend to the utmost polar point, amid the silent desolation of unknown countries, shut out from the prying eye of man by everlasting and insuperable barriers of ice. After having fulfilled the great law of nature, the approaching rigors of that dreary climate oblige them to return toward the more genial regions of the South; and no sooner do they arrive among men, than an indiscriminate slaughter of them commences. The people at Hudson's Bay greatly depend on these birds, and in favorable seasons kill three or four thousand, which are packed up for future use. The autumnal flight lasts from the middle of August to November; the vernal, from the middle of April to the middle of May.

Fig. 139. BERNICLA CANADENSIS, (*Canada Goose.*)

An'serine, *n.* (*Chem.*) A yellow oil, liquid at common temperature, but becoming a tallow at 45½°; it is the pigment of the feet and bill of the goose, pigeon's foot, &c. *Form.* $C_{10}H_9O_3$.

—*a.* Relating to, or resembling a goose.

Ans'gar, (St.,) in *Iowa.* See SAINT ANSGAR.

An'son, GEORGE, Lord, a celebrated English navigator and naval commander, B. 1697. He entered the navy early in life, and rose rapidly to post-rank. Being ordered to the station of North Carolina, he there purchased land, and built a town, which bears his name. In 1739 he commanded an expedition against the Spanish settlements in the Pacific Ocean; thence sailed for China, and on his return captured a Spanish galleon. In 1747 he commanded the channel fleet, and achieved brilliant successes against the French. He was subsequently ennobled, and afterwards made admiral, and placed at the head of the admiralty. D. 1762.

An'son, in *N. Carolina*, a county bordering on S. Carolina, named in honor of Admiral Lord Anson, *q. v. Area*, 650 sq. m. It is watered by Rocky river on the N., and Yadkin or Pedee river on the E. The surface is undulating and hilly; soil fertile. Cottou is the staple produce. *Cap.* Wadesborough.

An'son, in *Maine*, a post-township of Somerset co., on the west side of the Kennebec, 40 miles N. by W. of Augusta.

An'son, in *Wisconsin*, a township of Chippewa county.

An'son, BAY OF, in the Canton river, China, situate between the headlands Chuenpe and Amunghey, where the Chinese fleet was destroyed by the British in 1841.

—Another bay of the same name, in the N.W. coast of Australia. Lat. 13° 30′ S.; Lon. 130° E.

Anso'nia, in *Connecticut*, a manf. town of Derby township, New Haven co., on the Naugatuck river, 16 m. N. of Bridgeport. *Pop.* of twp. (1890) 10,342.

Anso'nia, in *Ohio*, a post-village of Darke co., on the Bellefontaine Railroad, about 50 m. W. by S. of Bellefontaine.

An'son's or **Bouka Island,** in the S. Pacific Ocean. Lat. 5° S.; Lon. 154° 34′ E.

Anson'ville, in *Pennsylvania*, a post-villago of Clearfield co., about 16 m. S.S W. of Clearfield.

Ans'paeh, or ANSBACH, a fortified town of Bavaria, on the Rezat, 24 m. S.W. by W. of Nuremberg. — *Manuf.* Woollen and cottou stuffs, white lead, aud playing-cards. *Pop.* 16,500.

Answer, (*an'sur,*) *v. a.* [A.S. *answarian;* from *and*, against, in opposition to, and *swaran*, to swear, ancieutly to speak.] To speak in return or in opposition to; to reply to; as, *to answer* a question. — To be equivalent or adequate to; as, money *answers* all things. — To satisfy; to serve. — To correspond to; as, that business does not *answer* our expectation. — To return; to accomplish; to solve; to obey.

—*v. n.* To speak in return to a question, &c.; to reply. — To be accountable; to correspond with; to return; to succeed; to be suitable; to have a good effect.

—*n.* That which is said in return; a reply; a response. A rejoinder; a computation; a return; a solution.

An'swerable, *a.* Liable to give answer in the sense of account, and also having suitableness or correspondence; liable; amenable; accountable; responsible; agreeing.

An'swerableness, *n.* Quality of being answerable.

An'swerably, *adv.* In due proportion, correspondence, or conformity; suitably.

An'swerer, *n.* One who answers.

An'swering, *p. a.* Replying; corresponding to; fulfilling; solviug; succeeding; confuting.

An't, a vulgar colloquial contraction of *am not, are not,* aud sometimes *is not*; as iu the phrases *I an't, we an't, you an't,* &c.

Ant, *n.* [A.S. *æmete.*] (*Zoöl.*) The common uame of the insect *Formica.* — See FORMICIDÆ.

An'ta, *n.*; *pl.* ANTÆ. [Lat., from *ante*, before.] (*Arch.*) A square pillar terminating the side-wall of a building. The antæ were placed on each side of the door, so as to assist in forming the portico. The temple *in antis* was one of the simplest kind. It had in front, antæ attached to the walls which enclosed the cella; and in the middle, between the antæ, two columns supporting the architrave.

Antac'id, *n.* [From Gr. *anti*, against, and Eng. *acid.*] (*Med.*) That which destroys acidity. The action of antacids in the human stomach is purely chemical, as they merely combine with the acid present, and neutralize it. They are only palliatives, the generation of acidity having to be prevented by restoring the tone of the stomach and its vessels. Dyspepsia and diarrhœa are the diseases in which they are employed. The principal antacids in use are the alkalies.

Antæ'us. (*Myth.*) The son of Neptune and Terra, a famous giant killed by Hercules.

Antag'onism, *n.* [Fr. *antagonisme*: from Gr. *anti*, against, and *agonizomai*, to struggle, to contend; from *agon*, a struggle; from *ago*, to drive.] A contending or struggling against; opposition to action; contest.

Antag'onist, *n.* [Fr. *antagoniste.*] One who contends or struggles with another in combat; an adversary; an opponent; that which acts in opposition.

(*Anat.*) A term applied to those muscles which have opposite functions. Such are the flexor and extensor of any limb, the one of which contracts it, whilst the other stretches it out; and also the abductors and adductors. Solitary muscles are those without any antagonist, as the heart, &c.

—*a.* Counteracting; opposing; acting in opposition.

Antagonist'ic, Antagonist'ical, *a.* Opposing in combat; contending against

> "Their valors are not yet so combatant,
> Or truly *antagonistic*, as to fight." — *B. Jonson.*

Antag'onize, *v. a.* To contend against another. (R.)

Anta'kia. The modern name of ANTIOCH, *q. v.*

Antal'gic, *n.* and *a.* [From Gr. *anti*, against, and *algos*, pain.] (*Med.*) That which relieves pain.

Antal'kali, *n.* [From Gr. *anti*, against, and Eng. *alkali.*] (*Chem.*) That which possesses the power of neutralizing alkalies. All the acids are of this class.

Antal'kaline, *a.* Having the power to counteract alkalies.

Antanacla'sis, *n.* [From Gr. *anti*, against, and *anaklao*, to bend back.] (*Rhet.*) The repetition of a word in a different meaning, or as a different part of speech, which attracts attention, and gives expressiveness to the phrase; *e. g.*, "Let the dead bury their dead;" or, "Live while you live." The returning to a subject after a long parenthesis is also called *antanaclasis.*

Antanago'ge, *n.* [From Gr. *anti*, against, and *anagogē*, a leading up.] (*Rhet.*) Recrimination; an answer to a charge by a counter-charge.

Antaphrodi'siac, Antaphrodit'ic, *a.* and *n.* [From Gr. *anti*, against, and *Aphrodite*, Venus.] (*Med.*) Anti-venereal, or whatever extinguishes amorous desires.

An'tar, or ANTA'RA, a celebrated Arabian prince in the middle of the 6th century, and one of the 7 poets whose successful verses, embroidered with gold upon silk, were hung up at the door of the Caaba. He describes in his *Moallaka* his warlike deeds, and his love for Abla. The most complete edition is that of Menil (Leyden, 1816, 4to.) In the Arabian romance *Antar*, the author, Asmai, a renowned grammarian and theologian at the court of Haroun Al Raschid, in the beginning of the 9th century, who first collected the old Arabian traditions, has added to the name and the heroic adventures of Antar, the other most famous chivalrous deeds of the Arabians. This romance gives the most complete idea of the manners and life; of the way of thinking; and of the opinions and the superstitions of the early Arabians, before the time of the prophet; and the fidelity of the picture is even now to be recognized in many features of the modern Bedouins. It is written in the purest Arabic, and ranked among the classics of Arabian literature. It is so attractive that critics prefer it to the Arabian Nights. Hamilton, secretary of the British embassy in Constantinople, has translated it into English; London, 1819, 4 vols. A French translation has since appeared at Paris.

Antare'tic, *a.* [Fr., from Gr. *anti*, against, and *arktos*, the Great Bear, a northern constellation.] Opposite to the Arctic or northern pole.

A. Circle. One of the lesser circles of the sphere, distant only 23° 30′ from the South Pole. — *A. Pole*, being opposite to the Arctic Pole, denotes the opposite end of the earth's axis, or the South Pole.

Antarctic Sea. That vast portion of the great ocean extending from the *A.* circle. Lat. 66° 30′ S., to the South Pole. It was long considered impassable for ships, on account of the ice; but of late years many discoveries have been made, chiefly by English, American, and French explorers. Various tracts of barren land have been observed, to which the names of Adelie, Balleny, Enderby, Sabrina, and Victoria have been given. Sir James Ross, in 1841, reached Lat. 78° 4′, the highest S. latitude yet penetrated. — The features of the *A.* sea may be briefly stated to be constant fogs, baffling currents, innumerable icebergs, and magnificent manifestations of the Aurora Australis.

Anta'res, *n.* (*Astron.*) The principal star in the constellation Scorpio. It is situated in the heart of the Scorpion, about 19° E. of Zubenelgubi. *A.* is the most brilliant star in that region of the skies, and may be otherwise distinguished by its remarkably red appearance. Its declination is about 26° S. It comes to the meridian 50 minutes after Corona Borealis, on the 10th of July. It is one of the stars from which the moon's distance is reckoned for computing the longitude at sea.

Antarthrit'ic, *a.* and *n.* [From Gr. *anti*, against, and *arthritis*, gout.] (*Med.*) That which is good against the gout.

Antasthmat'ic, *a.* and *n.* [From Gr. *anti*, against, and *asthma*, a panting.] (*Med.*) That which is good against the asthma.

Antatroph'ic, *n.* [From Gr. *anti*, against, and *atrophia*, a wasting away.] (*Med.*) A medicine to cure atrophy.

An'tavares, a seafaring and warlike people inhabiting the eastern water-shed of the island of Madagascar. Their chief resides at Tintingue, an ancient French settlement, abandoned in 1831.

Ant'-Bear, *n.* (*Zoöl.*) The great ant-eater, *Myrmecophaga jubata.* See MYRMECOPHAGA.

Ant'-Catcher, *n.* (*Zoöl.*) A gen. of birds, family *Turdidæ.* See THRUSH.

An'te. [Lat.] A Latin prep. signifying *before*, used as a prefix to many English words.

An'teal, *a.* That is before or in front.

Ant'-Eater, *n.* (*Zoöl.*) The common name of the MYRMECOPHAGA, *q. v.*

Ante-Bellum. [Lat.] Before the war.

Antece'dence, Antecedency, *n.* [Lat. *antecedens*, from *cedo*, to go.] Act or state of going before in time; precedence.

(*Astron.*) An apparent motion of a planet toward the west, or contrary to the order of the signs, viz., from Taurus toward Aries, &c.

Antece'dent, *a.* Going before; prior; anterior; foregoing; — opposed to *subsequent.*

—*n.* That which goes before or precedes. — *pl.* A man's previous history and fortune; as, "The *antecedents* of that man are very bad."

(*Gram.*) The word to which a relative refers: thus, in "God whom we adore," the word *God* is the antecedent to the relative *whom.*

(*Logic.*) The first of the two propositions in an enthymema.

(*Math.*) The first of two terms of a ratio, or that which is compared with the other, as in the ratio of 2 to 3, or *a* to *c*, 2 and *a* are each antecedents.

Antece'dently, *adv.* Previously; at a time preceding.

Anteces'sor, *n.* One who goes before, or takes the lead of another; a predecessor. "The *successor* seldom prosecuting his *antecessor's* devices."

An'te-cham'ber, written also, but incorrectly, antichamber, *n.* [Fr. *antichambre.*] The chamber or room before the chief apartment to which it leads.

Ante'cians, *n. pl.* See ANTŒCI.

Antecœ'nium. (*Hist.*) In ancient Greece and Rome, the first course at supper, consisting of eggs, herbs, &c.

Ante-cur'sor, *n.* [Lat.] A precursor; a harbinger.

An'tedate, *v. a.* [Lat. *ante*, before, and Eng. *date.*] To date before the true time; to anticipate; to give by anticipation.

—*n.* An anticipation; a spurious, or false date, prior to the true date of a bond, bill, &c.

An'tedated, *p. a.* Dated before the true time.

Antedilu'vian, *a.* [Lat. *ante*, and *diluvium*, a flood, or deluge.] Existing before the deluge. In theological language, the *A. ages* are those which elapsed before the flood. In Geology, the *A. period* has no reference to the deluge recorded in the Mosaic narrative, but only to the final transformation of the earth by means of water.

—*n.* One who lived before the deluge; thus, the inhabitants of the earth from Adam to Noah, are called the *antediluvians.*

An'tefixa, *n.*; *pl.* ANTEFIXÆ. [Lat. *ante*, before, and *fixus*, fixed.] (*Arch.*) Ornaments used by the Romans, sometimes also by the Greeks, to cover the frieze of the entablature of a temple or other building. These decorations, at first in terra-cotta, afterward in marble or brass, are very ornamental, and are still a characteristic of the modern Italian architecture. *Fig.* 140 is an antefixa, from the temple of Diana, at Ægina.

Fig. 140. — ANTEFIXA.

An'telope, or ANTILOPE, *n.* (*Zoöl.*) See ANTELOPEÆ.

An'telope, in *California*, a township of Tehama co.

—a village of Yolo co.

An'telopeæ, Antilopinæ, or ANTILOPIDÆ, *n. pl.* [Gr *anthos*, a flower or ornament, and *ops*, the eye, in allusion to their beautiful eyes.] (*Zoöl.*) The *Antelopes*, a division of the large fam. *Cavicornia* or hollow-horned Ruminants, of which there are many species, each differing from the other in some important points, but agreeing in the great leading characteristics. They are of graceful and symmetrical proportions; of a restless and timid disposition, extremely watchful, of great vivacity, remarkably swift and agile,

and most of their boundings are inconceivably light and elastic. Their horns, whatever shape they assume, are round and annulated—in some species straight, in others curved and spiral; in some, the females have no horns, in others, they are common to both sexes. They all possess a most delicate sense of smell, and their eyes are proverbially bright and beaming. Their hair is generally short and smooth. The ears are long and pointed; tails short, and tufted at the extremity. For the most part, *A.* are gregarious, but some species keep in pairs. They often browse like the goat, and feed on the tender shoots of trees. Their flesh is usually of excellent flavor.—The *A.* seems to be a connecting link between the goat and the deer. The hind legs, like those of the hare, being longer than the fore ones, not only give additional swiftness, but greater security in ascending and descending precipices, a practice in which the *A.* greatly delights. The horns are perennial. They mostly inhabit the torrid regions, or such parts of the temperate zone as are nearly contiguous, frequenting the cliffs and ledges of rocks, or traversing vast untrodden wildernesses. Africa appears to be their great nursery, but many kinds are natives of Asia; very few are met with in Europe; and it is remarkable that, notwithstanding the warmth of South America is well suited to their nature, only a single species of Antelope is to be found in any part of the New World. It has been customary to class them as follows:—1. True Antelopes; 2. Bush Antelopes; 3. Capriform (or goat-like) Antelopes; and 4. Bovine (or ox-like) Antelopes. But some late writers on zoölogy have rendered the sub-division infinitely more minute; the species in many instances closely bordering on each other, while there are others in which scarcely any corresponding features can be distinctly traced. Thus, as an eminent naturalist has remarked, "the genus Antelope has become a kind of zoölogical refuge for the destitute, and forms an incongruous assemblage of all the hollow-horned ruminants together. So diversified are its forms, and so incongruous its materials, that it presents not a single character which will either apply to all its species, or suffice to differentiate it from conterminous genera." The common Antelope, or Sasin, *A. cervicapra*, the most elegant specimen of the tribe, is a native of many parts of Africa, and also of India. It is remarkable for the peculiar beauty of its long spiral horns, which are distinctly marked by numerous prominent rings. The Prong-horn Antelope, *A. Americana*, inhabits the plains W. of the Missouri river, from the lower Rio Grande to the Saskatchewan, and westward to the Cascade and coast range of the Pacific slope. About half-way up the horns there is a branch or prong, whence its popular name. Its color above is yellowish-brown, the under parts being white; the horns, hoofs, and naked parts of the nose black.

Fig. 141.—PRONG-HORN ANTELOPE, (*A. Americana.*)

An'telope Creek, in *California*, Tehama co.; flows S.W. and enters the Sacramento river.

Anteln'can, *a.* [From Lat. *ante*, before, and *lux, lucis*, light.] Before daybreak, or daylight.

Antemerid'ian, *n.* [Lat. *ante*, before, and *meridies*, midday.] (*Astron.*) Being before midday or noon: pertaining to the forenoon, abbreviated A.M.

Antemet'ic, *a.* See ANTIEMETIC.

Antemun'dane, *a.* [From Lat. *ante*, before, and *mundus*, the world.] Being before the world, or the creation of the world.

"Great *antemundane* father!"—*Young.*

Ante-mu'ral, *n.* [From Lat. *ante*, before, and *murus*, a wall.] (*Fort.*) An outwork.

Anten'na, *n.*; *pl.* ANTENNÆ. [Lat., a sail: Gr. *ceraia*; Fr. *antenne*.] (*Mar.*) The ships of the Ancients had a single mast in the middle; and a square sail, to raise and support with a transverse pole, or yard, named *antenna*, was extended across the mast, not far from the top. To the two extremities of the yard (*cornua*), ropes (*funes*) were attached, which passed over the top of the mast, and thus supported the yard, as in Fig. 142, which is copied from the famous gem representing the port of Alexandria. The name *A.* is still given on the Mediterranean Sea to the pole supporting the LATEEN SAIL; *q. v.*

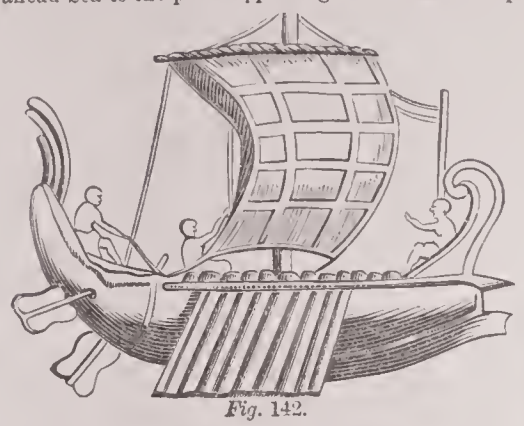


Fig. 142.

(*Entom.*) The antennæ are movable-jointed, horn-like members placed on the heads of insects and crustacea, but not connected with the mouth. See Fig. 16, *p. 20*, 22, *p. 24*, and 27, *p. 26*. They are tubular and perforated throughout their whole length, the internal cavity containing a soft or membranous substance, and receiving the last branches of the nerves and tracheæ of the anterior extremity of the body. They differ in size and form in the different sexes. The use of these organs has been a subject of much discussion, and is still involved in doubt. Some naturalists affirm that they are the organ of smell; others assert that they are the organ of touch.

Antenna'ria, *n.* (*Bot.*) A gen. of plants, tribe *Antennariæ*. The species *A. Margaritacea*, the common Life-everlasting, so named for its dry, imperishable, pearl-white flower-scales, is found in the U. States, in fields and pastures.

Antenna'riæ, *n. pl.* (*Bot.*) A tribe of plants, ord. *Asteraceæ*.

Antennif'erous, *a.* That has antennæ.

Anten'niform, *a.* Shaped as an antenna.

Ante'nor, a Trojan prince, who urged the Greeks to make the wooden horse, which, through his influence, was taken within the walls of Troy.

Antenum'ber, *n.* A number preceding another.

Antenup'tial, *a.* [From Lat. *ante*, before, and *nuptialis*, a wedding.] Being before nuptials or marriage.

Antepas'chal, *a.* [From Lat. *ante*, before, and *Paschal*, q. v.] Pertaining to the time before Easter.

An'tepast, *a.* [From Lat. *ante*, before, and *pastus*, a feeding.] A foretaste; anticipation.

Antepenult'. Antepenul'tima, and ANTEPENUL'TIMATE, *n.* [From Lat. *ante*, before, *pene*, almost, and *ultimus*, the last.] (*Pros.*) Being before the penult or penultimate; the last syllable of a word except two.

Antepenul'timate, *a.* Pertaining to the antepenult, or last syllable but two.

An'teport, *n.* [Lat. *ante*, before, and *porta*, a door.] An outer post, gate, or door.

Anteposi'tion, *n.* (*Gram.*) The placing of a word before another word, which, by common rule, ought to precede it.

Antequ'era, a town of Spain, in Andalusia, 30 m. N. N.W. of Malaga. It has a Moorish castle.—*Manuf.* Cotton and silk spinning, paper, Morocco leather, and soap. *Pop.* 30,922.

Ante'rior, *a.* [The Latin comparative of *ante*, before.] Going before either with regard to time or place; as "it was in a time *anterior* to your birth;" "the *anterior* part of the month."

Anterior'ity, *n.* [Fr. *antériorité*.] Priority; the state of being before, either in time or situation.

Ante'riorly, *adv.* In an anterior manner: before.

An'te-room, *n.* [From *ante* and *room*.] A room that is before another.

Anter'os. (*Myth.*) One of the names of Cupid.

An'tes, *n. pl.* (*Arch.*) See ANTA.

An'tes, in *Pennsylvania*, a township in the N.W. part of Blair co.

An'testown, or ANTISTOWN, in *Pennsylvania*, a post-village in the above township.

Anthe'lion, *n.*; *pl.* **Anthelia.** [From Gr. *anti*, opposite, and *helios*, the sun.] (*Optics.*) The name given to luminous rings, or glories, seen by an observer on a cloud or fog which lies opposite to the sun. They occur chiefly in Alpine regions and in the Polar seas, and are only seen when sunshine and cloud, or fog, occur at the same time. The occurrence of Anthelia is generally attributed to the diffraction of light.—See DIFFRACTION.

Ant'helix, *n.* See ANTIHELIX.

Anthelmin'tic, *a.* and *n.* [Gr. *anti*, against, and *elmins*, a worm.] (*Med.*) Whatever procures the evacuation of worms from the stomach and intestines.

An'them, *n.* (*Mus.*) See ANTIPHONY.

Anthemi'deæ, *n. pl.* (*Bot.*) A tribe of plants, ord. *Asteraceæ*.

Anthe'mis, *n.* (*Bot.*) A gen. of herbaceous plants, tribe *Anthemideæ*. *A. nobilis*, the chamomile, is cultivated in gardens, and occasionally found wild in fields. Stem prostrate, branching from the base, woolly, 8 to 15 ft. high; leaves decompound-pinnatifid, segments linear, subulate; heads large, solitary on the leafless; disc yellow; flowering in July.—The strong and agreeable scent of this plant is well known; also its tonic and anodyne qualities, which chiefly reside in the flowers.

Anthe'mius, a native of Lydia, eminent as an architect, sculptor, and mathematician, employed by the emperor Justinian. *A.* is chiefly celebrated as having been the architect of the famous church of St. Sophia at Constantinople, which was completed from his design by Isidorus of Miletus, D. 534.

An'ther, *n.* [Gr. *antheros*, flowery, blooming.] (*Bot.*) The essential part of the male or fertilizing organ of flowering plants, at the top of the filament. It contains the pollen-cells which are considered necessary for impregnating the female.—See STAMEN.

An'theral, *a.* That relates to anthers.

Antheri'ceæ, *n. pl.* (*Bot.*) The Asphodels, a tribe of plants, ord. *Liliaceæ*. They have tubers or fleshy fascicled roots, and no bulbs, but their ovary is free. Leaves never coriaceous nor permanent.

Antheri'dia, *n.* (*Physiol.*) The name applied to all the various structures in which the fertilizing function of reproduction resides in flowerless or cryptogamic plants, and which consequently correspond physiologically with the *anthers* of the flowering plants. In the cells of which they are composed there are extremely minute bodies, which are endowed with spontaneous motion when placed in water. This motion is owing to the presence of cilia upon them. These moving bodies are known by the name of *Spermatozoa*. q. v.

Antherif'erous, *a.* [From Eng. *anther*, and Lat. *fero*, I bear.] (*Bot.*) Applied to the male part of flowers; bearing anthers.

An'theroid, *a.* [From Eng. *anther*, and Gr. *eidos*, form.] (*Bot.*) Resembling an anther.

Anthe'sis, *n.* [Gr., a blossom.] (*Bot.*) Efflorescence, or that state of vegetation in which the flower is completely developed.

Antheste'ria, *n. pl.* [Gr.] In Grecian antiquity, festivals celebrated in the spring by the Athenians, in honor of Bacchus, during which the masters feasted their slaves, as the Romans did in the time of the Saturnalia.—From those festivals, the 8th month of the Attic year, answering to the end of February and beginning of March, was named *Anthesterion*.

Anthi'arine, *n.* (*Chem.*) The peculiar poison of the *upas antiar* said to consist of $C_{14}H_{15}O_5$. It exists in the resin to the extent of 3·56 per cent.

Anthic'idæ, *n. pl.* (*Zoöl.*) A tribe of coleopterous insects, possessing simple, or but slightly serrated and filiform antennæ. Some species are found upon plants, but the majority live on the ground, and run with great quickness.

Fig. 143.—ANTHICUS LATERI PUNCTATATUS.

Anthid'inm, *n.* (*Zoöl.*) The carding-bees, a gen. of hymenopterous insects belonging to the fam. *Apidæ*. The female detaches with her mandibles the cottony down on the *Stachys germanica*, and forms it into small pellets, which she carries with her feet into holes in walls or trees, which she selects for the cradle of her family. She deposits this cottony down in the nest along with her eggs, which she covers with the same downy substance.

Ant-hill, and **Ant-hil'lock,** *n.* A hillock formed by ants.—See FORMICIDÆ.

Anthocar'pous, *a.* [Gr. *anthos*, a blossom, and *karpos*, fruit.] (*Bot.*) A name applied to those fruits of which the most conspicuous portion, although often appearing like a pericarp, neither belongs to the pistil nor is originally united with it. The apparent berry of *Gaultheria* (*Fig.* 144), in which a succulent free calyx invests a dry pod, and appears to form the real fruit, is an *A.* fruit.

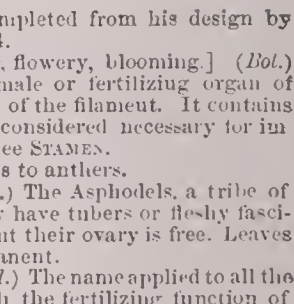


Fig. 144.—GAULTHERIA PROCUMBENS.
1 calyx, 2 fruit, (natural size.)

Anthochæ'ra, *n.* (*Zoöl.*) The *Wattle-bird*, a gen. of the family *Meliphagidæ*, or honey-eaters, several species of which are found in New Holland. It is bold and spirited, fearlessly attacking and driving away all other birds from the part of the tree on which it is feeding. In spring and summer the male perches on some elevated branch, and screams forth his harsh and peculiar notes,—like a person vomiting,—whence its local name *Goo-gwar-ruck*, in which the natives have tried to imitate it. They feed on honey and insects which they extract from the blossoms of the trees called *Banksias*. As the banksias are not a sign of good land, the garrulous note of the wattle-bird

Fig. 145.—BRUSH WATTLE-BIRD.
(*Anthochæra mellivora.*)

may be taken by the settler as an indication of the sterile and unprofitable nature of the soil.

Antho'cyane, *n.* (*Chem.*) The blue color of flowers soluble in alcohol.

Antho'dium, *n.* [Gr. *anthodes*, like flowers.] (*Bot.*) A technical name for the capitulum or head of flowers of a plant of the ord. *Asteraceæ*.

Antholog'ical, *a.* Pertaining to anthology.

Antholo'gy, *n.* [From Gr. *anthos*, a flower, and *lego*, to gather.] A collection of choice poems, particularly a collection of Greek epigrams so called. The word in its original sense simply means a collection of flowers.

Antholysis, *n.* [Gr. *anthos*, a flower, and *lysis*, a setting free.] (*Bot.*) The retrograde metamorphosis of a flower, or its change to a leaf, branch, &c.

Anthoma'nia, *n.* [Gr. *anthos*, a flower, and *mania*, madness.] An exaggerated fondness for flowers.

An'thon, CHARLES, LL.D., a distinguished American author, B. 1797. In 1811 he entered Columbia College, and was admitted to the bar in 1819. He became Professor of Greek and Latin in the above college, 1826 to 1830; and Jay Professor of Greek Language and Literature 1857 to 1868. He published a classical dictionary, one of antiquities, and a complete series of school classics. As a teacher, he was thorough; as a scholar, accurate; as a disciplinarian, severe. D. 1868.

An'thony, in *Indiana*, a township of Delaware co.

An'thony, in *New Jersey*, a post-office of Hunterdon co., about 20 m. N. of Flemington.

An'thony, in *Pennsylvania*, a township of Montour co.

— a township of Lycoming co.

An'thony, in *Rhode Island*, a post-office of Kent co.

An'thony, (St.,) one of the Christian Fathers, B. in Egypt, 251. Disposing of his property and giving the proceeds to the poor, he retired to the desert, and attracted, owing to his reputed sanctity, many disciples; he thus formed the first monastic community. He afterwards, at Alexandria, sought martyrdom amid the persecutions of the Christians there prevailing, but his life being spared, he returned to the desert, where he died at the age of 105. All his conduct indicates a fervent and melancholy imagination. That he used no garments but a shirt made of hair and a sheep's-skin, and never washed his body, is more credible than the strange stories of his contests with devils, and the wonders related in his life by St. Athanasius.

An'thony of Padua, St., a learned Franciscan monk, B. at Lisbon, 1105. He was one of the most renowned disciples of St. Francis of Assisi. Shipwrecked on the coast of Italy in a voyage to Africa, which he had undertaken with a view of becoming a martyr to the Christian faith, he preached with great applause in Bologna and Padua, where he died, June 13, 1231. His legends are full of prodigies; but all agree in extolling his talents as a preacher. He was canonized by Gregory IX., and the Catholic Church honors him as one of its most eminent saints. At Padua, a church containing his sepulchre is consecrated to him, which is a masterpiece of architecture.

An'thony, St., a cape on the coast of S. America, Argentine Rep., being the S. extremity of the estuary of the La Plata. Lat. 36° 15′ 19″ S.; Lon. 56° 37′ W.

An'thony, St., in *U. States*. See SAINT ANTHONY.

An'thony's Creek, in *Virginia*, a village of Greenbrier co.

Anthony's (or **St. Anthony's**) **Nose,** in *New York*, the extremity of a mountain called the "Klips," on the N. bank of the Mohawk, resembling a nose, 300 to 400 ft. long.

—In Putnam co., a bold promontory on the E side of the river Hudson, projecting from the S. side of Breakneck Hill, at the N. entrance to the Highlands, 57 m. from New York.

An'thony's Shoals, in *Georgia*, a post-office of Elbert co.

Anthophyl'lite, *n.* [From Gr. *anthos*, a flower, and *phyllon*, a leaf.] (*Min.*) An orthorhombic mineral, occurring in mica slate, in yellow-gray crystals or crystalline fibres, often radiating; fracture uneven, lustre pearly; translucent. Sp. grav. 2·94 to 3·1558. *Comp.* silica, 55·5, magnesia 27·8, protoxide of iron 16·7 = 100.

An'thorism, *n.* [Gr. *anthorismos*, a counter definition.] (*Rhet.*) A definition or description contrary to that of an opponent.

Anthosid'erite, *n.* (*Min.*) An hydrous tersilicate of iron, occurring in Brazil.

Anthosper'midæ, *n. pl.* (*Bot.*) A tribe of plants, ord. *Cinchonaceæ*.

Anthosper'mum, *n.* (*Bot.*) A gen. of plants, tribe *Anthospermidæ*. The species named *Amber-tree* is a shrub having small evergreen leaves, which emit, when bruised, a very fragrant odor.

Anthoxan'thine, *n.* (*Chem.*) The yellow color of flowers.

Anthoxan'thum, *n.* [Gr. *anthos*, a flower, *xantos*, yellow.] (*Bot.*) A gen. of plants, ord. *Graminaceæ*. The *A. odoratum*, or sweet-scented Vernal Grass, is an early-flowering, deliciously fragrant grass, 10–18 inches high, flowering in May. Found in the U. States and Canada.

An'thracite, *n.* [From Gr. *anthrax*, charcoal.] (*Min.*) A variety of *mineral coal*. It is distinguished by its higher specific gravity, its semi-metallic lustre, and by its burning without emitting smoke. The *A.* of Pennsylvania contains ordinarily 85 to 93 per cent. of carbon: those of S. Wales, 88 to 95; of France, 80 to 83; of Saxony, 81. Spec grav. (Pennsylvania), 1·32–1·7; (Rhode Island), 1·81.—It occurs in the greatest abundance in the U. States, and is used not only in the hot-blast process for iron, but its cheapness, the intensity and equability of heat it produces, together with its perfect safety, and freedom from all disagreeable smoke and smell, give it a great superiority over other species of fuel. For distribution and production in the United States, see MINERAL COAL, COAL PERIOD, ANTHRACITE.

Anthozo'a, *n.* [Gr. *anthos*, a flower, *zoön*, an animal.] (*Zoöl.*) A name given by Dr. Gray to a class of animals generally arranged among the Zoöphytes, and embracing those species which are referable to the radiated type of the animal kingdom. The *A.* are divided into three ord. 1. The hydroid polypes, *A. hydroida*, which have the polypidom horny, fistular, external, plant-like. 2. The asteroid polypes, *A. asteroida*, which have the polypidom either free or attached, of a fleshy consistence, strengthened with a horny or calcareous axis, enveloped in a gelatinous crust, in which the polypes are immersed. 3. The zoanthoid polypes, *A. helianthoidea*, which have the polypes single, free, or permanently fixed, fleshy, either naked or incrusted with a calcareous polypidom, the upper surface crossed with radiating lamellæ.

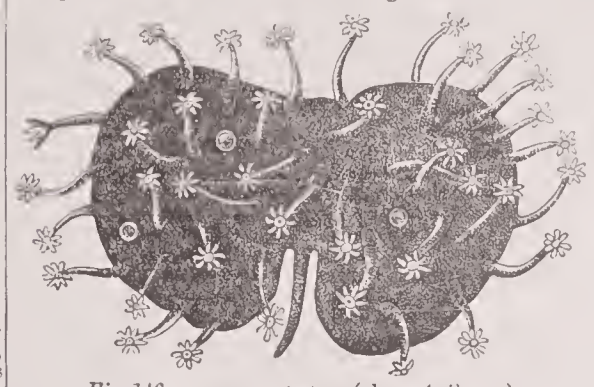


Fig. 146. — RENILLA-DANÆ, (class *Anthozoa*).

Anthracit'ic, *a.* Containing anthracite, or relating to it.

Anthracothe'rium, *n.* [Gr. *anthrax*, coal; *therion*, beast.] (*Pal.*) A gen. of fossil mammalia, belonging to the ord. *Pachydermata*. Five species have been described. They are found in the lignites and coals of Cadibara.

Anthracom'eter, *n.* [From Gr. *anthrax*, carbon, and *metron*, measure.] (*Chem.*) An instrument used for measuring the carbonic acid of the air.

Anthranil'ic Acid, (*Chem.*) Yellowish translucent regular plates, with a fine lustre, soluble in alcohol, and having then the taste of benzoic acid. *Form.* $C_{14}H_6NO_3HO$.

Anthrax, *n.* [Gr., charcoal.] (*Med.*) A hard and circumscribed inflammatory tubercle like a boil, which sometimes forms on the cheek, neck, or back, and in a few days becomes highly gangrenous. It then discharges an extremely fetid sanies from under the black core, which, like a burning coal, continues destroying the surrounding parts. It is supposed to arise from a peculiar miasma, is most common in warm climates, and often attends the plague. (*Far.*) See SPLENIC APOPLEXY.

Anthren'idæ, *n. pl.* (*Zoöl.*) The beetles in Dr. Gray's arrangement. — See COLEOPTERA.

Anthropog'raphy, *n.* [From Gr. *anthropos*, man, and *grapho*, to describe.] (*Geog.*) That part of science relating to the physical characteristics and distribution of the different races or families of men.

Anthrop'olite, *n.* [Gr. *anthropos*, man, and *lithos*, stone.] (*Pal.*) A name given to fossil human remains. Almost all the instances which have been brought forward to show the existence of human bones being fossilized, have been demonstrated by recent researches to have been incorrect. — See MAN.

Anthropolog'ical, *a.* Pertaining or relating to anthropology.

Anthropol'ogist, *n.* A person versed in anthropology.

Anthropol'ogy, *n.* [Gr. *anthropos*, man, and *logos*, a discourse.] The science which treats of human nature, either in a physical or an intellectual point of view. It is frequently used to denote the science of anatomy. In theology, it denotes a way of speaking of God after the manner of men, by attributing to him human passions and affections.

Anthropom'etry, *n.* [Gr. *anthropos*, man, and *metron*, a measure.] The measurement of the human body.

Anthropomor'phites, *n. pl.* (*Eccl. Hist.*) The adherents of Audius, or Audaus, a teacher in Syria, who died about A. D. 370. They were excommunicated by the orthodox church, rather on account of their persevering in the old way of celebrating Easter, at the same time with the Jewish Passover, their deviation from the usual penances, and their zeal against unworthy priests, than on account of their representation of God in a human shape. Toward the close of the 4th century they still existed, as schismatics of severe morals, in small bodies in Syria; in the 5th century they were extinct.

Anthropomor'phous, *a.* Resembling the human form.

Anthropop'athy, Anthropop'athism, *n.* [Gr. *anthropos*, man, and *pathos*, affection.] Human affections, or passions applied to the Supreme Being.

Anthropoph'agi, *n. pl.* [Gr. *anthropos*, man, and *phago*, to eat.] Man-eaters; cannibals.

Anthropoph'agous, *a.* Feeding on human flesh.

Anthropoph'agy, *n.* The practice of eating human flesh. — See CANNIBALISM.

An'thus, *n.* [Lat., the bunting.] (*Zoöl.*) The Tit-larks, or Pipits, a gen. of birds belonging to the fam. *Sylvicolidæ* or *Warblers*, and very much resembling the larks. They inhabit meadows and low marshy grounds, and have a remarkably fine note, singing perched on trees, seated on the ground, or flying in the air. The *A. ludovicianus*, 6 to 7 inches long, is common in N. America.

An'ti. [Gr.] A Greek particle, which enters into the composition of several words, both Latin, French, and English, and signifies opposite or contrary to, as in *antiscorbutic*, against the scurvy or scorbute. — As almost all these compound words explain themselves, we will give but the principal of them.

An'ti-aboli'tionist, *n.* One opposed to the abolition of slavery.

Anti'arine, *n.* A poisonous principle contained in the milky juice of the *Antiaris toxicaria* or upas-tree.

Anti'aris, *n.* (*Bot.*) The Upas-tree. See ARTOCARPUS.

An'tias, *n.* (*Myth.*) The goddess of fortune.

Antibacchi'us, *n.* [Lat., from Gr. *antibakcheios*.] (*Pros.*) A poetical foot of three syllables, the first two long, and the last one short;—the reverse of the *bacchius*.

Antibes, (*an-teeb'*,) a fortified seaport town of France, dep. of the Var, on the Mediterranean, with a commodious harbor, 10 m. S. of Grasse. It was founded by the Massilians 340 B. C., and named *Antipolis*. It is an important barrier on the side of Italy, and was, in 1747, besieged without effect by the Austrians and English. *Pop.* 6,829.

Antibra'chial, Antebra'chial, *a.* [Gr. *anti*, and *brachiön*, the arm.] (*Anat.*) Belonging or relating to the fore-arm.

An'tic, *a.* [Fr. *antique*, from Lat. *antiquus*.] Odd; ridiculously wild; resembling a buffoon.

> "What! dares the slave
> Come hither, covered with an *antick* face . . . ?"—*Shaks.*

An'tic, *n.* One that uses odd gesticulation; a buffoon or merry-andrew.

> "Fear not, my lord, we can contain ourselves,
> Were he the veriest *antick* in the world."— *Shaks.*

— Odd appearance; fantastic figures.

> "A work of rich entail, and curious mold,
> Woven with *anticks*, and wild imagery."—*Faërie Queen.*

(*Arch.*) Figures of men and beasts used as ornaments to buildings.

An'ti-chamber, *n.* The true spelling is ANTECHAMBER, *q. v.*

An'ti-Christ, *n.* [Fr., from Gr. *anti*, against, and *Christ*.] (*Eccl. Hist.*) Although this term is employed only by the Apostle John in the 2d and 3d Epistles, it has been applied, by almost universal consent, to the Man of Sin in 2d Thessalonians, to the Little Horn, and to the fierce-countenanced King of Daniel, and to the two Beasts of Revelation, as well as to the false Christ spoken of in Matt. xxiv. The books of the New Testament mention the *A.* as one or several false prophets, who would pretend to be the true Christ, and would deceive the world. In the Apocalypse alone, he is represented as a powerful ruler opposed to Christianity. The Christians, in the first centuries, retained the idea of such a powerful enemy of the Church, whose appearance, announced by their own persecutions, would precede the reappearance of Christ, which was then commonly expected. With the belief of the millennium, which was to succeed the vexations of the church by the Antichrist, the idea of such a being continued under various forms, and was heightened by the most lively descriptions on the part of the Christian fathers, until the year 1000 had elapsed without the fulfilment of these prophecies, and the millennial enthusiasm itself was cooled. The fathers have generally agreed that the Antichrist will appear at the approach of the last day, in a bodily shape; but as to his origin, and time and place of appearing, their opinions differ. Some believe that he will be a mere man — "the man of sin, the son of perdition," spoken of by St. Paul; and others, that he will be an incarnation of the devil. The Church of Rome has never pronounced any decision with regard to the various notions its members have entertained on this subject. — In the last centuries before Christ, the Jews connected with their idea of the Messiah the notion of an Anti-Messiah, or an enemy to the attempts of the Messiah to promote the good of their nation. They preserve, since the destruction of Jerusalem by Titus, the wonderful prophecy of a contest in which an *A.*, by name *Armillus*, will be vanquished by the true Messiah, after a severe oppression of the Jews.

Antichrist'ian, *a.* and *n.* Opposite to, or opposing the Christian religion.

Antich'ronism, *n.* [Gr. *anti*, and *kronos*, time.] An anachronism. (R.) See ANACHRONISM.

Antich'thon, *n.* [Gr *anti*, and *chthon*, the earth.] An opposite land.—See ANTIPODES.

Antic'ipant, *a.* That anticipates.

Antic'ipate, *v. a.* [Fr. *anticiper*; Lat. *anticipo*, from *ante*, before, and *capio*, to take.] To take in the mind before the right time, which is to treat prematurely; — to take it in reference to its appointed time of coming, which is to expect:—also to take thought beforehand, for the purpose of prevention. — To foretell; to expect; to apprehend; to prepare; to pre-arrange; to meet; to prevent; to obviate; to intercept.

Antic'ipated, *p. a.* Taken beforehand; foretasted; foreseen; prevented; preconception; previous notion; expectation.

Anticipa'tion, *n.* Act of anticipating; foretaste.

Antic'ipative, *a.* That anticipates. (R.)

Anticli'nal, *a.* [Gr. *anti*, and *klino*, to incline.] Marking inclination in an opposite direction.

(*Geol.*) The *A.* line (*Fig.* 147) is the point *a* from which the strata diverge in opposite directions; as opposed to the synclinal line *b*, where they converge towards each other.

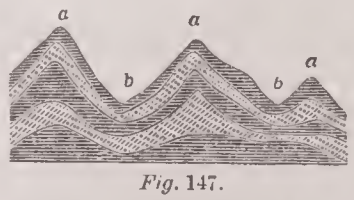


Fig. 147.

Antic'ipator, *n.* One who anticipates.
Antic'ipatory, *a.* That takes before the time; that anticipates.
Anti-cli'max, *n.* [Gr. *anti*, against, and *climax*, a ladder.] (*Rhet.*) A sentence in which the ideas fall or become less important and striking at the close.
An'tiely, *adv.* In an antic manner.
An'ticness, *n.* The state or quality of being antic.
Anti-constitu'tional, *a.* Opposed to, or against the constitution.
An'ticor, *n.* [Gr. *anti*, against, and Lat. *cor*, the heart.] (*Farriery.*) A sort of quinsy, or preternatural swelling, of a round figure, on a horse's breast, opposite to his heart.
Anticos'ti, a large island at the mouth of the Gulf of St. Lawrence, between 49° and 50° N. Lat., and 61° 43′ and 64° 37′ W. Lon. It has an unfavorable soil, not a single good harbor, and is uninhabited. — Discovered in 1535 by Jacques Cartier.
An'ticous, *a.* [Lat. *anticus*, in front.] (*Bot.*) Anterior, or facing forward.
Antidac'tyl, *n.* [Gr. *anti*, and *daktylos*, a dactyl.] (*Pros.*) A kind of metrical foot that is the contrary of the dactyl, its first two syllables being short and the last long.
An'tidotal, *a.* (*Med.*) Acting as an antidote; counteracting poison, or anything noxious.
An'tidotally, An'tidotary, *adv.* As an antidote.
An'tidote, *n.* [Gr. *antidotos*, from *anti*, against, and *didomi*, to give.] That which is given against something evil. A remedy for poison or any evil. That which counteracts or prevents any evil effect.
Antidot'ic, *a.* The same as ANTIDOTAL, q. v.
Anti-enneahe'dral, *a.* [Gr. *anti*, opposite, *ennea*, nine, *hedra*, a seat.] (*Min.*) Applied to crystals having nine faces on two opposite parts.
An'tient, *a.* See ANCIENT. (R.)
Antietam', in *Maryland*, a creek which, from the S. part of Pennsylvania, where it rises, flows into Maryland and empties into the river Potomac.

BATTLE OF *A.*—The above creek has given its name to a memorable and bloody battle tought on the 17th Sept., 1862, between the Union army and the Confederates. The Union troops numbered 82,844 men, including the corps of Generals Hooker, Sumner, Porter, Franklin, Burnside, and Mansfield, under the command of Gen. McClellan; but of this force, only 57,614 men appeared in the field; the corps of General Porter, numbering 25,230, not being engaged in the battle. The Confederate army, led by General Lee, included the divisions of Generals Longstreet, Jackson, Walker, McLaws, Anderson, D. H. Hill, and A. P. Hill, the entire force numbering 40,000 men, of which 38,000 were engaged. The approach of darkness only put an end to the dreadful struggle. The Union loss was returned as being 11,426 men killed and wounded; that of the Confederates about 10,000. The action of *A.* was in all respects a drawn battle. The Confederates had inflicted a greater absolute loss than they had suffered; but they had lost in proportion to their strength far more than that of the loss sustained by their opponents. At the close of the fight the positions of both armies were nearly the same as at its commencement, and General Lee crossed the Potomac without hindrance. But the moral effect of the battle was great. It aroused the confidence of the nation, who saw in it a sure presage of the speedy overthrow of the insurrection; and, what was more, it emboldened President Lincoln to issue his warning proclamation for the abolition of slavery.— *A. Guernsey* and *H. M. Alden.*

Anti-evangel'ical, *a.* Opposed to what is evangelical; contrary to orthodoxy, or the genuine sense of the gospel.
An'tiface, *n.* An opposite face.
Anti-galac'tic, *a.* [Gr. *anti*, and *galaktos*, milk.] (*Med.*) Avoiding the secretion of milk.
Anti-Gal'lican, *a.* [Gr. *anti*, and Lat. *Gallia*, Gaul or France.] That is hostile to France or to the French.
Antig'one, the fruit of the incestuous marriage of Œdipus and Jocasta. Though innocent, she bore the curse of her father's house. Sophocles has immortalized her in a tragedy.
Antig'onus, surnamed the *One-eyed;* one of the most remarkable generals of Alexander the Great, who intrusted to him the governments of Lydia and Phrygia. When, after the death of Alexander, his generals divided his conquests among themselves, he obtained the Greater Phrygia, Lycia, and Pamphylia; after which his ambition led him to enlarge his territories. He finally conquered Asia, B.C. 311. He assumed then the title of king, and invaded Egypt, but failed; and having excited the jealousy of his rivals, they, combining, defeated him at the battle of Ipsus, in which he was slain, B.C. 301.
Antig'onus GONATAS, a king of Macedon, was a son of Demetrius Poliorcetes and grandson of the preceding B. 319 B. C. His kingdom was twice taken: first, by Pyrrhus king of Epirus, and secondly, by Alexander, son of the latter. He subsequently was involved in difficulties with the Achaian League. D. abt. 240 B. C.
Antig'onus DOSON, a king of Macedon, and grandson of Demetrius Poliorcetes. On the death of Demetrius II., B.C. 229, he was appointed to the guardianship of Philip, son of the latter; assumed the governing power, and married the queen-mother. He co-operated with Aratus and the Achaian league against Cleomenes, king of Sparta, invaded Laconia in 221, and gaining the battle of Sellasia, conquered Sparta. He was engaged in the work of re-establishing the old institutions of Sparta, when an invasion of the Illyrians called him to Macedonia. He defeated them, and died shortly after, B.C. 220. He acquired the surname *Doson* (about to give), from his readiness to promise, and tardiness to perform.
Antig'onus SOCHÆUS, the founder of the Jewish sect of the Sadducees, abt. 300 years B.C.
An'tigraph, *n.* [Gr. *anti*, against, and *grapho*, to write.] A copy; a transcript.
Antigua, one of the Leeward Islands, in the W. Indies, belonging to Great Britain; Lat. 17° 8′ N.; Lon. 61° 52′ W; 22 m. S. of Barbuda, and 50 m. N. of Guadaloupe. *Area*, 110 sq. m. Its coast aspect is hilly, and much indented by the sea. The surface of the interior has a rich soil, and much diversified scenery.—*Clim.* Dry and hot.—*Prod.* The principal staple is that of sugar, of which this island exports large quantities. Molasses and rum are also exported. The exports in 1883 reached $1,500,000.—*Gov.* Its legislature consists of a Governor, a Council of 12, and an Assembly of 25 members. This island was settled by the English in 1632.—*Chief Towns.* St. John's, the cap., Falmouth and Parham. *Pop.* 37,125.
Antihe'lix, *n.* [From Gr. *anti*, against, and *helix*, the helix.] (*Anat.*) The inner circle of the external ear, so called from its opposition to the helix or outer circuit.
Anti-Libanus. See LEBANUM.
Antilles, a cluster of the West India islands, forming a semi-circular chain, running from the Gulf of Maracaibo to the Channel of Yucatan. They are about 360 in number; generally very fertile, but subject to terrific hurricanes; their climate is very hot; almost all of them are of volcanic origin; their mountains are bare and arid, their valleys deep and picturesque. Their chief products are sugar, coffee, tobacco, cocoa, and cotton. Discovered by Columbus, they were afterwards the centre of the trade of Europe with the New World. They are divided into the *Windward Islands*, *Leeward Islands*, and *Great Antilles*. Among them we notice: 1. In the *Windward I.*, Curaçao, New Sparta, Trinidad, Grenada, the Grenadines, St. Vincent, Barbadoes, Santa Lucia, Martinique; 2. In the *Leeward I.*, Dominica, Marie Galande, Les Saintes, Guadaloupe, La Desiderada, Antigua, Montserrat, Nevis, St. Kitt's, Barbuda, St. Eustatius, Saba, St. Bartholomew, St. Martin, the group of the Virgin, St. Thomas, St. John, Santa Cruz. 3. *Grandes Antilles*, Puerto Rico, Hayti, Jamaica and Cuba, which is often termed *Queen of the Antilles.*—See WEST INDIES.
Anti-log'arithm, *n.* (*Math.*) A counter-logarithm: the complement of a logarithm; — or, more generally, the number which a logarithm represents. So, 2 being the logarithm of 100, 100 is the anti-logarithm of 2.
An'tilope, *n.* See ANTELOPE.
An'ti-mask, *n.* A lesser or subordinate mask; — in opposition to the principal mask.

"Let *antimasks* not be long; they have been commonly of fools, satyrs, baboons, wild men, antics, beasts, &c. . . . ." —*Bacon.*

Anti-matrimo'nial, *a.* Opposed to marriage.
Antimetab'ole, *n.* [Gr. *anti*, against, and *metabole*, a change.] (*Rhet.*) A setting of two things in opposition to each other; as, "A poem is a speaking picture; a picture is a mute poem."
Antim'eter, *n.* (*Opt.*) An instrument for measuring angles with precision.
Anti-ministe'rial, *a.* Opposed to the ministry, or administration of government.
Anti-monarch'ial, Anti-monarch'ic, Anti-monarch'ical, *a.* Opposed to monarchy.
Anti-mon'archist, *n.* One opposed to monarchy.
Antimo'nial, *a.* Pertaining to antimony.
—*n.* A medicinal preparation of antimony.
Antimo'niate, *n.* (*Chem.*) A salt composed of antimonic acid and a salt. The *A.* are colorless salts; decomposed by feebler acids. Potassium metantimonate is a valuable agent for detecting soda.
Antimon'ic Acid. (*Chem.*) A straw-yellow powder, tasteless, and insoluble in water. Sp. gr. 6·525.
Antimo'nious Acid. (*Chem.*) A fine white powder, becoming yellow when heated, not decomposed by ignition, but volatilized B.B. Sp. gr. 6·695.
An'timonite, *n.* (*Chem.*) A salt composed of antimonious acid and a base. All the *A.* are colorless, and are decomposed by nitric acid.
An'timony, *n.* [From Gr. *anti*, against, and *monos*, alone; so named from being seldom found alone.] (*Min.*) and *Chem.*) A metal of a silver-white color, with a good deal of lustre, found as native antimony, but chiefly in combination with arsenic, nickel, and silver; also in combination with oxygen as the trioxide, or valentinite or white antimony; with sulphur as stibnite or grey antimony, and with sulphur and oxygen, as kermesite or red antimony. The principal commercial source is the trisulphide or stibnite, from which the metal is obtained by roasting to convert it into the oxide, and then reducing by carbon. It fuses at 810°, or just at red heat. Its texture is fibrous or foliated; it is brittle and easily pulverized. When heated white hot by the blow-pipe, and thrown on the table, it burns and smokes, yielding an oxide. The principal properties of this metal were first discovered by Basil Valentine towards the end of the 15th century. There are three oxides of antimony. The trioxide Sb_2O_3, is a grayish-white powder, eminently purgative, sudorific, and emetic, and as such of much importance in medicine. It is the active base of emetic tartar and of James' Powder. The other oxides of antimony are the tetroxide, Sb_2O_4, and the pentoxide, Sb_2O_5, commonly called antimonic acid. The combination of chlorine and antimony was known to the chemists under the name of Butter of Antimony. The principal ore of antimony is the sulphide; it is met with in commerce, melted into conical ingots, under the name of crude antimony. It is of a bluish-gray color, metallic lustre, and a striated texture; sp. grav. 4·62. It is much more easily fusible than the pure metal.—*A.* forms brittle alloys with some of the most malleable metals. When gold is alloyed with a 200th part of antimony, the compound is brittle; and even the fumes of antimony in the vicinity of melted gold are sufficient to render it brittle. Alloyed with lead and tin and a small addition of copper, it forms type metal; with lead only a white and rather brittle compound is formed, used for engraving plates of music. With tin and zinc, and sometimes copper, it forms the alloys of Britannia metal and pewter. With iron it form a hard whitish alloy formerly called martial regulus. *A.* is the Stimmi, or Stibium, of the old chemists. Until about 1882, the entire supply of antimony used in the United States was imported from Europe or from Germany; but its sulphide, known as stibnite, is now found here in very considerable quantities.
Antino'mian, *n.* One who adheres to antinomianism.
Antino'mianism, *n.* [Gr. *anti*, against, and *nomos*, a law.] (*Eccl. Hist.*) The name given by the reformers of Wittenberg to the disparagement of the moral law, particularly the law of Moses, by certain Protestants, who aimed thereby to exalt the efficacy of faith in the salvation of man. John Agricola was the most conspicuous member of this party, and, in 1537, violently attacked Luther and Melancthon on this ground, in a public dissertation, in Wittenberg. But in 1539 he recanted, and published a renunciation of his errors in 1540, at Bertin.
Antin'omy, or **AN'TINOMY,** *n.* [Gr. *anti*. and *nomos*, law.] A contradiction, real or apparent, between two laws, or two articles of the same law.
Antin'ous, a Bithynian youth, whom the extravagant love of the Emperor Adrian has immortalized. Whether he threw himself into the Nile (132 A. D.) with the intention of preserving the life of Adrian, whom he accompanied on his travels, or because weary of his own life, is not decided. Adrian set no bounds to his grief for his loss. Not satisfied with giving the name of his favorite to a newly discovered star in the galaxy, (which appellation is still preserved.) he erected temples in his honor, called cities after him, and caused him to be adored as a god throughout the empire. His image was, therefore, represented by the arts in every way. Several of these figures belong to the finest remains of antiquity, particularly the statue called the *A. Belvidere*, in the Vatican, found in the Baths of Adrian; and the *A. of the Capitol*, found in the villa Adrian at Tivoli. "In all the figures of *A.*," says Winckelmann, "his countenance has something melancholy; his eyes are always large, with good outlines; his profile gently descending; and in his mouth and chin there is something expressed which is truly beautiful."

(*Astron.*) See AQUILA.

An'tioch, ANTIOCHIA, EPIPHANE, ANTIGONIA, PEOPOLIS, SELEUCIS, now ANTAKIA or RIELATH, a city of Syria, on the S. bank of the river Aaszy (Orontes), 57 m. W. of Aleppo. It is surrounded by walls, enclosing a space of several miles in circumference, now mostly occupied as gardens. The houses are built of stone, and have sloping roofs, a circumstance unusual in the East. On the whole, the general appearance of the place is dull and monotonous. Although there are upwards of a dozen mosques, it is said that there is not a single Christian church. The manufacture of silk is the principal branch of industry. *A.* was founded by Antigonus, and captured by Seleucus, who changed its situation, and called it *Antioch*, from his father, Antiochus. Long celebrated as one of the first cities of the East, it was the residence of the Macedonian kings of Syria, and of the Roman gov-

Fig. 148.—THE MODERN ANTIOCH.
(Antakia.)

ernors. It is frequently mentioned in the New Testament, and the name *Christians* was first given to the disciples of Christ in this city (Acts xi. 26). In the 7th century it was taken by the Saracens, and in the 11th by the Crusaders, who established a principality by its name, 1008. Once richer and grander than Rome itself, but often ruined by earthquakes, and finally razed by the Mamelukes, 1269, the *Queen of the East* is now only a small town in the pashalic of Aleppo. *Pop.* abt. 18,000.
An'tioch IN PISIDIA. (*Anc. Geog.*) A city situate on a ridge of the Taurus. It was visited by St. Paul, and is now called *Yalobatch.*
An'tioch, in *California*, a post-village of Contra Costa co., at the mouth of San Joachim river, and at the E. end

of Saisun Bay, abt. 40 m. E.N.E. of San Francisco. There are large copper smelting-works, and mines of stone-coal in the neighborhood. *Pop.* abt. 600.

An'tioch, in *S. Carolina*, a post-village of Kershaw co.

An'tioch, in *Georgia*, a post-village of Troup co., abt. 12 m. W. N. W. of La Grange.

An'tioch, in *Illinois*, a post-village and township of Lake co., abt. 50 m. N. W. by W. of Chicago.

An'tioch, in *Indiana*, a post-village of Switzerland co., on the Wabash river and canal.

An'tioch, in *Ohio*, a post-village of Monroe co., 128 m. E. of Columbus.

An'tioch, in *Tennessee*, a post-village of Davidson co., on the Nashville and Chattanooga Railroad, 9 m. S. E. of Nashville.

An'tioch, in *Texas*, a village of Lavaca co.
—a post-village of Houston co.

An'tioch, BAY OF, in the Mediterranean, commanded by mountains 5,000 ft. high; Lat. between 35° and 36° N.; Lon. 36° E. Some ruins situated on the N. side are probably those of the ancient port of Antioch, *Seleucia Pieria*.

Anti'ochus I., KING OF SYRIA, was the father of the famous Seleucus. *q. v.*, by his wife Laodice.

ANTIOCHUS II., SOTER, carried on many unsuccessful wars, and is chiefly known for his love of his stepmother, Stratonice. Though he endeavored to subdue his passion, it threw him into a lingering sickness; which continued till the king's physician, Erasistratus, perceived the cause, and disclosed it to his father, who, thereupon, from love to his only son, gave him his young and beautiful bride in marriage.

ANTIOCHUS III., THE GREAT, son of Seleucus Callinicus, B. 238 B. C. He succeeded his brother, Seleucus Ceraunus, as king of Syria in 223. After successful wars against Ptolemy Philopater and the Parthians, he engaged in a contest with the Romans, for which, with the aid of Hannibal, he made great preparations. He did not, however, enter fully into the plans of this general, and sent only one army to Greece, which remained inactive, and was defeated first at Thermopylæ, and several times by sea, till at length he became so disheartened that he did not even contest with the Romans the passage into Asia Minor, where they gained a victory at Magnesia, and obliged him to contract a disgraceful peace. Afterwards, attempting to take away the treasures from the temple of Jupiter Elymais, he was slain, with all his followers; B. C. 187.

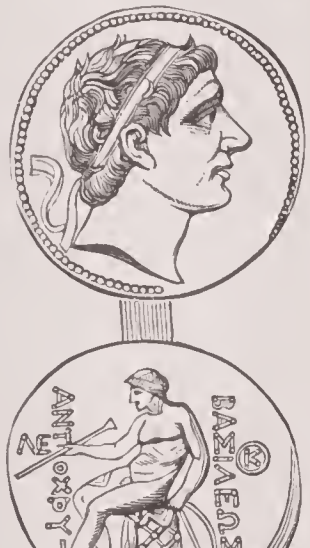


Fig. 149. — TETRADRACHM, OR ATTIC TALENT OF ANTIOCHUS III.
Obverse: Head of the king.
Reverse: Basileos Antiochou — two monograms in field, — and Apollo seated on *Cortina*.

ANTIOCHUS IV., EPIPHANES, son of the preceding, after a captivity of many years at Rome, succeeded his brother Seleucus Philopater on the throne of Syria, B.C. 165. The principal events of his reign were a war with Egypt for the repossession of the provinces lost by his father, and his persecution of the Jews, which occasioned the insurrection of the Maccabees. For his cruelty and vices he received the name of *Epimanes*, or *the "Madman."* D. B.C. 165.—Many other kings, under the name of *A.*, with various surnames, succeeded, till at last, *A. Asiaticus* was expelled from his dominions by Pompey, B. C. 65, and Syria became a Roman province.

Anti'oco, a fertile island lying to the S.W. of Sardinia, in the Mediterranean, 8 m. long and 3 broad. *Pop.* 2,300.

Antiodontal'gic, *n.* [Gr. *anti*, against, and *odontalgia*, the toothache.] (*Med.*) A remedy against the toothache.

Anti'ope. (*Myth.*) Daughter of Nycteus, king of Thebes (according to Homer, of the river Asopus), renowned through all Greece for her uncommon beauty. Epopeus, king of Sicyon, carried her off, and married her; but Lycus, the successor of Nycteus, who had promised him to punish his daughter, slew Epopeus, and carried *A.* prisoner to Thebes, where he delivered her to his wife, Dirce, by whom she was treated with the greatest cruelty. She was fortunate enough to escape, and was avenged by Zethus and Amphion, her sons, whom she boasted to have conceived in the embraces of Jupiter.—The rest of her history is told in a variety of ways.

Antioqui'a, Santa Fé de, a town of Colombia, S. America. It is the principal town of a district trading in sugar and maize. *Pop.* (1895) 8,640.

Antipædobap'tist, *n.* [Gr. *anti*, against, and Eng. *pædo-baptist.*] A Baptist.

Antipar'allels, *n. pl.* (*Geom.*) The name given to straight lines which, by cutting two given straight lines, make with them equal angles, though in a contrary order.

Antip'aros, an island in the Grecian archipelago, between Paros and Siphanto, 16 m. in circuit. Lat. 36° 59′ 40″ Lon. 25° 3′ 27″ E.

Antip'ater, THE MACEDONIAN, pupil of Aristotle, and the faithful minister of Philip and Alexander. While Alexander was abroad, he left Antipater in the government of Macedon; and by his prudent management he preserved Greece tranquil. On the death of his master, Antipater obtained the European provinces. Not long after, the confederate states of Greece attacked him: but he subdued them, and subverted their democratic forms of government; on which he was called the "father of Greece." His last advice to his successor was "never to admit a woman to meddle in state affairs." D. 319 B. C.—There were two other kings of this name.

Antipathet'ic, Antipathet'ical, *a.* Having a natural contrariety or constitutional aversion to a person or thing.

Antipath'ic, *a.* Having opposite affections.

Antip'athist, *n.* That which has antipathy.

Antip'athy, *n.* [Fr. *antipatie*, from Gr. *anti*, against, and *pathos*, feeling.] A feeling against; a natural enmity or aversion of one thing toward another. In a more restricted sense, *A.* denotes the natural aversion which an animated and sensitive being feels toward some object presented to it, either in reality or imagination; the cause of which is often mysterious and inexplicable. Such is the aversion of which some persons are conscious under the apprehension or at the sight of particular objects, as cats, mice, spiders, serpents, &c. The greater part of antipathies arise from prejudice; many from terrors inspired in infancy; and, in most cases, reflection and a gradual accustoming of ourselves to the objects of our dislike will weaken or remove the feeling of aversion: yet there are instances of incurable *A.*, which seems to have its seat in the nervous system.

Antiperis'tasis, *n.* [Gr. from *anti*, against, and *peristasis*, circumstance.] The antagonism of an opposite or antithetical quality, owing to which the quality so opposed gains additional force or strength.

(*Rhet.*) A figure of speech, which, while admitting an opponent's assertion, rejects the inference it seeks to convey.

Antiphlogis'tic, *a.* and *n.* [From Gr. *anti*, against, and *phlogizo*, to burn.] (*Med.*) That counteracts burning heat, or inflammation.

A. Theory. (*Chem.*) The phlogistic theory of Stahl considered oxides of metals as simple bodies, and the metals as compounds of the oxide with an hypothetical substance, phlogiston. Lavoisier started the antiphlogistic theory now in use, which considers the metals as simple, and the oxides compounds of metals and oxygen.

An'tiphon, *the Rhamnusian*, an Athenian orator, and the first to lay down rules of oratory, lived in the 5th century B.C.—There are 16 orations under his name, in the collection of ancient orators.

Antiph'onal, Antiphon'ical, *a.* Pertaining to antiphony.

Antiph'onary, ANTIPH'ONAL, ANTIPH'ONAR, *n.* A book of antiphonies or anthems.

Antiph'ony, or ANTIPHON, *n.* [From Gr. *anti*, against, and *phonē*, voice, sound.] (*Mus.*) Opposition or alternation in sound; the answer of one choir to another, when an anthem or psalm is sung alternately by two choirs; alternate singing.

Antiph'rasis, *n.* [Gr. from *anti*, and *phrazo*, to speak.] (*Rhet.*) The use of words in a sense opposite to their proper meaning, or the affirmation of a thing by denying it to be the contrary; as, *He is no fool.*

Antiphras'tic, Antiphras'tical, *a.* Relating to, or containing, antiphrasis.

Antiphras'tically, *adv.* By way of antiphrasis.

Antipode (*an'ti-pōd*), also ANTIPODES (*an-tip'o-deez*) *n.* [From Gr. *anti*, opposite, and *pous, podos*, a foot.] The name given to those inhabitants of the earth who are diametrically opposite to each other, and, of course, turn their feet toward each other. The zenith of the one is the nadir of the other. The antipodes live in similar but opposite latitudes, and their longitudes differ 180 degrees. Hence the difference in their days is about 12 hours, and their seasons are reversed. The spherical form of the earth naturally leads us to the idea of the antipodes, of whose existence some idea was entertained even before the age of Cicero.

Antip'odal, *a.* Relating to the antipodes.

An'ti-pope, *n.* (*Eccl. Hist.*) The name given to those who, at different periods, have produced a schism in the Roman Catholic Church, by opposing the authority of the pope, under the pretence that they were themselves popes. In many cases both competitors for the papal chair (sometimes there were even three) were equally anti-popes; that is to say, the claims of all were equally good. Each was frequently supported by whole nations, and the schism was nothing but a struggle of political interests, which induced particular governments to support a pope against the pope supported by other governments. Those were the most unhappy periods of the Roman Church, when to many other evils were added violent contests between rival candidates for the papal chair; and the consciences of the honest believers were offended and perplexed by the excommunications which the adversaries thundered against each other.—Amadeus VIII., duke of Savoy, was the last anti-pope. He was elected by the council of Basle, in 1439, in opposition to Eugenius IV. and Nicholas V. But he renounced his title in favor of the latter in 1449.

Antipto'sis, *n.* [Gr. *anti*, against, and *ptosis*, a falling.] (*Gram.*) A figure by which one case is put for another.

Antiqua'rian, *a.* [From Lat. *antiquus*, ancient.] Pertaining to antiquaries or to antiquity.
—*n.* One versed in antiquities; an antiquary.

Antiqua'rianism, *n.* Love or knowledge of antiquities.

An'tiquary, *n.* A person who searches after and studies the monuments and remains of antiquity.

An'tiquate, *v. a.* [Lat. *antiquo*, from *antiquus*, old, ancient.] To make old or obsolete. (o.) To make void or abrogate.

An'tiquated, *p. a.* Grown old; obsolete; out of use.

Antique, *a.* [Fr. from Lat. *antiquus.*] Ancient; old; not modern.

> "Now, good Cesario, but that piece of song,
> That old and *antique* song we heard last night."— *Shaks.*

—Of genuine antiquity.

> "My copper lamps, at any rate,
> For being true *antique* I bought."— *Prior.*

—Of old fashion.

> "Forth came that ancient lord and aged queen,
> Array'd in *antique* robes down to the grouud."—*Faerie Queene.*

—Odd; wild; antic.

Antique or *Ancient Art.* See FINE ARTS.

Antique', *n.* Anything very old; the remains or relics of ancient times.—Generally applied to busts, statues, paintings, and vases, the works of Grecian and Roman antiquity.—According to the McKinley tariff, any object made before 1700 is an "antique" (and not dutiable).

Antique'ly, *adv.* In an antique manner.

Antique'ness, *n.* Quality of being antique.

An'tiquist, *n.* An antiquary. (R.)

Antiq'uity, *n.* [Fr. *antiquité*, from Lat. *antiquitas.*] Ancient times; former ages; people of ancient times; great age; quality of being ancient.—See ANCIENT.

ANTIQUITIES, *pl.* of *Antiquity*, is used to signify all that belongs to a knowledge of the politics, manners, religion, literature, and arts of the nations of antiquity; or, of the modern nations until the existing order of things commenced. Since the beginning of the 18th century, the arts have been made a separate branch of antiquarian research.

Antirrhin'eæ, *n. pl.* (*Bot.*) A tribe of plants, sub-ord. *Antirrhinideæ.*

Antirrhin'ideæ, *n. pl.* (*Bot.*) A sub-order of plants, ord. *Scrophulariaceæ.* DIAG.: Inflorescence entirely centripetal or compound. Æstivation of the corolla bilabiately imbricated, the two upper segments being external.

Antir'rhinum, *n.* [Gr. *anti*, like, *rin*, nose; from the resemblance of the flowers to the snout of some animal.] (*Bot.*) A gen. of plants, tribe *Antirrhineæ.* The species *A. majus*, or great snapdragon, is a showy garden plant, 1 to 2 ft. high. Flowers large, pink-colored, the lower lip white, and the mouth yellow, with a gibbous prominence at the base beneath. There are varieties with scarlet, scarlet and white, and double flowers.

Antisa'na, a hamlet in the Andes of Quito, rep of Ecuador, 13,500 ft. above the sea, 35 m. S.E. of Quito. It is probably the highest inhabited place on the surface of the globe. The mountain of *A.* is 19,132 feet high.

Anti'scians, and **Anti'scii,** *n. pl.* [From Gr. *anti*, opposite, and *scia*, a shadow.] (*Geog.*) The people who live on different sides of the equator, whose shadows at noon are cast in contrary directions.

Antisep'tic, *a.* [From Gr. *anti*, against, and *septos*, putrid.] (*Med.*) Preventing or obviating putrefaction.
—*n.* (*Med.*) Substances which prevent animal substances from passing into a state of putrefaction, or obviate putretaction when already begun; as, cinchona, &c.

Antiso'cial, *a.* Hostile or averse to civil society.

Antispasmod'ic, *a.* and *n.* [From Gr. *anti*, against, and *spasmos*, a spasm.] (*Med.*) Possessing the power of allaying or removing inordinate motions in the system, particularly those involuntary contractions which take place in muscles naturally subject to the command of the will. Spasm may arise from various causes. One of the most frequent is a strong continuous irritation, such as dentition, or worms. In these cases, narcotics prove useful by diminishing irritability and sensibility. Sometimes spasm arises from mere debility, and the obvious means of removing this is by the use of tonics. The narcotics used as *A.* are ether, opium, camphor. The principal tonics are cuprum, zincum, hydrargyrum, cinchona.

An'tispast, ANTISPAS'TUS, *n.* [Gr. *anti*, and *spao*, to draw forth.] (*Pros.*) A tetrasyllabic foot composed of an iambus and a trochee.

Antis'tasis, *n.* [Gr. from *anti*, and *stasis*, a standing.] (*Rhet.*) The justification of an action by showing the expediency of having done it.

Antis'thenes, a Greek philosopher, and founder of the school of Cynics. He was a native of Athens, and disciple of Socrates. He made virtue to consist in voluntary abstinence, and independence of exterior circumstances. Diogenes was his most distinguished scholar. His numerous works are all lost. Lived, 400 B.C.

Antis'trephon, *n.* [Gr. *antistrephomai*, to turn back.] (*Rhet.*) An argument which may be retorted.

Antis'trophe, *n.* [From Gr. *anti*, and *strepho*, to turn.] (*Poet.*) The alternate verse in ancient poetry, which was divided into *strophe* and *antistrophe.* In reciting their odes, the chorus turned from the left to the right at the *A.*, and *vice versâ.*

(*Rhet.*) An alternate conversion of the same words into different sentences; as, "Your servant, sir;—sir, your servant."

Antistroph'ic, *a.* Belonging to antistrophe.

Anti-Tau'rus, an extensive chain of mountains in Turkey-in-Asia, forming one of the most considerable ramifications of Mount Taurus, with which it connects near the sources of the Kizil-Irmak in Caramania. Commencing to the N.E. of the Cilician pass, it runs E. and N.E., separates the plain of El-Bostan from that of Cæsarea-Mazaca, and extending N.E. to the source of the Northern Halys, E. of Sivas, from thence runs E. to the Euphrates. The two parallel ranges of the *A.* and the Paryadres, on the S. and N. respectively, form the upper valley of the Northern Halys, the apex of which is found at their junction. The *A.* may be most prop

erly denominated the Northern Taurus, as it crosses the Euphrates, and, running E. through Armenia, separates the valley of the Morad, or southern arm of the Enphrates, from that of its northern, the Karasu.

Antith'esis, *n.* [Gr. from *anti*, and *tithemi*, to place.] (*Rhet.*) A figure of speech by which two things are attempted to be made more striking, by being set in opposition to each other. "Antitheses, well managed," says Bohours, "give infinite pleasure in the perusal of works of genius: they have nearly the same effect in language as lights and shadows in painting, which a good artist distributes with propriety; or the flats and sharps in music, which are mingled by a skilful master." The beautiful antithesis of Cicero, in his second Catilinarian, may serve as an example: "On the one side stands modesty, on the other impudence; on the one fidelity, on the other deceit; here piety, there sacrilege; here continency, there lust," &c. By too frequent use, it becomes tedious; as such, it is too often observable in the best works of one of the most eminent modern writers, Victor Hugo.

Antithet'ic, Antithet'ical, *a.* Pertaining or relating to antithesis.

Antithet'ically, *adv.* In an antithetic manner.

Antitra'gicus, *n.* [From ANTITRAGUS.] (*Anat.*) One of the proper muscles of the ear, the use of which is to turn up the tip of the antitragus a little outward, and to depress the extremity of the antihelix toward it.

Antit'ragus, *n.* [Gr. *anti*, and Lat. *tragus*, q. v.] (*Anat.*) An eminence of the outer ear, opposite to the tragus.

Anti-trinita'rians, *n. pl.* (*Eccl. Hist.*) The name given to all who do not receive the doctrine of the divine Trinity, as it is represented by the Nicene and Athanasian creeds, and either put the Son and the Holy Spirit in the Godhead below the Father, or consider Christ merely a man, and the Holy Spirit an arbitrary personification of the divine mind. In the early period of the Christian church, parties maintaining these sentiments were very numerous, especially the Arians, Sabellians, and Pneumatomachists. The name *Anti-Trinitarian* first arose in the 16th century, and was applied to Socinians, or Unitarians, who remonstrated against the system of Episcopius, who died in 1643, and to a great number of theologians, who ventured in their writings to maintain the preceding opinion. Many were unwilling to acknowledge Anti-trinitarians as Christians, esteeming them enemies to the fundamental doctrines of Christianity; or even to tolerate them in Christian States. The Spanish Protestant, Michael Servetus, was burned at Geneva, in 1553, at the instigation of Calvin, on account of this heresy, and the severest edicts were once issued against them in England. An English clergyman, however, Theophilus Lindsay, at London, in 1774, and a merchant, William Christie, at Montrose, in Scotland, formed Unitarian congregations, who separated themselves from the established Church, since which time they have become numerous, both in England and America.—See UNITARIANS.

Antit'ropous, and **Antit'ropal,** *a.* [Gr. *anti*, opposite, and *trepo*, to turn.] (*Bot.*) Applied to the embryo which has the radicle pointing away from the hilum.

An'titype, *n.* [Gr. *anti*, and *typos*, a type.] (*Theol.*) That which answers to, or is shadowed out by a type or emblem; that of which the type is the pattern or prefiguration;—so, the Paschal Lamb was a *type*, to which our Saviour, the Lamb of God, was the *antitype*.

Antityp'ical, *a.* Pertaining to an antitype; explaining the type.

Antityp'ically, *adv.* By way of antitype.

An'tium, a maritime town of Italy, built upon a promontory, 32 miles from Ostium. It was the capital of the Volscii. Camillus took it, and carried all the beaks of its ships to Rome, and placed them in the Forum on a tribunal, which thence was called *Rostrum*. The Emperor Nero was born here.

Antiva'ri, a town of Turkey-in-Enrope, 19 m. W. of Scutari; annexed to Montenegro in 1878. *Population* about 4,000.

Ant'ler, *n.* [O. Fr. *entoillier*; Fr. *andouiller*, probably from Lat. *ante*, before.] That which projects over the forehead; a start or branch of a stag's horn. In fig. 150, *a* is the brow antler, *b* the bezantler, *c* the royal antler, *d* the sur-royal or crown antler.

Fig. 150.—STAG'S HORNS.

Ant'lered, *a.* Furnished with antlers.

Ant'lia, *n.* (*Physiol.*) The proboscis or long spiral tongue of the insects belonging to the ord. *Lepidoptera*. When this organ in a butterfly is extended, it forms a long sectorial tube, and when coiled up represents a flat spiral, like the mainspring of a watch.

Ant'-like, *a.* Having the habits of ants; industrious; provident.

Ant'-lion, *n.* (*Zoöl.*) The common name of the *Myrmeleon*, q. v.

Antœ'ci, or **ANTE'CIANS,** *n. pl.* [From Gr. *anti*, and *oikeo*, to dwell.] (*Geog.*) Those inhabitants of the earth who live under the same meridian, but on different sides of the equator, and at equal distances from it.

Antoine', in *Arkansas*, a twp. of Clarke co.;

Antoine', (St.,) in *Lower Canada*, a village of Vercheres co., about 35 m. from Montreal.

Antoine' de la Baie, (St.) See LA BAIE DE FEBORE.

Antoine'-de-Tilly, (St.,) in *Lower Canada*, a village and parish of Lotbiniere co., 24 m. S.W. of Montreal, on the S. side of the river St. Lawrence.

An'toinette. See MARIE ANTOINETTE.

Antommar'chi, FRANCESCO, a distinguished French anatomist, b. in Corsica; was physician to Napoleon I. at St. Helena. D. at St. Antonio, Cuba, 1844.

Antonel'li, GIACOMO, CARDINAL, prime-minister of Pope Pius IX., b. 2d April, 1806. His father was a woodcutter near Terracina, in Italy. Educated at the Seminario Romano, *A.* was, in 1841, appointed under-secretary to the Minister of the Interior, and in 1845, Grand Treasurer to the Apostolic Chamber, and Minister of Finance. He, as a politician of liberal views, at this time enjoyed the favor of the pope. In 1847 he received a cardinal's hat. As Minister of Finance, *A.* was a member of the Council established by the pope, and also president of the council-extraordinary, instituted by the government to inquire into the reforms thought necessary. Taking alarm, however, at the progress of revolutionary principles, which he considered was to a great degree owing to his hitherto liberal policy, *A.* resigned office, and was succeeded by Mamiani and Rossi. When Pius IX. fled to Gaëta, he made *A.* his chief secretary, and the head of a special commission to reform the administration of the States of the Church. The Pope, on his return to Rome in 1850, appointed *A.* Minister of Foreign Affairs, and head of the government, which authority he held for years. Bland and suave in manner, yet inscrutable in his designs, *A.* was thought by many to be more liberal in his political views than either the pontiff or his own colleagues; while, by others, he has been charged with having precipitated the fall of the Papal Temporal Power by his persistent reactionary policy, and his opposition to reform. D. at Rome, Nov. 6th, 1876.

Antonel'lo, or ANTONIO DA MESSINA, the first Italian who painted in oil, which art he learned of John Van Eyck, in Flanders. In Italy, he imparted the secret to Bellini and Dominico. The latter communicated it to Andrea del Castagno, who, from the desire of gain, basely assassinated him. Thus, by these incidents, oil-painting soon spread over Italy. Antonio flourished about 1450. B. at Messina, about 1413; D. at Venice, 1493.

Anto'nia, the name of some eminent Roman ladies, the most remarkable of whom was the wife of Drusus, the son of Livia, and brother of Tiberius. She became mother of three children, Germanicus, Caligula's father; Claudius the emperor, and the debauched Livia. Lived A. D. 38.

Anto'nin, St., a town of France, dep. of Tarn-et-Garonne, at the confluence of the Aveyron and the Bonnette, 22 m. E.N.E. of Montanban.—*Manf.* Serges and paper. *Pop.* 5,152.

Anto'ninus, the philosopher. See MARCUS AURELIUS.

Anto'ninus Pius, TITUS AURELIUS FULVIUS, a Roman emperor, b. at Lannvium, A. D. 86. Born of a wealthy family, he successively attained the dignities of quæstor, prætor, and consul; became pro-consul of Asia, and, returning to Rome, obtained the favor of the emperor Adrian, who, in 138, adopted him as his successor. He succeeded to the throne the same year. His reign was peaceful and prosperous, but without historical events of importance. Temperate and simple in his private life, ever ready to assist the necessitous, and an admirer of virtue and wisdom, he was truly the father of his people. He often repeated those beautiful words of Scipio: "I had rather preserve the life of a citizen than destroy a thousand enemies." His wise frugality enabled him to diminish the taxes. The persecutions of the Christians he speedily abolished. The senate gave him the surname *Pius*, because, in gratitude to the memory of Adrian, his second father, he had built a temple in honor of him. *A.* has been called, from his amiable character and wise rule, the second Numa. Both his wife Faustina, and his daughter, the wife of Marcus Aurelius, were notorious for their depravity of life. He died A. D. 161, 74 years old, having reigned 23 years. The whole kingdom lamented him, and the following emperors assumed his name as an honor.

Antonius, MARCUS, a Roman consul, and once governor of Cilicia. He subsequently became censor, and one of the most eminent Roman orators. Cicero considers that it was he who established Rome as a rival in eloquence to Greece. *A.* was killed in the civil war of Marius and Sylla, B. C. 87.

Antonius, MARCUS, the great triumvir, grandson of the preceding, was B. 85 B. C.—After a profligate youth, he earned distinction as a soldier both in Syria and Egypt; joined Julius Cæsar in Gaul, and became his staunch adherent. Made quæstor, augur, and tribune, he participated in the great victory of Pharsalia, was made consul along with Cæsar, B.C. 44, and offered him the royal title. After the death of Cæsar, *A.* was opposed by Octavius (Augustus), who defeated him at Mutina. The two, however becoming reconciled, were joined with Lepidus in the formation of the first triumvirate. Cicero was a victim to the hatred of *A.* in the proscription which afterward took place. At Philippi the republican army of Brutus and Cassius experienced defeat, and the loss of its leaders.—*A.*, later, visited Greece and Asia, and met the famous Cleopatra, queen of Egypt, to whose beauty and fascinations he succumbed, and with whom he made a long stay. On the death of his wife Fulvia, he had married, in 40 B.C., Octavia, sister of Augustus, whom in a few years he divorced through his infatuation for Cleopatra. The triumvirate was re-established in 37. After his invasion of Parthia and Armenia, *A.* assumed despotic power, which caused the war, ending with his total overthrow at the battle of Actium, and the triumph of Augustus, B. C. 31. *A.* retired to Egypt, and there destroyed himself, B. C. 30.

Antonoma'sia, *n.* [Gr., from *anti*, instead of, and *onoma*, a name.] (*Rhet.*) A mode of speaking in which a person is addressed or described by some general term in place of his proper name; as, a *Cicero* for an orator; a *Nero* for a tyrant, &c.

Antonomas'tically, *adv.* By way of antonomasia.

An'trim, a county of Ireland, prov. of Ulster, bounded N. and E. by the sea, S. by Lough Neagh and the county of Down, and W. by the county of Londonderry. *Area*, 1,164 sq. m.—*Desc.* Monntainous near the coast, and the S.W. abounds with bogs. A stupendous assemblage of basaltic columns, the Giant's Causeway, is seen on the maritime confines of *A.*, as also Fair Head, and other lofty capes and promontories.—*Rivers.* The principal are the Bann, and the Laggan.—*Manuf.* Linen yarn, wool, canvas, paper, &c. Considerable fisheries are carried on.—*Towns.* The chief are Antrim, Belfast, Carrickfergus, and Lisburn. *Pop.* (1895), 404,015.

ANTRIM, a town and parish in the above county, situate at the north end of Lough Neagh. *Pop.*, including Massarene, 2,000.

An'trim, in *Michigan*, a county in the N.W. part of the lower peninsula, bordering on Grand Traverse Bay, Lake Michigan. *Area*, 538 sq. m. *Pop.* (1895), 10,413.

—a post-township of Shiawassee co., about 60 m. N. W. of Detroit.

An'trim, in *Minnesota*, a twp. of Watonwan co. *Pop.*, 322.

An'trim, in *New Hampshire*, a post-township of Hillsborough co., 25 m. S.W. of Concord, and lying on the Contoocook river.

An'trim, in *Ohio*, a post-village of Madison township, in Guernsey co., 91 m. E. by N. of Columbus.

—a township of Wyandot co., abt. 58 m. N.W. of Columbus.

An'trim, in *Pennsylvania*, a township of Franklin county.

An'trim City, in *Michigan*, a post-vill. of Antrim co.

Antuc'co, a volcanic mountain in the Andes of Chili, Lat. 36° 50′ S.; Lon. 70° 30′ W. Its altitude, recently corrected, is 9,051 ft. The summit is steep on all sides, but nearly perpendicular towards the N. After the peaks of Teneriffe and Cotopaxi, it is probably the most pointed mountain known.

Ant'werp, [Fr. *Anvers*,] a prov. of Belgium, situated between Lat. 51° and 51° 30′ N., and Lon. 4° 10′ and 5° 10′ E.; bounded on the N. and N.E. by the Dutch prov. of N. Brabant; on the S.E. by the prov. of Limburg; on the S. by S. Brabant; on the W. it is separated from E. Flanders by the Scheldt.—*Area*, 1,094 sq. m.—*Rivers.* the Scheldt, the Great and Little Nèthe, which unite and form the Rnppel, the Dyle, and the Senne.—*Desc.* The surface is a perfect level, and so low that water may always be found at a depth of 8 to 10 inches. In the N. and E. districts are extensive moorlands, presenting numerous lakes and morasses. The best agricultural soil is in the arrond. of Mechlin.—*Prod.* Corn in great supply, madder, hops, tobacco, rapeseed, and flint.—*Manf.* Lace, silk, printed calicoes, linen and cotton fabrics, straw hats, wax cloth, tobacco, and salt. Sugar-refineries, distilleries of vinegar, breweries, soap-works, and tanneries are numerous.—*Hist.* Before Cæsar's conquest it was inhabited by the Ambivarites. The marquisate of *A.* first appears in history in the year 1080. By the marriage of the Archduke Maximilian with Mary of Burgundy, it came into the possession of the house of Austria; in 1795 it formed the French dep. of Deux-Nèthes; in 1814 it was made a part of the kingdom of the Netherlands, and in 1830 it became a province of Belgium.

ANT'WERP, cap. of the above prov. and the principal seaport of Belgium, is situated on the right bank of the Scheldt, 45 m. above Flushing, at the mouth of the river, 75 m. S. of Amsterdam, and 27 m. N. of Brussels. It contains 11 canals, which penetrate to the interior of

Fig. 151.—ANTWERP CATHEDRAL.

the town, and connect its port with Mechlin, Louvain, and Brussels. The Exchange, burned in 1858, was the

finest in Europe. The Cathedral is one of the finest specimens of Gothic architecture. It has 66 chapels: and the paiutings above the altars are by Rubens, who is buried here in the church of St. Jaines; the most celebrated of these productions, *The Descent from the Cross*, is generally considered his chief work. The church is 500 ft. long, 230 wide, and 360 high; the spire is 403 ft. high, and ascended by 620 steps. The Museum of *A.* contains 127 chef-d'œuvres of the Flemish school. There are also a royal academy of arts, a public library, a botanical garden, a medical school, and a great military arsenal. The city is environed with a high wall, aud is also defended by a large, strong, and regular citadel, erected by the duke of Alva in 1568. This celebrated citadel sustained sundry blockades and sieges in 1576, 1583, 1585, 1706, 1748, 1789, 1792, 1796, 1814, and 1832. No expense was spared by Napoleon I. to deepen the river, enlarge the harbor, and strengtheu the fortifications of *A.*, which he intended to make oue of his principal naval stations.—The commerce of *A.*, relatively below what it was in the 15th and 16th cent., has become one of the leading ports of Europe. The uew line of quays, opened in 1885, extend over 2 miles and cost over $20,000,000. The Flemish is the language of the majority of the people, but French is generally in use among the higher classes.—*Hist.* This celebrated city boasts of great antiquity. Ravaged by the Normans in 836 or 837, it attained the acmé of its splendor in the beginning of the 16th century. Iu 1500, *A.* contained more than 200,000 inhabitants. In 1576 it was plundered by the Spaniards; it surrendered to Marlborough in 1706; the French took it in 1746, but restored it at the treaty of Aix-la-Chapeile: it was again taken by the French in 1794, and occupied for 20 years. *A.* was the birthplace of the painters Teniers, Vaudyke, and Jordaens. *Pop.* (1891), 232,723.

Ant'werp, in *Michigan*, a township of Van Buren county.

Ant'werp, in *New York*, a thriving post-township of Jefferson county, possessing also a village of the same name.

Ant'werp, in *Ohio*, a post-vill. of Paulding co., on the Maumee river, abt. 20 m. E.N.E. of Fort Wayne.

Anu'bis, (*Myth.*,) one of the most distinguished deities of the Egyptians. At first, he was worshipped under the form of a dog; afterwards, under that of a man with a dog's head: hence he was termed *Cynocephalus*. Tradition calls him a son of Osiris by Nephthys, whom he mistook for Isis. When Isis was convinced of this by the lotus wreath left with Nephthys by Osiris, she sought out the child, exposed by his mother for fear of Typhon, discovered him with the help of a dog, educated him, and found in him a faithful guard and attendant. *A.* guards the gods as the dog guards men. According to the astronomical theology of the Egyptians, he was the 7th among the 8 gods of the first class, and designated the planet Mercury, as did also *Piernies*, the more common name of the planet. He was, consequently, lord of the ascendant for an hour of the day, and genius of wisdom. His original form was derived, probably, from the worship of the dog among the Egyptians, who regarded him as the god of hunting; then he became, according to Zoega, a guardian spirit in general, a protector of the gods. The Greeks recognized in him their Hermes, with whom, therefore, he became confounded.

A'nus, *n.* [Lat.] (*Anat.*) The fundament; the lower extremity of the great intestine, named the rectum. Its office is to form an outlet for the fæces. The anus is furnished with muscles which are peculiar to it, viz., the *sphincter*, which forms a broad circular band of fibres, and keeps it habitually closed, and the *levatores ani*, which serve to dilate and draw it up to its natural situation, after the expulsion of the fæces. It is subject to various diseases, especially piles, ulceration, abscesses, excrescences, prolapsus, and imperforation in new-born infants. — The term *A.* is also applied to a small opening of the 3d ventricle of the brain, which leads into the 4th.

An'vil, *n.* [A.S. *anfilt, œnfilt.*] An irou block on which smiths hammer and shape their work.

"I saw a smith stand, with his hammer, thus,
The whilst his iron did on his *anvil* cool." — *Shaks.*

—*v. n.* To shape or form on the anvil.

An'vil, in *Arkansas*, a post-office of Stone co.

An'ville, Jean Baptiste D', a French geographer, b. in Paris, 1697. He has published 211 maps and plans, and 78 treatises. His *Atlas of Ancient Egypt* is the most deserving. D. 1782.

Anxi'ety, *n.* [Fr. *anxiété*, from Lat. *anxietas.*] A wearisome anticipation of things to come, or the issues of present thiugs; care; trouble; eagerness; apprehension; diffideuce; solicitude; carefulness.

Anx'ious, *n.* [Lat. *anxius*, from *ango, anxi*, to bind, draw, or press together.] Suffering mental pressure; straitened; perplexed; solicitous; greatly concerued; careful; uneasy; unquiet; restless.

Anx'iously, *adv.* In an anxious manner.

Anx'iousness, *n.* Quality or state of being anxious.

An'y, *a.* [A.S. *anig, œnig.*] Every; whoever he be; whatever it be. It is, in all its senses, applied iudifferently to persons or things.

"You contented yourself with being capable, as much as *any* whosoever, of defendiug your country." — *Dryden.*

—Whosoever; whatsoever; as distinguished from some other.

"What warmth is there in your affection towards *any* of these princely suitors that are already come?" — *Shaks.*

—Some; an indefinite quantity or number.

"Who will show us *any* good?" — *Ps.* iv. 6.

—*adv.* **At all, in any degree;** as, "Are you *any* better?"

An'yhow, *adv.* In any way; in any circumstance; in any case.

An'ywhere, *adv.* In any place.

An'ywise, *adv.* In auy manner.

An'zin, a town of France, dep. of the Nord, 3 m. W. of Valenciennes. In the neighborhood are the richest coal mines in France. They have been worked since 1734, and some of the pits are as much as 1,500 ft. in depth. *Pop.* (1895), 11,538.

Ao'nia. (*Anc. Geog.*) A name sometimes given to a part of Bœotia.—The Paruassus was named *Aonian Mount*, as being the residence of the Muses, or *Aonides*. —A fountain sacred to the Muses, uear Mount Helicon, was also named *Aonia*.

Ao'nia, in *Georgia*, a post-office of Wilkes co., 44 m. W. by N. of Augusta.

A'orist, *n.* [Gr. *aoristos*, from *a.* priv., and *horos*, bound, limit.] (*Gram.*) An indefinite past tense in the Greek verb.

Aoris'tic, *a.* Pertaining to an aorist, or indefiuite past tense; indefinite.

Aor'ta, *n.* [Gr. *aorte*, from *aeiro*, to raise up.] (*Anat.*) The great artery of the body (see Fig. 120) which arises from the upper and back part of the left ventricle of the heart, forms a curvature in the chest, and descends into the abdomen.—See Artery, and Circulation.

Aor'tal, Aor'tic, *a.* Pertainiug to the aorta.

Aos'ta, a prov. of Italy, in Piedmont, 55 m. in length and 40 in breadth; bounded on the N. by Switzerland, and separated on the W. from Savoy by the Alps. Mountains surround it on the N. and S., and at its W. corner is Mont Blanc. It forms one long and fertile valley, through which runs the Doire.—Goitre is common among the inhabitants, who are accounted squalid and filthy to an extreme. *A.* gave the title of duke to the second son of king Victor Emmanuel, once king of Spain. *Pop.* abt. 115,000.

Aos'ta, capital of the above prov., is situated at the foot of the Alps, at an elevation of 1,940 ft. above sea-level, and 49 m. N.N.W. of Turin. *Pop.* 7,525.

Aos'ta, a town in Syria, 35 m. S. of Tripoli. It is the residence of a Maronite patriarch.

Apace', *adv.* [From *a*, and *pace;* that is, with a great pace.] Quick; speedily; used of things in motion.

"Is not he imprudent, who, seeing the tide making haste towards him *apace*, will sleep till the sea overwhelm him?" — *Tillotson.*

—With haste; applied to some action.

"The baron now his diamonds pours *apace*." — *Pope.*

—Hastily; with speed; spoken of any kind of progression from one state to another.

"If sensible pleasure or real grandeur be our end, we shall proceed *apace* to real misery." — *Watts.*

Apache Pass, in *Arizona*, a twp. of Pima co.

Apa'ches, a race of N. American Indians, divided iuto several tribes, and residing between 30° and 34° N. Lat., from the Rio Colorado on the W., to the Rio Colorado of Texas on the E. Ouce exercising dominant power over the whole of this immeuse territory, they waged perpetual war with the Spaniards of Mexico. Later, when greatly reduced in numbers, they roaued in small parties over Arizoua, part of New Mexico and Northern Mexico, living by hunting and robbery, and proving themselves perhaps the most treacherous, blood-thirsty and averse to civilization of all the North American Indians. They had no ruling chief, but, by an ingenious system of mountain signals, were able to concentrate at once large bodies for attack and defence. The arid uature of their country, their powers of eudurance and keeuness of stratagem, rendered it very difficult to snbdue the *A.*, but most of them are now under government control at various ageucies in the West, and are making fair progress in agriculture. A few small bands still roam the wilds of northwesteru Mexico.

Apagog'ical, *a.* [From Gr. *apagoge;* compounded of *apo*, from, and *agein*, to bring or draw.] (*Logic.*) An *A.* demonstration is such as does not prove the thing directly, but shows the impossibility, or absurdity, which arises from denying it; aud is also called *reductio ad impossibile*, or *absurdum*.

Apag'ynous, *a.* (*Bot.*) Same as Monocarpous, *q. v.*

Apala'chee, a river of *Georgia*, takiug its rise in Gwinuett co. After a S.E. course it empties into the Oconee, a few miles S.W. of Greensborough.

Apalachico'la, a river in *Florida*, emptyiug itself into a bay of the same name, in the Gulf of Mexico. This river has a S. course of nearly 100 m., and receives the Flint and Chattahoochee rivers. It is navigable throughout. There is a fixed light on St. George's Island in the Bay of *A.*

—a post-town, and cap. of Franklin co., 135 m. S.W. of Tallahassee. It lies on the above river, has a convenient harbor, and is au important port for the shipment of cotton.

Apala'chin, or Appalachin, in *New York*, a post-office of Tioga co.

Apam', a territory on the Gold Coast, Africa. It belongs to Eugland. The chief place is the fort of Lydzaamheit, in Lat. 5° 12′ 30″ N.; Lon. 0° 41′ 30″ W. *Pop.* very small.

Apama'ma, an island in the North Pacific Ocean, forming one of the Kingsmill group, or Gilbert Isles, Lat. 0° 30′ S.; Lon. 173° 54′ W.

Ap'anage, *n.* (*Hist.*) A provision of land once assigned by the kings of France for the mainteuance of their younger sons, and also the allowance assigned to the prince of a reigning house for a proper maintenance out of the public chest.

Apanor'mia, or Aponormeria, a seaport of the island of Santorin, in the Grecian Archipelago. It is situate on the N.W. coast. Lat 36° 38′ N.; Lon. 25° 28′ E.

Apa'ri, a town of Luzon, one of the Philippine islands, on the N. part of the coast.

Apart', *adv.* Separately from the rest in place.

"I walk aside, and in a way *apart* from the multitude."—*Raleigh*

—In a state of distinction; as, to set *apart* for any use.

—Distinctly.

"Moses first comprehended waters iu the word earth; but afterwards he nameth them *apart*."—*Raleigh.*

—At a distauce; retired from the other company

"So please you, madam,
To put *apart* these your attendants,
I shall bring Emilia forth."—*Shaks.*

Apart'ment, *n.* [Fr. *appartement*, from *àpart*, separate.] A part of a house or building separated from other parts by partitions: a room.

—*pl.* A suite of rooms: lodgings.

Apat'elite, *n.* (*Min.*) A persulphate of iron, resembling copiapite.

Apathet'ic, Apathet'ical, Apathis'tical, *a.* Having or showing apathy; void of feeling; free from passion; insensible; indifferent.

Ap'athist, *n.* One without feeling.

Ap'athy, *n.* [Fr. *apathie*, from Gr. *a*, priv., and *pathos*, feeling, passion.—Want of feeling or passion; insensibility; indifference: stoicism; unconcern.

"In lazy *apathy* let Stoics boast
Their virtue fixed."—*Pope.*

Ap'atin, in *Hungary*, a town of Bacs co., situated on the left side of the Danube, S. of Baja. It has a trade in hemp, silk, and madder. *Pop.* 7,886.

Ap'atite, *n.* (*Min.*) See Lime, Phosphate of.

Ape, *n.* [A.S. *apa.*] (*Zoöl.*) See Simiadæ.

—A servile imitator: a simpleton.

"My lady's *ape*, that imitated all her fashions...."—*Nabbes.*

—*v. a.* To imitate servilely: to mimic, as an ape.

Apeak', *adv.* On the peak, or point; in a posture to pierce.

(*Naut.*) Perpendicular. An anchor is said to be *apeak*, when the cable is hove so tant as to bring the ship directly over it.

Apel'les, the most celebrated of the Greek painters; he flourished B.C. 340–323, and was the friend of Alexander the Great, whose portrait he himself alone was suffered to paint. His works were particularly noted for their exquisite representation of feminine beauty. His masterpiece, "*Venus rising from the Sea*," was conveyed to Rome by the emperor Augustus. According to Pliny, *A.* generally painted with four colors only, which he made to harmonize by means of the varnish which he himself had invented.

Apel'lous, *a.* [From Gr. *a*, priv., and Lat. *pellis*, skin.] Having no skin.

Ap'ennine, *a.* Relating to the Apennines Mountains.

Ap'ennines. A chain of mountains in Italy, which begins at the end of the Maritime Alps, at about 90° Lon. E., in the territory of Genoa. They are divided into three parts: Northern *A.*, as far as the sources of the Rouco; Central *A.*, as far as the sources of the Sangro; and Southern *A.*, reaching to the extreme cape of the peninsula. At first, they run from W. to E., skirting the Gulf of Genoa: they then turu to the S.E. and enter the peninsula through the middle, the entire length of which they penetrate. They are mountains of the secondary class, their mean height being 5,000 ft., and display ueither the pyramidal summits of the Alps, uor the lofty and abrupt peaks of the Pyrenees; though smooth in form, they present but a melancholy aspect, owing to the nakedness of their flanks. The entire length of the *A.* is about 800 m., and their highest point, Monte Corno in the Abruzzi, 10,206 ft. above the level of the sea. The Southern *A.* are partly in a volcanic state, but the only active crater is *Mount Vesuvius*. The *A.*

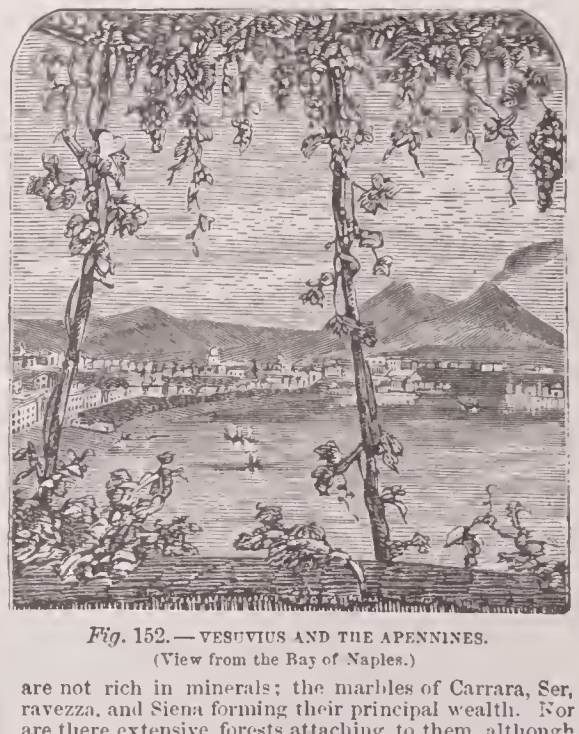


Fig. 152.—Vesuvius and the Apennines.
(View from the Bay of Naples.)

are not rich in minerals; the marbles of Carrara, Serravezza, and Siena forming their principal wealth. Nor are there extensive forests attaching to them, although up to 3,000 ft. the principal chain is covered with a varied vegetation: the olive, the palm, the citron, and the orange forming the lower belt. Above this limit, these mountains are generally arid, and destitute of vegetation.

Apep'sy, *n.* (*Med.*) See DYSPEPSIA.
A'per, *n.* One who apes; a servile imitator.
Ape'rient, *a.* [Lat. *aperiens*, from *aperio*, to open.] (*Med.*) Opening; gently purgative.
—*n.* A laxative; a mild purgative; deobstruent.
Aper'itive, *a.* (*Med.*) Aperient.
Ap'ertnre, *n.* [Lat. *apertura*, from *aperio*, *apertus*, to open.] A setting open; an opening; an orifice; a hole; a passage; a gap.
(*Geom.*) The opening or angle formed by the meeting of two right lines.
A'pery, *n.* An affected imitation.
Apet'alæ, *n. pl.* [From Gr. *a*, priv., and *petalon*, flower-leaf.] (*Bot.*) Plants whose flowers have no petals; those dicotyledonous plants which have a calyx but no corolla. They are also named *Monochlamydeous* plants. In the system of Bentley, they form the 3d division of the class *Angiosperms*. In Lindley's arrangement, they form the alliance ASARALES, *q. v.*
Apet'alous, *a.* (*Bot.*) Without petals or corolla
A'pex, *n.*; *pl.* **Aph'idæ** or APHIDES. (*Zoöl.*) A gen. and family of homopterous insects, comprising the very numerous and obnoxious species of *Plant-lice*, *Pucerons*, and *Vine-fritters*, a tribe of insects analogous, in regard to the vegetable world, to the animal parasites of the order *Anoplura*, or lice. The antennæ are of great length; the ocelli, three in number, form a large triangle; the eyes are entire, prominent, and semi-globose; the abdomen is short and convex, generally furnished with a tubercle on each side near the extremity. Some are winged, and some are wingless, without distinction of sex; the legs are very long and slender, formed only for crawling. The species reside in great societies upon almost every species of plant, of which they suck the young shoots, leaves, and stems, by the assistance of their proboscis, producing disease in the plant either by greatly weakening it, or by raising vesicles, or other gall-like excrescences, in which whole generations of Aphides reside. In autumn, the mother *A.* deposits her eggs in some place she selects as suitable for her purpose. In winter the parents die, but the eggs remain unhurt, and in spring they are hatched. The young thus ushered into the world are all females, and, notwithstanding the absence of males, they are all fertile, and being *viviparous* at this season, soon bring forth a progeny of females like themselves. During the summer, 10 or 11 generations are thus produced successively from each female, every one so born being the mother of a fresh brood, so that at the end of the season the mother of the first brood may be the progenitor of 10,000 million millions! In autumn males are born. These impregnate the last generation, which are *oviparous*, and lay fecundated eggs, the young from which do not require fresh impregnation. The *A.* are remarkable for secreting a sweet, viscid fluid, known by the name of *honey-dew*, which ants and bees are very fond of. The ravages of the *A.* are sometimes terrible. The *A.* of the rose, *A. rosæ*, is well known to every one familiar with a garden. Apple and pear trees are subject to the same pest; the hop and the vine also are frequently injured by their attacks. The larvæ of the *Coccinellæ*, or lady-birds, several ichneumonidæ, &c., devour great numbers. The best method of destroying them, however, is to water the plants with an infusion of tobacco in water.
Aphlogis'tic, *a.* [From Gr. *a*, priv., and *phlogizo*, to burn.] Flameless.
A. Lamp. See DAVY SAFETY-LAMP
Apho'didæ, or APHODIADÆ, *n. pl.* (*Zoöl.*) A fam. of minute Lamellicorn beetles extremely abundant in temperate countries during the spring months, swarming in the dung of the larger herbivorous animals. They are nearly allied to the Scarabæidæ, but the body is more elongated.
Aph'onous, *a.* [Gr. *a*, priv., and *phonē*, voice.] Deprived of voice.
Aph'ony, *n.* (*Med.*) A suppression of the voice, without either syncope or coma. It takes place from a tumor of the fauces, or about the glottis; from disease of the trachea; or from paralysis. See APHONIA.
Aph'orism, *n.* [Gr. *aphorismos*.] That which separates, bounds, or defines; a precise and pithy saying expressed in few words; a sharply defining sentence or proverb of law or morals, not of physics or mathematics; a maxim; a proverb; a precept.
Aphorismat'ic, APHORIS'MIC, APHORIS'TIC, APHORIS'TICAL, *a.* In the form of an aphorism, or relating to aphorisms.
Aph'orist, *n.* A writer of aphorisms.
Aphoris'tically, *adv.* In the form or manner of aphorisms.
Aphrac'tus, *n.* [Lat.] (*Antiq.*) A ship, called also *navis aperta*, which had no deck, but was merely covered with planks in the front and hinder part. The ships which had decks were called *cataphracti*, and tactæ or stratæ. At the time of the Trojan war the Greek ships had no decks, but were only covered over in the prow and stern, which covering Homer calls the *ikrianeos*.
Aph'rite, *n.* [Gr. *aphros*, froth.] (*Min.*) A soft, friable carbonate of lime, found in the primary mountains, in layers. This mineral must not be confounded with *meerschaum* (sea-scum), which is an amorphous carbonate of magnesia.
Aphrodi'sia, *n.* [Gr.] (*Antiq.*) This name was given to festivals celebrated in honor of Aphrodite (Venus), in a great number of towns in Greece, but particularly in the island of Paphos. Her most ancient temple was at Paphos. No bloody sacrifices were allowed to be offered to her, but only pure fire, flowers, and incense. See VENUS.
Aphrodi'siac, *n.* [Fr. *aphrodisiaque*; Gr. *aphrodisiakos*, from *Aphrodite*, Venus.] (*Med.*) That which excites a desire for venery.
Aphrodi'siac, APHRODISI'ACAL, *a.* Exciting a desire for venery.
Aphrodi'te. [Gr. *Aphrodite*, synonymous with *Aphrogeneia*, born of the foam of the sea.] (*Myth.*) The goddess of love among the Greeks. — See VENUS.
(*Min.*) A soft, earthy, milk-white silicate of magnesia.
(*Zoöl.*) *A*, or APHRODITA, a genus of small marine annelidæ, including the sea-mouse. Their figure is oval and aculeated; and they are covered with a large quantity of silky hair of a very bright metallic lustre, the colors of which vary with the play of the light.
Aphropho'ra, *n.* (*Zoöl.*) A gen. of Homopterous insects which in the larva state live on plants enveloped in a saliva-like mass; whence their popular name of *cuckoo-spits*. The insects in their perfect state are named, from their leaping powers, *frog-hoppers*. See CERCOPIDÆ.
Aph'thæ, *n. pl.* [Gr. *aphthai*, from *apto*, to inflame.] (*Med.*) The THRUSH, *q. v.*
Aphthi'talite, ARCANITE, APHTHALOSE, *n.* (*Min.*) The sulphate of potash. — See POTASH.
Aph'thong, *n.* [Gr. *a*, priv., and *phthoggos*, the voice.] (*Gram.*) A letter or combination of letters, which have no sound.
Aph'thonite, *n.* (*Min.*) A variety of Tetrahedrite *q. v.*
Aph'yllous, *a.* [Gr. *a*, priv., and *phyllon*, a leaf.] (*Bot.*) Destitute of leaves, at least in the form of foliage.
Apia'ecæ, UMBELLIFERS, *n. pl.* (*Bot.*) An ord. of plants all. *Umbellales.* — *Diag.* Didymous fruit, and a double epigynous disc. They are herbaceous plants, often milky, with solid or fistular furrowed stems. Leaves usually divided. Flowers in umbels, white, pink, yellow, or blue, generally surrounded by an involucre. Calyx superior. Petals 5, inserted on the outside of a fleshy epigynous disc; æstivation imbricate, rarely valvate. Stamens 5, alternate with the petals. Ovary inferior, 2-celled; styles 2, distinct. Fruit consisting of two carpels, separable from a common axis. Seed pendulous, usually adhering inseparably to the pericarp, rarely loose; embryo minute, at the base of abundant horny albumen. — The Umbellifers are common in all northern countries, inhabiting groves, thickets, plains, marshes, and waste lands. This large order is one of those in which plants occur with extremely different secretions. They all appear to form three different principles: The 1st, a watery acrid matter; the 2d, a gum-resinous milky substance; and the 3d, an aromatic oily secretion. When the 1st of these predominates they are poisonous, as *Æthusa cynapium* and *Cicuta maculata*. The 2d in excess converts them into stimulants, as the *Assafœtida*. The absence of the two renders them useful as esculents, as *Celery*, *Parsley*, &c. The 3d causes them to be carminatives and pleasant condiments, as *Pimpinella*, *Anisum*, and *Coriandum sativum*.
Apia'rian, *a.* Relating or pertaining to bees.
A'piarist, *n.* One who keeps an apiary.
A'piary, *n.* [Lat. *apiarius*, from *apis*, a bee.] The place where bees are kept.
Ap'ical, *a.* Relating to the apex or top.
Ap'ices, AP'EXES. See APEX.
Api'cian, *n.* One who loves good eating; a gourmand.
Api'cius, the name of three celebrated Roman gluttons. The first lived under Sylla, the second under Augustus and Tiberius, and the third under Trajan. The second expended immense sums in gluttony, and was the inventor of several sorts of cakes. Finding his wealth reduced to a sum of $60,000, he, thinking he must starve, poisoned himself.
Apic'ulate, Apic'ulated, *a.* [From Lat. *apex*, a point.] Terminating in an abrupt short point or tip.
A'pidæ, *n. pl.* (*Zoöl.*) The bees, an extensive family of insects, belonging to the ord. *Hymenoptera*. The species are numerous, and they possess a long proboscis which distinguishes them from the *Andrenidæ*. They are divided into several large groups, as the *Panurgidæ*, solitary bees, which resemble the Andrenidæ, and of whose habits little is known correctly. The *Melectidæ*, or cuckoo-bees, which are parasitic, making use, as the cuckoo does, of the nests of other species. The *Megachilidæ*, containing a number of species, which, from their respective economy, are called mason-bees, and upholsterer-bees. The species of the gen. *Osmia* construct their nests of minute grains of sand, cemented together with a glutinous secretion. The gen. *Anthocopa* is called the tapestry-bee, from its using portions of the wild scarlet poppy to form its nests. The species of the gen. *Megachile*, on the other hand, form their nests in the trunks of decayed trees, and line them with pieces of leaves of a circular form, so admirably adjusted, that, although not covered with any coating of gum, they are honey-tight. The gen. *Anthidium* belongs to this group The *Scopulipedes* are named from the females having a very thick coating of hair upon their hind-legs. They make a loud humming noise when they fly. Among them are the carpenter-bees, *Xylocopa*, which tunnel into wooden posts, palings, &c., forming burrows to the length of 12 to 15 inches, and ½ in. in diam. (See Fig. 944.) These four groups are all solitary bees; differing in this respect from the succeeding, called *Sociales*, which contains those species living in communities or societies. Among these is the gen. *Bombus*, or humble-bee, which forms its nests underground in meadows, &c., and lives in societies consisting of 50 to 100 individuals. But the most important species of this group, and of the whole family, is the hive-bee, *Apis mellificq*, which, considering its domestic importance, will be separately examined under the common name BEE.

Fig. 155. — SOLITARY BEES, (*Apidæ.*)
1. Osmia; 2. Anthidium; 3. Panurgus; 4. Megachile.

Apiece', *adv.* [From *a* for *each*, and *piece*.] To the part or share of each.
"One copy of this paper may serve a dozen of you, which will be less than a farthing *apiece*."
— Each by itself; for one; as, they cost one dollar *apiece*.
A'piine, *n.* [Lat. *apium*, parsley.] (*Chem.*) An uncrystallizable alkaloid from common parsley (*apium petroselinum*). *Form.* $C_{24}H_{14}O_{13}$.
Apiocri'nus, *n.* (*Pal.*) A gen. of fossil *Crinoidea* belonging to the oölitic formation.
A'pion, *n.* (*Zoöl.*) A gen. of insects, family *Curculionidæ*, q. v.
A'pios, *n.* (*Bot.*) A gen. of plants, tribe *Phaseoleæ*. The *A. tuberosa*, or ground-nut, is found in thickets and shady woods of the U. States, twining among other plants. Stem round, 2–4 ft. high; flowers dark purple. To the root are appended oval, fleshy tubercles, which are very nutritious.
A'pis, *n.* [Lat.] (*Zoöl.*) A bee; a member of the fam *Apidæ*, q. v.
(*Myth.*) A bull to which divine honors were paid by the Egyptians, chiefly at Memphis, where he had a temple. According to the belief of the people, a cow became pregnant of him by a beam of light from heaven, coming particularly from the moon. It was necessary that he should be black, with a triangle of white on the forehead, a white spot, in the form of a crescent, on the right side, and a sort of knot, like a beetle, under his tongue.

Fig. 153.
APEX WORN BY THE SALII.

A'pex, *n.*; *pl.* APEXES. [Lat. *apex*, pl. *apices*, from *apiscor*, to reach after something.] The extreme end of a thing; the tip or summit of anything.
(*Antiq.*) An *A.* was a cap worn by the Flamines and Salii at Rome. The essential part of the apex, to which alone the name properly belonged, was a pointed piece of olive-wood, the base of which was surrounded with a lock of wool. This was worn on the top of the head, and was held there either by fillets only, or by the aid of a cap which fitted the head.
Apex of the Sun's Way. (*Astron.*) The point on the celestial sphere toward which the sun and the entire solar system is moving at the rate of from 9 to 12 miles a second. The precise point is not yet very accurately ascertained, but all agree in locating it between the constellations of The Lyre and Hercules.
Aphanip'tera, *n. pl.* [Gr. *aphanes*, obscure, and *pteron*, a wing.] (*Zoöl.*) A *Linnæan* order of Apterous haustellate insects, having rudimental elytra or wings in the perfect state. It is composed entirely of the different species of Fleas, forming the family *Pulicidæ*; the common Flea (*Pulex irritans*) being the type of the order. The female flea deposits a dozen eggs, of a white color and rather viscous texture, from which are hatched long, worm-like grubs, destitute of feet, which are very active in their motions, winding themselves in a serpentine manner through the substance in which they may be deposited. When full-grown, the larvæ enclose themselves in a small cocoon of silk. In this they pass into a pupa state, and in about 12 days emerge a perfect flea.—In hot countries these insects are exceedingly troublesome; but in the West Indies and S. America there is an insect belonging to the family, which is even more obnoxious; this is the Chigoe, *Pulex penetrans*, which lives in the open country, and attacks the naked feet both of men and dogs.
Aphe'lion, *n.*; *pl.* APHELIA. [Gr. *apo*, away from, and *helios*, the sun.] (*Astron.*) That point at which the earth, or any planet, is at the greatest distance from the sun.—See PERIHELION.
Apher'esis, *n.* [Gr. *apo*, from, and *haireo*, to take or seize.] (*Gram.*) The taking away of a letter or syllable from the beginning of a word.
Aphilan'thropy, *n.* [Gr. *a*, priv., *phileo*, to love, and *anthropos*, man.] The want of love to mankind.
A'phis, *n.*; *pl.* **Aph'idæ** or APHIDES. (*Zoöl.*) A gen.

The death of Apis excited universal mourning, which continued till the priests had found a successor to him. As it was extremely difficult to find one with all the above distinctions, fraud was often practised by the priests.

Ap'ish, *a.* [From *ape.*] Having the qualities of an ape; imitative.—Silly; trifling; insignificant.—Foppish; affected.

> "Because I cannot flatter, and look fair,
> Duck with French nods and *apish* courtesy."—*Shaks.*

Ap'ishly, *adv.* In an apish manner; foppishly; conceitedly.

Ap'ishness, *n.* Mimicry; foppery; insignificance; playfulness.

Apish'pa, in *Colorado,* a twp. of Los Animas co.; *pop.* 893.

Apis'tes, *n.* [From Gr. *apistos,* treacherous.] (*Zoöl.*) A gen. of acanthopterygious fishes belonging to the fam. *Scorpænidæ.* The species live in the Indian seas, and are characterized by their suborbital plates being armed with a long, sharp, very movable spine, which the fish can project from its cheek at pleasure, and of which it can make an offensive weapon. In a state of repose this spine is concealed

A-pit'-pat, *adv.* See PIT-A-PAT.

A'pium, *n.* [A.S. *apon,* water.] (*Bot.*) A gen. of plants, ord. *Apiaceæ.* The stems of the species *A. graveolens,* the Celery, when blanched by being buried, are sweet, crisp, and spicy in flavor, and used as salad. See CELERY.

Aplanat'ic, *a.* [Gr. *a,* priv., and *planē,* a wandering.] (*Opt.*) Applied to reflectors which deviate light without spherical aberration.

Aplec'trum, *n.* [Gr. *a,* priv., and *plektron,* a spur.] (*Bot.*) A gen. of plants, ord. *Orchidaceæ.*—See ADAM AND EVE.

Ap'lington, in *Iowa,* a post-office of Butler co.

Aplus'tre, *n.* [Lat. from Gr. *aphlaston.*] An ornament of wooden planks, which constituted the highest part of the poop of ancient ships.

Fig. 156. APLUSTRE.

Apoc'alypse, *n.* [Gr. from *apokalypto,* I reveal.] (*Eccl. Hist.*) The name of the last book of the New Testament, containing an account of the visions of St. John the Evangelist. It is generally believed, that the Apocalypse was written by John in his old age, at the end of the 1st century, in the isle of Patmos, whither he had been banished by the Roman emperor Domitian. Though the book was commonly regarded as genuine in the first centuries of Christianity, critics have not been wanting who have doubted the evidence of its being the work of St. John. The *A.,* on account of its metaphorical language, has been explained differently by almost every writer who has ventured to interpret it; and for the same reason, it is one of those parts of the Bible which has furnished all sorts of sects and fanatics with quotations to support their creeds or pretensions.—The *A.* contains 22 chapters, which may be divided into two principal parts. The first, after the title of the book (ch. i. 1–3), comprises "the things which are," that is, the then present state of the Christian Church, including the epistolary instructions and admonitions to the angels or bishops of the 7 churches of Ephesus, Smyrna, Pergamos, Thyatira, Sardis, Philadelphia, and Laodicea, of Asia Minor. The second part comprises a prediction of "the things which shall be hereafter," referring either to the future state of the Church through succeeding ages, from the time when the apostle beheld the apocalyptic visions, to the grand consummation of all things, or the state of the souls of men after the great resurrection of the dead.

Apoc'alypt, *n.* A name applied to St. John, the author of the Apocalypse.

Apocalyp'tic, *a.* Containing or pertaining to revelation: disclosing; pertaining to the Apocalypse.—*n.* An apocalyptical writer.

Apocalyp'tical, *a.* The same as apocalyptic.

Apocar'pous, *a.* [Gr. *apo,* and *karpos,* fruit.] (*Bot.*) Applied to pistils distinct from each other. See CARPEL.

Apo'cinum, *n.* [Gr. *apo,* away; *kyon,* a dog. Pliny says this plant is fatal to dogs.] (*Bot.*) A gen. of plants, ord. *Apocynaceæ.*—The dog's-bane, *A. androsæmifolium,* is a smooth, elegant plant, with a stem reddened by the sun, 3 ft. high; corolla bell-shaped, white, striped with red. It is a medicinal plant, found in the U. States, in hedges and borders of fields.

Apoc'opate, *v. a.* [From APOCOPE.] To take away the last letter or syllable of a word.

Apoc'ope, *n.* [Lat. and Gr., from Gr. *apo,* from, and *koptein,* to cut.] (*Gram.*) The taking away of the last letter or syllable of a word; as *ingeni* for *ingenii.*

Apoc'rypha, *n. pl.* [Lat. from Gr. *apokrypto,* to hide or conceal.] Literally, that which is hidden from: things not published. Generally applied to certain books not admitted into the canon of Scripture; being either spurious, or not acknowledged as of divine origin. They are opposed to the *canonical writings,* i. e. those which are considered as affording rules of faith and conduct, because a divine origin is attributed to them.

Apoc'ryphal, *a.* Pertaining to the Apocrypha; not canonical; of uncertain authority or credit.

> "To speak of her in the words of the *apocryphal* writers, wisdom is glorious, and never fadeth away."—*Addison.*

Apoc'ryphalist, *n.* An advocate for the Apocrypha.

Apoc'ryphally, *adv.* In an apocryphal manner; with uncertainty.

Apoc'ryphalness, *n.* State or quality of being apocryphal.

Apocynaceæ, DOGBANES, *n. pl.* (*Bot.*) An ord. of plants, alliance *Gentianales.* DIAG. No stipules and the stigmas collected into a massive head, expanded at the base in the form of a ring or membrane, and contracted in the middle. They are trees, shrubs, and herbs with a milky juice; leaves opposite, entire; calyx free, 5-parted, persistent; corolla 5-lobed, regular, twisted in æstivation, deciduous; stamens 5, arising from the corolla; anthers adhering firmly to the stigma; ovaries 2, distinct or rarely united; seeds numerous, pendulous; embryo foliaceous.—100 genera, 566 species, chiefly natives of the torrid zone.—These plants possess active and often suspicious qualities residing in the white juice with which the order is pervaded, and in the seeds which are often deadly poisons.

Ap'odal, *a.* [Gr. *a* priv., and *pous, podos,* a foot.] (*Zoöl.*) Without feet, or destitute of ventral fins.

Apodic'tic, Apodic'tical, *a.* [Gr. *apodeixis,* a demonstration.] That is evident beyond contradiction. (R.)

Ap'odon, *n.; pl.* AP'ODA. [See APODAL.] (*Zoöl.*) An animal without feet.—Also, an order of fishes characterized by Linnæus as being composed of all those which are destitute of ventral fins. According to Cuvier's system, however, they must not only want ventral fins, but be likewise malacopterygious. Of this kind a good and familiar example is seen in the common eel.

Apod'osis, *n.* [Gr. *apodidomi,* to give back.] (*Gram.*) A giving back; a restitution; a subsequent proposition or clause, which explains or gives back meaning to a preceding one, called the *protasis.*

Ap'ogee, *n.* [Gr. *apo,* away from, and *ge,* the earth.] (*Astron.*) The point in the moon's orbit most remote from the earth.—See APSIS.

Ap'ograph, *n.* [Gr. *apographon.*] A copy or transcript of some book or writing,—in opposition to *autograph.*

Apollinaris Water, an alkali water, containing carbonate of soda, from springs in the Rhine provinces.

Apol'da, a town of Saxony, 4 m. from Jena. It has thermal springs, and is a station on the railway from Berlin to Weimar.

Apollina'rius, THE YOUNGER, who flourished in the time of the emp. Julian, and D. about 382. He early wrote and preached the orthodox faith, but he severed from it and was deemed a heretic; he thus became the founder of a sect called the *Apollinarians.* This sect denied the proper humanity of Christ, and maintained that the body which he assumed was endowed with a sensitive, but not a rational soul, and that the divine nature supplied the place of the intellectual principle in man. Their doctrines were first condemned at Alexandria in 362, and afterwards more formally, by a council at Constantinople in 381, which deposed *A.* from his bishopric of Laodicea in Syria. He is said to have held the doctrine of the Millennium, or the personal reign of Christ on earth for 1,000 years.

Apol'lo, (*Myth.*) the son of Jupiter and Latona, called also Phœbus, is often confounded with the sun. According to Cicero, there were four persons of this name. To the son of Jupiter and Latona, however, all the actions of the others seem to have been attributed. As soon as he was born, Apollo destroyed with arrows the serpent Python, which Juno had sent to persecute Latona. Apollo was the god of the fine arts, of medicine, music, poetry, and eloquence; of all these he was deemed the inventor. He had received from Jupiter the power of knowing futurity, and he was the only one of the gods whose oracles were in general repute over the

Fig. 157.—APOLLO BELVIDERE.

world. He is generally represented with long hair, tall, beardless, with a handsome shape, holding in his hand a bow, and sometimes a lyre. He had temples and statues in every country, particularly in Egypt, Greece, and Italy. The cock, the grasshopper, the wolf, the crow, the swan, the hawk, the olive, the laurel, the palm-tree, &c., were sacred to him; and in his sacrifices, wolves and hawks were offered, as they were the natural enemies of the flocks over which he presided. Bullocks and lambs were also immolated to him. As he presided over poetry, he was often seen on Mount Parnassus with the nine Muses. His most famous oracles were at Delphi, Delos, Claros, Tenedos, Cyrrha, and Patara. His most splendid temple was at Delphi, to which every nation and individual brought considerable presents when they consulted the oracle. He had a famous Colossus in Rhodes, which was one of the seven wonders of the world. Among the ancient statues of *A.* that have come down to us, the most remarkable is the one called *Apollo Belvidere,* (see *Fig.* 157,) from the pavilion of Belvidere in the Vatican, at Rome; also called *Pythian Apollo,* because it is supposed that the artist has represented the god as conqueror of the serpent Python. This statue, the best and most perfect that art has produced, was found in the ruins of Antium, at the end of the 15th century, and purchased by Pope Julius II. In 1797, it was carried to Paris, with other treasures of art, and finally restored to Rome, 1815.

Apol'lo, in *Pennsylvania,* a post-village of Armstrong co., 42 m. N.E. of Pittsburg, on the river Kiskiminetas and the Pennsylvania Canal.

Apollodo'rus, a famous Athenian painter, about B. C. 408. Pliny records two of his pictures: one of a priest of Apollo at the altar, and the other representing the shipwreck of Ajax.

Apollodo'rus, B. at Damascus, and lived in the reigns of Trajan and Hadrian. His fame as an architect caused the former to employ him in building a great stone bridge over the Danube, and other works. *A.* subsequently falling into disgrace with the emperor Hadrian, was put to death by his command.

Apollo'nius, of Perga, lived about B. C. 210. He was a mathematician at Alexandria, and wrote a work on conic sections which still survives.

Apollo'nius Rhodius, a Greek poet, B. in Egypt, but long residing at Rhodes, where he founded a school of rhetoric. He afterwards became keeper of the famous library of Alexandria, B. C. 149. He wrote a poem, called *Argonautica,* which is still extant.

Apollo'nius, a Pythagorean philosopher, B. at Tyana, about the beginning of the Christian æra. Applying himself to philosophic studies, he adopted the system introduced by Pythagoras, and travelled through the East, professing miraculous powers; inducing some to consider him as a rival to the founder of Christianity. His asceticism of life, the miracles and prophecies attributed to him, and the wisdom exhibited in his discourses, brought to him many followers, who erected statues and temples in his honor. D. at Ephesus, about A. D. 97. His life has been written by Philostratus.

Apol'lyon, *n.* [Gr. *apollyon,* from *apollyo,* to destroy.] The same as ABADDON, *q. v.*

Apologet'ic, Apologet'ical, *a.* [Gr. *apologetikos,* from *apo,* from, and *legein,* to say.] That which is said in defence of any thing or person; as, an *apologetic* essay.

Apologet'ically, *adv.* In the way of defence or excuse.

Apologet'ics, *n. pl.* (*Theol.*) That branch of theology which defends the holy Scriptures, and sets forth the evidence of their divine authority.

Apol'ogist, *n.* One who makes an apology; one who speaks or writes in defence of another, or of something.

Apol'ogize, *v. n.* To make an apology; to speak in extenuation of; to write or speak in favor of, or to make excuse for.

> "I ought to *apologize* for my indiscretion."—*Wake.*

Apol'ogizer, *n.* One who makes an apology; a defender.

Ap'ologue, *n.* [Gr. *apologos,* from *apo,* from, away from, and *logos,* speech.] A poetical fiction, the purpose of which is the improvement of morals.—It is the Greek word for the Latin FABLE, *q. v.*

Apol'ogy, *n.* [Fr. *apologie.* See APOLOGETIC.] Defence; excuse.—*A.* generally signifies rather excuse than vindication; and tends rather to extenuate the fault, than prove innocence.—This is, however, sometimes disregarded by authors.

> "It is not my intention to make an *apology* for my poems."—*Dryden.*

Apomecom'etry, *n.* [From Gr. *apo,* from, *mekos,* length, and *metron,* measure.] The art of measuring things at a distance.

Aponeuro'sis, *n.* [From Gr. *apo,* from, and *neuron,* a nerve.] (*Med.*) A tendinous expansion.

Apoph'asis, *n.; pl.* APOPH'ASES. [Gr., a denial.] (*Rhet.*) A figure of speech in which the orator briefly alludes to, or seems to decline stating, that which he wishes to insinuate.

Apophleg'matic, *n.* and *a.* [From Gr. *apo,* from, and *phlegma,* phlegm.] (*Med.*) A medicine, or applied to a medicine which excites the secretion of mucus from the mouth and nose.

Ap'ophthegm, AP'OTHEGM, *n.* [Gr. *apophthegma,* a curt saying.] Literally, that which is spoken out or uttered plainly;—a terse, pointed saying; a short, sententious, pregnant remark.—See APOTHEGMATIC.

Apoph'yge, *n.* [Gr. *apo,* from, and *phyge,* flight.] (*Arch.*) The scape or spring of a column.

Apophyl'lite, *n.* [Gr. *apo,* from, *phyllon,* a leaf, and *lithos,* a stone.] (*Min.*) A tetragonal mineral, of a white pearly lustre; brittle: found in trap rocks. Spec. grav., 2·335 to 2·359. *Comp.* Silica 55·5, lime 23·0, potash 4·8, water 16·7 = 100. It exfoliates B.B., whence its name.

Apoph'ysis, *n.* [Gr. *apo*, from, and *physis*, birth.] (*Anat.*) A process, projection, or protuberance of a bone beyond a plain surface; as the nasal *A.* of the frontal bone

(*Bot.*) The fleshy tubercle under the basis of the capsule or dry fruit adhering to some mosses.

Apoplec'tic, APOPLEC'TICAL, *a.* Pertaining to, or consisting of apoplexy.

Ap'oplexed, *a.* Seized with an apoplexy.

Ap'oplexy, *n.* [Gr. *apoplexia*, from *apo*, from, and *plesso*, *plexo*, to strike; because persons, when seized with this disease, fall down suddenly.] (*Med.*) A disorder in which the patient is suddenly deprived of the exercise of all the senses, and of voluntary motion; while a strong pulse remains with a deep respiration, attended with stertor, and the appearance of profound sleep. *A.* makes its attack chiefly at an advanced period of life; and most usually on those who are of a corpulent habit, with a short neck, and large head; and who lead an inactive life, make use of a full diet, or drink to excess. The immediate cause of *A.* is a compression of the brain, produced either by an accumulation of blood in the vessels of the head, and distending them to such a degree as to compress the medullary portion of the brain; or by an effusion of blood from the red vessels, or of serum from the exhalants; which fluids are accumulated in such a quantity as to occasion compression. This state may be brought on by whatever increases the afflux and impetus of the blood in the arteries of the head; such as violent fits of passion, great exertions of muscular strength, severe exercise, excess in venery, stooping down for any length of time, wearing any thing too tight about the neck, over-loading the stomach, long exposure to excessive cold or a vertical sun, the sudden suppression of any long-accustomed evacuation, the application of the fumes of certain narcotic and metallic substances, such as opium, alcohol, charcoal, mercury, &c., and by blows, wounds, and other external injuries; in short, apoplexy may be produced by whatever determines too great a flow of blood to the brain, or prevents its free return from that organ.—*A.* is sometimes preceded by headache, giddiness, dimness of sight, loss of memory, faltering of the tongue in speaking, numbness in the extremities, drowsiness, stupor, and night-mare, all denoting an affection of the brain; but it more usually happens that, without much previous indisposition, the person falls down suddenly, the countenance becomes florid, the face appears swelled and puffed up, the vessels of the head, particularly of the neck and temples, seem turgid and distended with blood; the eyes are prominent and fixed, the breathing is difficult and performed with a snorting noise, and the pulse is strong and full. Although the whole body is affected with the loss of sense and motion, it nevertheless takes place often more upon one side than the other, which is called hemiplegia, and in this case the side least affected with palsy is sometimes convulsed.—If the fit is of long duration, the respiration laborious and stertorous, and the person much advanced in years, the disease, in all probability, will terminate fatally. In some cases, it goes off entirely; but it more frequently leaves a state of mental imbecility behind it, or terminates in a hemiplegia, or in death. Even when an attack is recovered from, it most frequently returns again, after a short period of time, and in the end proves fatal. Although an attack of *A.* comes on, for the most part, suddenly and unexpectedly, yet it is often preceded by appearances which give warning of its approach. These are a high color of the whole face, giddiness or vertigo, sparks or flashes of light before the eyes, noises in the ears, bleeding at the nose, and pain in the head. The danger, in such cases, may most commonly be averted by bleeding, and abstemious diet, to be continued till these symptoms are removed. When a person is unfortunately attacked by *A.*, the first step should be to open the cravat and collar, so as to leave the neck free; if it be a short time after a meal, or if the last meal has been of an indigestible character, the stomach should be emptied by an emetic, or by tickling the throat with the finger, without waiting for a physician, and, at the same time, a vein or two should be opened, so as to produce a free flow of blood, which should be continued, if the face is flushed and red, till relief is obtained. Subsequent treatment will of course be directed by a medical attendant.

Apo'ria, *n.* [Gr.] (*Rhet.*) A figure by which the speaker intimates that he is in doubt what to do, or where to begin.

Aposiope'sis, *n.* [Gr.] A form of speech by which the speaker, from strong feeling, breaks off suddenly, suppressing a part of his speech to be mentally supplied by his hearers.

Apos'tasy, *n.* [Gr. *apostasis*, from, *apo*, from, and *histemi*, to stand.] The abandonment of any system of thinking or acting, good or bad: but the word is generally used in a reproachful sense, of one who has changed his religious opinions.—What one party calls *apostasy* is termed by the other *conversion*.

(*Hist.*) History mentions three eminent apostates; Julian the apostate, who had never been a Christian except nominally and by compulsion: Henry IV., king of France, who thought that "*Paris vaut bien une messe*;" and William of Nassau, the Stadtholder, who separated himself from the Catholic church, and became a Protestant.

Apos'tate, *n.* [Gr. *apostates*; Fr. *apostat*.] One who stands aloof; one who renounces his religion or professed principles, or his party; a renegade.

—*a.* False; traitorous.

Apos'tatize, *v. n.* [Fr. *apostasier*.] To stand away or depart from; to abandon one's religion, principles, church, or party.

A posterio'ri. [Lat., from the latter.] (*Logic.*) A mode of reasoning from the effect to the cause; — opposed to *a priori*.

Apos'til, *n.* [Fr. *apostille*.] A marginal note to a book.

Apostle, *n.* [Fr. *apôtre*; Lat. *apostolus*; Gr. *apostolos*, from *apo-stello*, to send off or away from.] One who is sent off or away from; one sent on some important mission; a messenger: a missionary.

(*Eccl. Hist.*) The name given, in the Christian church, to the 12 men whom Jesus selected from his disciples as the best instructed in his doctrines, and the fittest instruments for the propagation of his religion. Their names were as follows: Simon Peter (Greek for *Caiaphas*, the *rock*), and Andrew his brother; James the greater, and John his brother, who were sons of Zebedee; Philip of Bethsaida, Bartholomew, Thomas, Matthew; James the son of Alpheus, commonly called *James the less*; Lebbeus, his brother, who was surnamed *Thaddeus*, and was called *Judas*, or *Jude*; Simon the Canaanite, and Judas Iscariot. Of this number, Simon Peter, John, James the greater, and Andrew were fishermen; and Matthew, a publican or tax-gatherer. When the apostles were reduced to 11 by the suicide of Judas, who had betrayed Christ, they chose Matthias by lot, on the proposition of St. Peter. Soon after, their number became 13, by the miraculous vocation of Saul, who, under the name of *Paul*, became one of the most zealous propagators of the Christian faith. The Bible gives the name of *apostle* to Barnabas also, who accompanied Paul on

Fig. 158.—ST. MARK.

(Copied from a picture of the 16th century, by Fra Bartolomeo, Gallery of the Pitti Palace, Florence.)

his missions (*Acts of the Ap.* ch. xiv. ver. 13), and Paul bestows it also on Andronicus and Junia, his relations, and companions in prison. Generally, however, the name is used, in a narrower sense, to designate those whom Christ selected himself while on earth, and Paul, whom he afterwards called. In a still wider sense, preachers who first taught Christianity in heathen countries, are sometimes termed *apostles*; e. g., St. Denis, the *A.* of the Gauls; St. Boniface, the *A.* of Germany; the monk Augustine, the *A.* of England; the Jesuit Francis Xavier, the *A.* of the Indies; Adalbert of Prague, *A.* of Prussia Proper. — Paul was the only *A.* who had received a scientific education; the others were mechanics. Peter, Andrew, and John are called in the Scriptures (*Acts* ch. iv. ver. 13), *homines sine literis, idiotæ*. Peter employed his disciple St. Mark in writing the Gospel which bears his name. During the life of the Saviour, the *A.* more than once showed a misunderstanding of the object of his mission; and, during his sufferings, evinced little courage and firmness of friendship for their great and benevolent teacher. After his death, they received the Holy Ghost on the day of Pentecost, that they might be enabled to fulfil the important duties for which they had been chosen. Of their subsequent lives, all that we know will be found under their respective names.

Apos'tles', or APOSTOLES **Islands,** in the Strait of Magellan, at its entrance into the Pacific, near Cape Deseada; Lon. 75° 6′ W.; Lat. 54° 34′ S. They are 12 in number, which circumstance gave them their name. All are small, barren, and deserted.

Apos'tleship, *n.* The office of an apostle.

Apos'tolate, *n.* A mission; the dignity or office of an apostle.

Apostol'ic, Apostol'ical, *a.* Pertaining or relating to the apostles, or in accordance with their doctrines.

(*Eccl. Hist.*) The earlier Christian Church was called the *A. Church*, because the apostles at first conducted it. So, also, the Papal See is called the *A. See*, because it is supposed to have been founded by the apostle Peter. — The *A.* symbol is a short summary of the Christian faith, and bears this name because it contains, in three articles, the doctrines of the apostles. This apostolical symbol is found even in the writings of Ambrose, who lived in the beginning of the 4th century. Peter Gnaphens, in the 5th century, ordered the constant repetition of the same in the church-service.

Apostol'ically, *adv.* In the manner of the apostles.

Apostol'icalness, Apostol'icism, Apostolic'ity, *n.* The quality of being apostolic.

Apostol'ics, *n. pl.* (*Eccl. Hist.*) The name of three sects who professed to imitate the manners and practice of the apostles. The first flourished at the close of the 2d century, and the second existed in the 12th century. Little is known of them. The third was founded about 1260, by Gerhard Sagarelli, who was burnt as a heretic A. D. 1300, and was succeeded as chief apostle by Dolcino, a learned man of Milan, who was also burnt at Vercelli, A. D. 1307.

Apos'trophe, *n.* [Gr. from *apo-strepho*, to turn away from.] (*Rhet.*) A figure of speech by which an orator turns from his subject to address a person either absent or dead, as if he was present.

(*Gram.*) A mark (') indicating that a word is contracted; as, *lov'd* for *loved*. — Also, the sign of the possessive case; as, "Peter's book."

Apostroph'ic, *a.* Pertaining to an apostrophe.

Apos'trophize, *v. a.* To address by apostrophe.

Apothe'ca, *n.* [Lat., from Gr. *apothēkē*.] (*Antiq.*) A place in the upper part of the house, where the Romans frequently placed the earthen amphoræ in which their wines were deposited. — See PHARMACY.

— An apothecary's shop.

Apoth'ecary, *n.* [Lat. *apotheca*; Gr. *apothēkē* — *apo*, and *thēkē*, a chest, a case to put anything in, from *tithemi*, to put or place.] One who prepares and sells drugs or medicines.

Apothe'cium, *n.*; *pl.* APOTHECIA. [N. Lat.] (*Bot.*) The shield or shield-shaped fructification of most lichens.

Ap'othegm, *n.* See APOPHTHEGM.

Apothegmat'ic, Apothegmat'ical, *a.* In the manner of an apothegm, or apophthegm.

Apotheg'matist, *n.* A collector or maker of apothegms or apophthegms.

Apotheg'matize, *v. n.* To utter apothegms or apophthegms.

Apotheo'sis, *n.* [Fr. *apotheose*: Gr. *apotheosis*, from *apo*, from, and *Theos*, God.] A deification; the placing of a prince or other distinguished person among the heathen deities.

(*Hist.*) It was one of the doctrines of Pythagoras, which he had borrowed from the Chaldees, that virtuous persons, after their death, were raised into the order of the gods. And hence the ancients deified all the inventors of things useful to mankind, and who had done any important service to the commonwealth. The Romans, for several centuries, deified none but Romulus, and first initiated the Greeks in the fashion of frequent *A.* after the time of Augustus Cæsar. From this period, *A.* was regulated by the decrees of the senate, and accompanied with great solemnities. It became at last so frequent as to be an object of contempt. The period of the Roman emperors, so rich in crime and folly, offers the most infamous instances of *A.* After Cæsar, the greater part of the Roman emperors were deified. The same hand which had murdered a predecessor often placed him among the gods. The savage Nero deified the beautiful Poppæa, after having killed her by a kick when she was pregnant. Constantinus had the double advantage of being deified by the religion which he had persecuted, and canonized by that which he supported.

Apothe'osize, *v. a.* To deify. (R.)

Apoth'esis, *n.* [Gr. from *apo*, from, and *tithemi*, to replace.] (*Surg.*) The reduction of a dislocated bone, according to Hippocrates.

Apot'ome, *n.* [Gr. *apotemeo*, to cut off.] (*Mus.*) The difference between the greater and the lesser semitone, being expressed by the ratio of 128 to 125.

(*Geom.*) The difference between two incommensurable lines or quantities. Thus the difference between the side of a square and its diagonal is the apotome, and is represented numerically by the expression $\sqrt{2}-1$. — *Brande*.

Ap'ozem, *n.* [Gr. *apozema*, from *apo*, from, and *zeo*, to boil.] (*Med.*) A decoction.

Apozem'ical, *a.* Like a decoction.

Appal', *v. a.*; *pp.* APPALLING, APPALLED. [Lat. *palleo*, to grow pale.] To cause to grow pale or turn pale: to take away or deaden vital energy or power; to depress with fear: to terrify: to dismay; to discourage. — Sometimes also written *appall*.

—*v. n.* To grow faint; to be dismayed. (O.)

Appala'chian, or ALLEGHANY MOUNTAINS, in the U. States, a great mountain-system extending in a general direction from S.W. to N.E., from the northern confines of Georgia and Alabama, in Lat. 34° N., and terminating in a series of mountain-ranges of granite formation on the S. shores of the St. Lawrence; its total length is 1,200 m., with a breadth varying from 90 to 150. *Alleghany* is the name given to it N. of the Potomac; S. of this river it is called *Appalachian*. This chain consists of a succession of nearly parallel ridges having different names, and running in their greater extent nearly parallel to the coast of the Atlantic Ocean, at a distance from it of from 50 to 130 m. These, retiring more into the interior as they proceed S., are now and again intersected by rivers, and separated by generally narrow valleys; and are divided into two principal ranges, the Alleghany Mountains proper, and the Blue Mountains. The former, the more westerly of the two, maintains throughout its entire length, a distance of from 240 to 300 m. from the Atlantic, an almost uniform elevation of 3,000 ft. above the level of the sea. It rises near the great bend of the river Tennessee, in the S. part of Alabama, and from thence runs N.E. till it reaches the northern frontier of Virginia, where it trends toward the N.W. In Pennsylvania, it again takes a course N.E., and ramifies over all the central parts of that State. Near the source of the S. branch of the Susquehanna, it divides into two

branches, the principal of which forms an easterly bend, and after passing the Susquehanna, terminates in the Catskill mountains, one of the highest elevations of the N. Alleghany range. The principal rivers debouching from this mountain-chain, are the Alleghany, the Monongahela, the Greenbrier, Kanawha, and Cumberland, on the W.; and the Delaware, Susquehanna, Potomac, and James river on the E. These, at their upper extremities but inconsiderable mountain-streams, after many and devious windings, unfold themselves into rivers of magnitude.—The E. chain, known as the Blue Ridge, or *Blue Mountains*, is much narrower than the Alleghany, but runs generally parallel with it. From its culminating point, Mount Mitchell in North Carolina, 6,775 ft. above sea-level, it reaches into Virginia, and there bisects into two distinct wings, one trending through the N.E. States into Canada as far as Quebec, the other keeping a course W. to Kingston, in the upper division of that country. The basin between these two branches is called the *Appalachian valley*, and is of the earlier limestone formation. From Upper Canada, the W. bifurcation turns to the N.W. and effects a junction with the Rocky Mountains. The Blue Mountains average in height a mean of about 1,500 ft., and at their base are about 9 m. in breadth. Their highest summits are White-top, said to possess an altitude of 6,000 ft.; and Powell's, in the ridge farthest W., which reaches 4,500 ft. From the Blue Mountains flow the rivers Roanoke, Pedee, Santee, Savannah, and Altamaha on the E.; the Alabama and the Mobile on the S.; and the Tennessee on the W. The N. and S. mountains of Virginia are ramifications of the *A.* chain, extending into the fer-

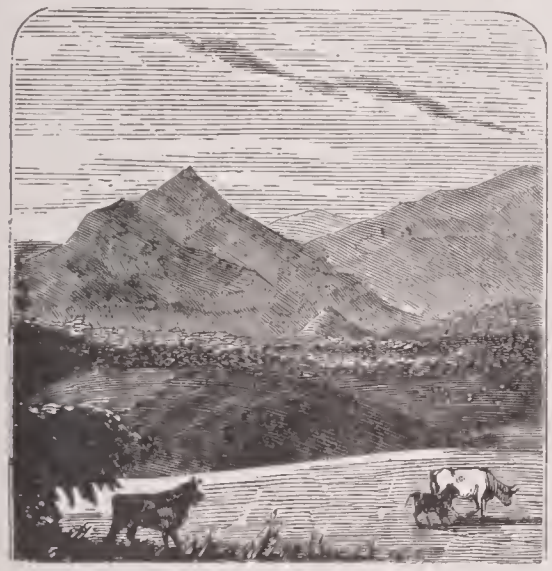


Fig. 159.—VIEW OF OTTER PEAKS (Virginia).

tile valley which lies between its two great divisions. On the W. of the Alleghany lie the *Laurel Mountains*, which run in a parallel course with that range. To the E. of the Hudson river are the *Green Mountains*, with their adjuncts the Taghconnic, and Mount Tom, both rising in Connecticut near New Haven. The former, after intersecting Vermont, throws out a succession of detached summits as far as Cape Gaspé; while the latter takes a line through New Hampshire into Lower Canada. E. of Mount Tom are found the *White Mountains*, a group of dome-shaped configuration, the highest summit of which is Mount Washington, at an altitude of 6,234 ft. above sea-level, and the most elevated point in New England. All of these out-lying ranges are distinguished from those of the *A.* properly so called, lying to S. and W. of the Hudson, by their line of extension forming a parallel to that of the principal rivers, and perpendicular to the sea-coast. Naked summits are the exception in these mountains, which are for the most part wooded to the very top. Their strata consists of granite, gneiss, mica, and clay slate, and the primitive limestone. In the N., the more elevated portions are chiefly composed of primary rocks, in which are embedded vast deposits of coal and iron of immense value. (See MINERAL COAL.) Marble, slate, copper, zinc, chrome, &c., are also abundant in different parts of the *A.* range.

Appallachee'. See APALACHEE.

Appallachico'la. See APALACHICOLA.

Appall', *v. a.* See APPAL.

Appall'ing, *a.* Tending to depress courage.

Appall'ingly, *adv.* In an appalling manner.

Appal'ment, *n.* Depression from fear; discouragement.

Ap'panage, *n.* See APANAGE.

Appanoose', in *Iowa*, a S. county, bordering on Missouri, and watered by Chariton river, and by Walnut and Cooper creeks. *Area*, 492 sq. m.; surface level; soil fertile; capital Centreville.

Appanoose', in *Illinois*, a post-village and township of Hancock co., abt. 6 m. N.E. of Nauvoo. *Pop.* of township, 800.

Appara'tus, *n.*; *pl.* APPARATUS or APPARATUSES. [Lat. from *ad*, and *paro*, to prepare, to provide.] A preparation; things provided; furniture; instruments; tools; equipage; a complete set of instruments or utensils for performing any operation or experiment.

(*Phys.*) Applied to the series of organs concurring in the performance of any function of the animal economy.

Appar'el, *n.* [Fr. *appareil*, from *parer*, to dress or set off.] Suitable covering or clothing fitting to the person. Equipment; clothes; robes; vesture; vestments; raiment; garniture; trappings; housings; caparison; decorations; furniture of a ship.

—*v. a.* To prepare or provide; to clothe; to dress; to array; to adorn; to deck.

"She did *apparel* her *apparel*, and with the preciousness of her body made it more sumptuous."—*Sidney.*

Appar'ent, *a.* [Fr.; Lat. *apparens*, from *appareo*. See APPEAR.] Appearing plainly, or appearing probably. In usage it is equally divided between the palpable and the questionable.—Obvious; plain; conspicuous; unmistakable; clear; probable; seeming; presumable; likely.

(*Math., Astron.*, and *Opt.*) It denotes things as they appear to us, in contradistinction from what they really are; thus we say, the *apparent* diameter, distance, magnitude, place, figure, &c. of bodies.—*A. conjunction of the planets* is, when a right line, supposed to be drawn through their centres, passes through the centre of the earth. And, in general, the *A.* conjunction of any objects is, when they appear, or are placed in the same right line with the eye.

Appar'ently, *adv.* Openly; evidently; seemingly; in appearance.—It admits the sense of questionableness yet more strongly than the adjective.—See APPARENT.

Appar'entness, *n.* Quality of being apparent.

Appari'tion, *n.* [Fr., from Lat. *apparitio*.] An appearance; the thing appearing; a visible object.

"The heavenly bands
Down from a sky of jasper lighted now
In Paradise, and in a hill made halt;
A glorious *apparition*."—*Milton.*

—*A.* is also the term used for an effect by which the mind operates on the sense, instead of the sense on the mind; or when the sense is diseased and transmits false ideas to the mind; two causes which have been the fruitful source of numberless superstitions and tales among the credulous and ignorant. Hence the idea of ghosts, spectres, phantoms, and supernatural visions.

(*Astron.*) It signifies a star or other luminary's becoming visible, which before was hid. It stands opposed to occultation. The *circle of A.* is an imaginary line, within which the stars are always visible in any given latitude.

Appar'itor, *n.* [Lat.] Among the Romans, a general term to comprehend all attendants of judges and magistrates, appointed to receive and execute their orders.

Appeal', *v. n.* [Fr. *appeler*; from Lat. *appello* — *ad*, and obsol. *pello*, to speak.] To call to or upon; to call by name.—To refer to a superior judge or court.—To refer to another as judge or umpire; to address one's self to the feelings, &c. of an audience; to speak in terms of request or entreaty to another, used with *to*, as invoking aid or interference.

—*v. a.* To call or remove a cause from a lower to a superior judge or court; to accuse. (o.)

—*n.* A reference to another; an address to the judgment or feelings of an audience; accusation; summons; recourse; resort.

(*Law.*) Act of appealing; the removal of a cause from an inferior to a superior court, for the purpose of testing the soundness of the decision of the inferior court. In an appeal, the whole matter is heard as if there had been no previous trial.—In English criminal law, an *A.* was an accusation by a private person against another for some heinous crime, demanding punishment on account of the particular injury suffered, rather than for the offence against the public.

(*Legisl.*) The act by which a member of a legislative body, who questions the correctness of a decision of the presiding officer, or chairman, procures a vote of the body upon the decision. In the House of Representatives of the United States the question of an *A.* is put to the House in this form: "Shall the decision of the chair stand as the judgment of the House?"—If the *A.* relates to an alleged breach of decorum, or transgression of the rules of order, the question is taken without debate. If it relates to the admissibility or relevancy of a proposition, debate is permitted, except when a motion for the previous question is pending.

Appeal'able, *a.* That may be appealed.

Appeal'er, *n.* One who appeals.

Appear', *v. n.* [Lat. *appareo* — *ad*, and *pareo*, to appear; Fr. *apparaître*.] To come to some thing or place so as to be visible; to come or be in sight.—To become visible.

"In that night did God *appear* unto Solomon."—2 *Chron.* i. 7.

—To come before another to give account or receive judgment.—To be obvious.

"Let thy work *appear* unto thy servants."—*Ps.* cx. 16.

—To be clear; to seem; to look.

Appear'ance, *n.* The act of appearing or of coming into sight. The presentation of an object to the eye; the object so represented; its general character, and the ideas or indications which it may suggest, as in the phrases, "he made his *appearance*," "his personal *appearance*," "an ugly *appearance*," "to all *appearance*." Advent; apparition; manifestation; probability; aspect; likelihood; evanition.

(*Law.*) Personal presence; a being present in court, whether as plaintiff or defendant. A time is generally fixed within which the defendant must enter his *A.*—A failure to appear generally entitles the plaintiff to judgment by default against the defendant.

Appear'er, *n.* One who appears.

Appear'ing, *n.* The act of appearing.

Appear'ingly, *adv.* Seemingly; apparently.

Appeas'able, *a.* That may be appeased.

Appeas'ableness, *n.* The quality of being easily appeased.

Appease', *v. a.* [Fr. *appaiser*, from Lat. *pax, pacis*, peace.] It is applied to the abatement of the wants or passions of men. To pacify; to assuage; to mitigate; to moderate; to satisfy; to stay; to allay; to soften.

Appease'ment, *n.* Act of appeasing.

Appeas'er, *n.* One who pacifies, appeases, or calms.

Appeas'ive. Having the power of appeasing.

Appel'lant, *n.* (*Law.*) The party who makes or brings an appeal from one jurisdiction to another. The party resisting the appeal is called *respondent* or *appellee*.

Appella'tion, *n.* [Fr., from Lat. *appellatio*.] The word by which a person or thing is called; name; title; term; denomination.

Appel'lative, *a.* (*Gram.*) Pertaining to an appellation, or a common name; common to many; general.

—*n.* An appellation; a common name; a name which stands for a whole class, genus, or species of beings, or for universal ideas; as, a man, a horse.

Appel'latively, *adv.* As an appellative.

Appel'lativeness, *n.* State or quality of being appellative.

Appel'latory, *a.* Containing an appeal.

Appellee', *n.* (*Law.*) The party resisting an appeal. See APPELLANT.

Appellor', *n.* (*Law.*) A criminal who accuses his accomplices; one who challenges a jury, &c.

Append', *v. a.* [Fr. *appendre*, from Lat. *ad*, and *pendo*, to cause to hang down.] To hang one thing on to another, as a seal to a record.—To fasten, as by a string; hence, to add as an appendage, as a supplement or index to a book.—To affix; to supplement; to subjoin.

Append'age, *n.* Something appended or added; an adjunct; a concomitant; a subordinate part: as, "Modesty is the *appendage* of sobriety."

Append'ant, *a.* Hanging to; annexed; attached.

(*Law.*) A thing of inheritance belonging to another inheritance which is worthier.

—*n.* That which hangs to, or belongs to another thing, as incidental or subordinate to it.

Appen'dicle, *n.* A small appendage.

Appendicu'late, *a.* (*Bot.*) Having an appendice, as *Petiolus appendiculatus*, a petiol that has a small leaf or leaves at the base.

Appen'dix, *n.*; *pl.* APPENDIXES or APPENDICES. [Lat., from *ad*, and *pendo*, to cause to hang down; the Lat. plural is *appendices*.] Something appended; an appendage; a supplement. See APPENDICITIS, in SECTION II.

(*Liter.*) A treatise or supplement added to the end of a work, to render it more complete.

Appense', *a.* [Lat. *appendo*, to attach to.] (*Bot.*) Hanging from above.

Appenzell', a canton of Switzerland, consisting of two independent republics: *A.*-Ausser-rhoden, or *A.* Exterior, and *A.*-Inner-rhoden, or *A.* Interior. Both divisions are entirely enclosed within the canton of St. Gall, and unitedly present an area of 152 sq. m.—*Desc.* Mountainous, particularly in the S., where Mont Sentis rises to 8,232 feet, and forms an extensive glacier. It is divided into what are called the outer and inner Rhodes, the latter of which is an agricultural district, and the former manufacturing. *Manf.* Linen and cotton goods, dyeing, embroidery, and various other branches of industry.—*Rivers.* The Sittern is the principal.—*Towns.* Appenzell and Trogen, Gais and Herisau. *Pop.* 1890, 66,000. *A.* is a corruption of Latin. *Abbatis Cella, Abtenzelle*, Abbots' Cell, or Church.

APPENZELL', the capital of Inner-rhoden, in the above canton, 2,538 ft. above sea-level, 6 m. S.W. of Trogen, 7 m. S. of St. Gall; Lat. 47° 30′ N.; Lon. 9° 24′ E. *Pop.* 3,463.

Appenzell'er, *n.* An inhabitant of the canton of Appenzell.

Appercep'tion, *n.* (*Metaph.*) Self-consciousness; consciousness.

Ap'person's, in *Virginia*, a village of Charles City co.

Appertain', *v. n.* [Fr. *appartenir*; Lat. *ad*, and *pertineo*, to pertain; from *per*, and *teneo*, to hold.] To pertain to; to belong to; to relate to; to concern.

Apper'tenance, *n.* Same as APPURTENANCE.

Appete', *v. a.* [Lat. *appeto*, to seek after.] To desire.

Ap'petence, Ap'petency, *n.* [Lat. *appetentia*, from *ad*, and *peto*, to seek.] A seeking, striving, or longing after; desire; sensual appetite; instinctive propensity; tendency; attraction.

Ap'petent, *a.* [Lat. *appetens*.] Very desirous.

Ap'petite, *n.* [Fr. *appétit*, from Lat *appetitus*, natural desire.] A longing after anything; propensity of nature; eagerness or longing for sensual gratifications.

"Who is there that has not instigated his *appetites* by indulgence?"—*Johnson.*

—A craving or relish for food; hunger.—See HUNGER.

Ap'petitive, *a.* That desires; as, the *appetitive* part of our nature.

Ap'petize, *v. a.* To create an appetite.

Ap'petizer, *n.* That which appetizes.

Ap'pian, OF ALEXANDRIA, manager of the Imperial revenues under Adrian. Trajan, and Antonimus Pius, in Rome. He wrote a Roman history, from the earliest times to those of Augustus, in 24 books, of which only 12 have come down to us.

Ap'pian Way, or VIA APPIA. Was constructed by Appius Claudius Cæcus, abt. 300 B. C., to extend from Rome to Capua, 125 m. It is the most celebrated of the old Roman roads. See also ROME.

Appia'ni, ANDREA, a distinguished painter in fresco, b. at Milan, Italy, 1750. On the occupation of Lombardy by the French, *A.* was sought out by them and sent to Paris to assist at the coronation of Napoleon. He became first painter to the Imperial court, and a member of the principal European academies. The series of frescos painted by order of Napoleon for the royal palace at Milan is his greatest work. D. 1818.

Ap'pin, in *Scotland*, a district of Argyleshire, in the Highlands, formerly the country of the Stuarts.

Appius, CLAUDIUS CRASSINUS, a Roman decemvir, (451 to 449 B. C.) Being passionately in love with Virginia,

daughter of Virginius, a respectable plebeian absent with the army, he persuaded M. Claudius, his client, to gain possession of her, under the pretence that she was the daughter of one of his slaves. The people compelled him to set her at liberty: but Claudius summoned her before the tribunal of *A.*, who decided that the pretended slave should be given up to her master. A fearful disturbance arose, and the decemvir was compelled to leave Virginia in the hands of her family; but he declared that he would pronounce his decision the next day. Virginius, hurriedly recalled from the army by his friends, appeared and claimed his daughter; but, after another mock trial, she was again adjudged to be the property of Marcus Claudius. To save his daughter from dishonor, the unhappy father seized a knife and slew her. The popular indignation excited by the case was headed by the senators Valerius and Horatius, who hated the decemvirate. The army returned to Rome with Virginius, who had carried the news to them, and the decemviri were deposed. *A. C.* died in prison, by his own hand (as Livy states), or was strangled by order of the tribunes.—Alfieri has written a tragedy on the death of Virginia.

Appland', *v. a.* [Lat. *applaudo*, from *ad*, and *plaudere*, to clap the hands; Fr. *aplaudir.*] To clap with the hands at: to praise by clapping the hands, beating with the feet, &c.—To praise, but on the pure ground of approval. So, we appland acts, words, sentiments, performances, motives—in short, things good; not the aristocratic, the powerful, or the beautiful.—To laud; to approve; to encourage; to cheer.

Appland'er, *n.* One who applauds.

Applause', *n.* [Lat. *applausus;* see APPLAUD.] Approbation and praise expressed by clapping the hands; acclamations or huzzas; plaudits; commendation; approbation.

Applau'sive, *a.* Applauding; containing applause.

Ap'ple, *n.* [A. S. *æpl, apel, æppel;* Ger. *apfel.*] The fruit of the *Pyrus malus*, a species of the genus *Pyrus*, q. v. All the different kinds of apple-trees now in cultivation are usually regarded as mere varieties of the one species which in its wild state is known as the crab-tree, *Pyrus acerba, Fig.* 160. This plant is found in woods and waysides in most of the temperate parts of the northern hemisphere. Its fruit is austere and unpalatable, but is sometimes gathered for the sake of its acid juice, which, when fermented, forms the liquid called *verjuice*, used in cookery and for purifying wax. The Romans are said to have had 22 varieties of the *Pyrus malus*, or cultivated *A.*-tree. At the present time it is, perhaps, the most widely-diffused and valuable of all fruit-trees; and the varieties, which are adapted to almost every soil, situation, and climate in the temperate zone, have become exceedingly numerous. About 1,000 varieties are cultivated in the U. States. The apple-tree seldom reaches a greater height than 30 ft., but its large round head makes up for the want of height; and, altogether, it is a noble-looking tree, especially when in full blossom. The flowers grow in bunches, and have a very fragrant odor. They are

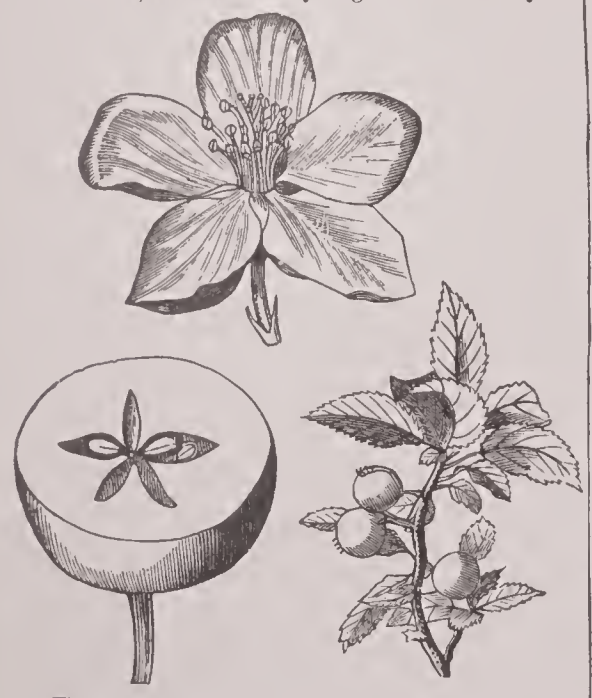


Fig. 160.—CRAB-TREE, OR SOUR-FRUITED APPLE-TREE.
(*Pyrus acerba.*)
Flower and fruit; natural size.

white inside, and have a delicate tinge of pink externally. The tree is not always allowed to ramify in a natural manner, but is sometimes trained as an espalier, or as a wall-tree. New varieties are being continually developed; and as they are generally propagated by grafting, the old ones gradually die out. The variety that produced the *costard*, or *custard*, which was at one time a favorite kind of apple, does not now exist, though the name of costermongers (*costard-mongers*) is still retained for itinerant venders of apples. The apple is usually grafted on apple or crab-stocks: but sometimes hawthorn stocks are used. For producing dwarf-trees, stocks of the paradise-apple, a very diminutive variety, are usually employed. The apple (alluding now to the fruit, and not to the tree producing it) varies greatly in form, size, and color. It is regarded by botanists as the type of the kind of fruit to which they have applied the term *pome*, q. v. The eatable part has a more or less aromatic, sweet, or sub-acid taste, and contains starch, grape-sugar, and malic acid. Apples are commonly divided into dessert, baking, and cider-making fruits; the first being highly flavored, the second such as become soft in baking or boiling, and the third those which are hard and austere. Apples are also classed under the general names of Pippins, Pearmains, Rennets, Colvilles, Russets, Codlins, &c. The uses of the apple for culinary and conserving processes are sufficiently well known. Cider, the fermented juice of the apple, is a favorite drink in many parts of England and France, and in some places of the United States. Malic acid, extracted from the apple, has long been used in medicine, and has latterly been largely employed as a mordant in dyeing.—See CIDER, MALIC ACID, and PYRUS for the scientific character of the genus.

Apple of the eye, the pupil of the eye.

Ap'plebachsville, in *Pennsylvania*, a post-office of Bucks co.

Ap'ple-berry. See BILLARDIERA.

Ap'ple-blight, *n.* (*Zoöl.*) The *aphis* of the apple-tree. See APHIS.

Apple-bran'dy, Apple-jack', *n.* A liquor distilled from cider; cider-brandy.

Ap'pleby, in *England*, a borough and chief town of the county of Westmoreland, on the Eden. It possesses an ancient castle, which during the civil war was garrisoned by the heroic Countess of Pembroke against the Parliamentary forces. *Pop.* 3,565.

Apple Creek, in *Illinois*, falling into the river Illinois in Greene co.

Apple Creek, in *Missouri*, a village of Cape Girardeau co., about 170 m. S E. of Jefferson city.

—A stream in Henry co., falling into Grand river.

Apple Creek, in *Ohio*, a post-office of Wayne co.

Ap'pledore, a small seaport of England, in the co. of Devon, on Barnstaple Bay. It is a bathing resort during the summer months.

Ap'plegate, in *Oregon*, a post-village and township of Jackson co.

Ap'ple Grove, in *Alabama*, a township of Morgan co.

Ap'ple Grove, in *Ohio*, a post-office of Meigs co.

Ap'ple Grove, in *Pennsylvania*, a village of York co.

Ap'ple-John, *n.* A variety of apple.

Ap'ple of Discord. See DISCORD.

Ap'ple of Peru. See MICANDRA.

Ap'ple of Sodom. See SOLANUM.

Ap'ple-pie order, a colloquial expression denoting perfect order.

Ap'ple River, in *Illinois*, a river which rises in Jo Daviess co., and takes a S. course toward the Mississippi, which it enters in Carroll co.

—A post-township of Jo Daviess co.

Ap'ple River, in *Wisconsin*, is a small stream in Dallas co., flowing S.W. until it enters the St. Croix river about 6 m. above Stillwater.

Ap'ple-snail, *n.* A name given to the shells of the genus Ampullaria.

Ap'pleton, in *Illinois*, a village of Knox co.

Ap'pleton, in *Kansas*, a village of Bourbon co.

Ap'pleton, in *Maine*, a post-township of Knox co., 25 m. E. by S. of Augusta.

Ap'pleton, in *Missouri*, a post-office of Cape Girardeau county.

Ap'pleton, in *Ohio*, a village and township of Licking county.

Ap'pleton, in *Tennessee*, a post-office of Lawrence co.

Ap'pleton, in *Wisconsin*, a thriving city, the cap. of Outagamie co., on Fox River, near the Grand Chute Rapids. Seat of Lawrence University. Manf. of paper, wood-pulp, flour, woodenware, implements, &c. *Pop.* (1890) 11,869; now (1897) est. 15,500.

Appli'ance, Appli'ancy, *n.* [See APPLY.] The act of applying, or the thing applied; aid; furtherance.

Applicabil'ity, Ap'plicableness, *n.* Quality of being applicable.

Ap'plicable, *a.* That may be applied; suitable.

Ap'plicably, *adv.* In such a manner that it may be properly applied.

Ap'plicancy, *n.* The state or quality of being an applicant.

Ap'plicant, *n.* A person who applies; a petitioner.

Ap'plicate, *n.* [Lat. *applicata*, from *applicare.*] (*Math.*) A right line drawn across a curve so as to bisect the diameter thereof; an ordinate.

Applica'tion, *n.* [Fr. from Lat. *applicatio.*] The act of applying any thing to another; as, he mitigated his pain by the *application* of emollients.—The thing applied; as, he invented a new *application* by which blood might be stanched.—The act of applying to any person, as a solicitor or petitioner.

"A patent passed upon the *application* of a poor mechanick."—*Swift.*

—The employment of any means for a certain end.

"If a right course be taken with children, there will not be much need of the *application* of the common punishments."

—Intensity of thought; close study.

"Had his *application* been equal to his talents, his progress might have been better."

—Attention to some particular affair; with the particle *to.*

"His continued *application* to public affairs."—*Addison.*

—The condition of being used as means to an end.

"This principle acts with the greatest force in the worst *application;* and the familiarity of wicked men more successfully debauches, than that of good men reforms."—*Rogers.*

(*Law*) A written request.—The use or disposition made of a thing.

(*Insurance.*) The preliminary statement made by a party applying for an insurance on life, or against fire. It usually consists of written answers to interrogations instituted by the company applied to, respecting the proposed subject. It is usually referred to expressly in the policy as being the basis or a part of the contract, and this reference is, in effect, a warranty of the truth of the statements. An oral misrepresentation of a material fact will defeat a policy on the ground of fraud.

Ap'plicative, *a.* That applies.

Ap'plicatory, *a.* That has an application.

—*n.* That which applies.

Appli'er, *n.* A person who applies; an applicant.

Ap'pling, in *Georgia*, a county bordering N. and N.E. on the Altamaha river. *Area* 1,060 sq. m.; surface level; soil sandy; capital Baxley.

—A post-village, cap. of Columbia co.

Ap'pling, in *New York*, a village of Jefferson co.

Apply', *v. t.* [*i.* APPLIED; *pp.* APPLYING, APPLIED.] [O. Fr. *applier;* Fr. *appliquer;* from Gr. *plekō.*] To fold upon. To put, or place upon: as, "to *apply* a remedy."—*Shaks.* To adduce, in the most broad and generic sense, with a purely physical or moral object: as, to *apply* a blister, or a sum of money to a charitable purpose, or evidence to a case, or one's self to study. It is used also intransitively, as in the sense of making application, or showing it in the sense of diligence.—To adduce; to use; to employ; to devote; to exercise; to apportion; to direct.

—*v. n.* To be suitable.—To have recourse by petition or request.

Appogiatu'ra, *n.* [It., from *appoggiare*, to lean upon.] (*Mus.*) A small additional note of embellishment preceding the note to which it is attached, and taking away from the principal note a portion of its time. It should always be given with considerable expression.

Appoint', *v. a.* [Fr. *appointer*, from Lat. *ad*, to, and *punctum*, a point. *Ad punctum ducere*, to bring to a point.] A point of order, so to establish; of office, so to install; of agreement, so to fix: of use or preparation, so to furnish.—To fix; to determine; to install; to institute; to apportion; to apply; to employ; to designate; to assign; to intrust; to invest; to ordain; to arrange.

—*v. n.* To decree; to resolve.

"For the Lord had *appointed* to defeat the good counsel of Ahithophel."—2 *Sam.* xvii. 14.

Appoint'able, *a.* Able to be appointed.

Appoint'ed, *p. a.* Settled; established; equipped; supplied.

Appointee', *n.* [Fr. *appointé.*] A person who is appointed.

(*Mil.*) A foot-soldier who, for long services, or for a special deed, receives greater pay than other privates.

(*Law.*) A person selected for a particular purpose; also the person in whose favor a power of appointment is executed.

Appoint'er, *n.* One that settles or fixes any thing or place.

Appoint'ment, *n.* [Fr. *appointement.*] Stipulation; the act of fixing something in which two or more are concerned.

"They had made an *appointment* together, to come to mourn with him."—*Job* ii. 11.

—Decree; establishment.

"The wages of death he only in his hands, who alone hath power over all flesh, and unto whose *appointment* we ought to submit ourselves."—*Hooker, b. v.*

—Decision; order.

"That good fellow,
If I command him, follows my *appointment.*"—*Shaks.*

—Equipment; furniture.

"Here art thou in *appointment*, fresh and fair,
Anticipating time with starting courage."—*Shaks.*

—An allowance paid to any man; commonly used as allowances to public officers.

(*Law.*) In chancery practice, the exercise of a right to designate the person or persons who are to take the use of real estate.

Appoint'or, *n.* (*Law.*) One authorized by the *donor*, under the statute of use, to execute a power.

Appomat'tox, a river in *Virginia*, rising in the county of the same name, and flowing E., empties into the James river at City Point. It is navigable for large vessels as far as Petersburg, 20 m. from its entrance. Estimated length, 120 m.

—a county which takes its name from the above river. It is situated in the S.E. central part of the State, and has an area of 260 sq. m. The surface is generally mountainous and woody. Cap. Appomattox Court House.

Appomat'tox Court-House, in *Virginia*, a post-office of Appomattox co. Here, on the 9th of April, 1865, was discussed, settled, and signed, between General Grant and General Lee, the capitulation by which the latter surrendered the Confederate army of Northern Virginia: an event which put an end to the civil war.

Appoquin'iminik, in *Delaware*, a small creek, flowing into Delaware Bay.

—A hundred of Newcastle co.

Appor'tion, *v. a.* [O. Fr. *apportioner*, from Lat. *ad*, and *portio.*] To set out in just proportion; to distribute among two or more persons.

"An office cannot be *apportioned* out like a common, and shared among distinct proprietors."—*Collier on Envy.*

Appor'tioner, *n.* One who apportions.

Appor'tionment, *n.* The act of apportioning; the division or distribution of a subject-matter in proportionate parts.

Appos'er, *n.* The name given in England to an officer of the Exchequer, whose duty it was to examine the sheriffs in regard to their accounts handed in to the Exchequer.

Ap'posite, *a.* [Lat. *appositus*, from *ad*, and *ponere*, to put or place.] Proper; fit; well adapted to time, place, or circumstances.

Ap'positely, *adv.* Properly; fitly; suitably.

"We may *appositely* compare this disease to a decaying house." *Harvey.*

Ap'positeness, *n.* Fitness; propriety; suitableness.

Apposi'tion, *n.* [Fr., from Lat. *appositio.*] The addition of a new matter, so that it may touch the first mass.

(*Gram.*) The placing two or more substantives together, without any copulative between them; as, Washington, the legislator.

Appos'itive, *a.* (*Gram.*) That is placed in apposition.

Appraise', *v. a.* [Lat. *appretiare*, from *ad*, and *pretiare*, to prize.] To set a price upon anything, in order to make a sale

—*v. n.* To praise; to commend.

Appraise'ment, *n.* The act of setting a price; a valuation.

Apprais'er, *n.* One who appraises; a person appointed and sworn to set a value upon things to be sold.

Appre'ciable, *a.* That may be appreciated or valued.

Appre'ciate, *v. a.* [Fr. *apprecier.* — See APPRAISE.] To set such a value as one is bound in reason to recognize; to esteem; to recognize; to acknowledge; to respect to value.—*v.i.* To increase in value.

Appreciation, *n.* The act of appreciating; estimation.

Appre'ciative, *a.* That appreciates, or is capable of appreciating.

Appre'ciatory, *a.* That appreciates.

Apprehend', *v. a.* [Fr. *apprehender*, from Lat. *ad*, and *prehendo*, I grasp in the hands.] To grasp in the hands; in this sense it is now confined to the legal arrest of persons. To grasp with the mind, as a matter of understanding, belief, or anticipation, and especially of coming danger. To comprehend; to understand; to expect; to fear; to conceive; to anticipate; to presume; to conjecture.

—*v. n.* To conceive, presume, or conjecture.

Apprehen'sion, *n.* Distrust; fear; suspicion — Conception; sentiment; belief.

"The expressions of Scripture are commonly suited, in those matters, to the vulgar *apprehensions.*"—*Locke.*

(*Logic.*) The first or most simple act of the mind whereby it perceives, or is conscious of some idea: it is more usually called perception.

(*Law.*) The capture of a person upon a criminal charge. The term *arrest* is applied to civil cases; as, a person having authority may *arrest* on *civil* process, and *apprehend* on a *criminal* warrant.

Apprehen'sive, *a.* Ready to understand. — Fearful; distrustful; as, *apprehensive* of a coming danger.

Apprehen'sively, *adv.* In an apprehensive manner.

Apprehen'siveness, *n.* State or quality of being apprehensive.

Appren'tice, *n.* [Fr. *apprenti*, from *apprendre*, to learn.] A person bound by indenture or articles of agreement, to a master, to serve him during a certain time, and learn from him his art, trade, or business.

—*v. a.* To bind as an apprentice.

Appren'tice-fee, *n.* A sum of money sometimes paid to the master of an apprentice, usually called a *premium.*

Appren'ticeship, *n.* (*Law.*) A contract by which a person who understands some art, trade, or business, and called *master*, undertakes to teach the same to another person, commonly a minor, and called the *apprentice*, who, on his part, is bound to serve the master, during a definite period of time, in such art, trade, or business. — At common law, an infant may bind himself apprentice by indenture, because it is for his benefit. But this contract, on account of its liability to abuse, has been regulated by statute in the United States, and is not binding upon the infant unless entered into by him with the consent of the parent or guardian, or by the parent or guardian for him, with his consent. The contract need not specify the particular trade to be taught, but is sufficient if it be a contract to teach such manual occupation or branch of business as shall be found best suited to the genius or capacity of the apprentice. This contract must generally be entered into by indenture or deed. — The duties of the master are, to instruct the apprentice by teaching him the knowledge of the art which he had undertaken to teach him, though he will be excused for not making a good workman, if the apprentice is incapable of learning the trade, the burden of proving which is on the master. He must not abuse his authority, either by bad treatment, or by subjecting his apprentice to menial employments unconnected with the business he has to learn; but he may correct him with moderation for negligence and misbehavior. He cannot dismiss his apprentice except by consent of all the parties to the indenture. He cannot remove the apprentice out of the State under the laws of which he was apprenticed, unless such removal is provided for in the contract, or may be implied in its nature; and if he do so remove him, the contract ceases to be obligatory. An infant apprentice is not capable in law of consenting to his own discharge. After the *A.* is at an end, the master cannot retain the apprentice on the ground that he has not fulfilled his contract, unless specially authorized by statute. — An apprentice is bound to obey his master in all his lawful commands, take care of his property, and promote his interests, endeavor to learn his trade or business, and perform all the covenants in his indenture not contrary to law. He must not leave his master's service during the term of the *A.*

Appressed', Appress', *a.* [Lat. *apprimo*, to press to.] (*Bot.*) Lying flat against, or close pressed together, as leaves or peduncles to the stem.

Apprise', *v. a.* [Fr. *apprendre*, pp. *appris.*] To cause another to know a thing; to inform: to advise; to advertise; to acquaint; to enlighten; — followed by *of.*

Apprize', *v. a.* The same as APPRAISE, *q. v.* — Although *apprize* be correct, it is preferable to use *appraise*, to avoid confusion with another word of different derivation and meaning, to *apprise.*

Apprize'ment, *n.* See APPRAISEMENT.

Apprize'er, *n.* See APPRAISER.

Approach', *v. n.* [Fr. *approcher*, from Lat. *ad*, to, and *proximus*, next.] To draw or come near in space or time; to approximate.

—*v. a.* To come near by affinity or resemblance; as, "the cat *approaches* the tiger." — To cause to be near. (R.)

Approach', *n.* The state, the act, or the way of approaching; as, the *approach* of the New Year; the *approach* of an army; the *approach* to kings.

(*Internat. Law.*) The right of visit, or visitation to determine the national character of the ships approached for that purpose only.

(*Fort.*) *Approaches* are works thrown up by the besiegers, in order to get nearer a fortress without being exposed to the enemy's fire. The camp of the besiegers being generally far from the besieged fortress or city, the soldiers would be exposed to imminent danger while hastening across a belt of open country to enter any breaches made by the large siege-guns, were it not that sunken trenches or excavated roads are first constructed along which they may approach. In some cases, the *A.* are merely paths shielded by a piled-up wall of sandbags, fascines, gabions, wool-packs, or cotton-bales. — *Counter-approaches* are works carried on by the besieged against those of the besiegers.

Approach'able, *a.* That is accessible.

Approach'er, *n.* A person who approaches.

Approach'ing, *p. a.* Coming near in space or time; approximating.

—*n.* (*Gardening.*) See INARCHING.

Approach'less, *n.* Inaccessible.

Ap'probate, *v. a.* [Lat. *approbo.*] Literally, to approve: but only used as a technical term by the American clergy, with the meaning of *to give license or approbation to preach.*

Approbate and reprobate. (*Scottish Law.*) To approve and reject. It is the English doctrine of election. A party cannot both *approbate and reprobate* the same deed.

Approba'tion, *n.* [Fr., from Lat. *approbatio.*] The act of approving; approval; praise; satisfaction; encouragement; confirmation; acceptance.

—Probation; trial. (O.)

Ap'probative, *a.* [Fr. *approbatif.*] Approving; commending.

Ap'probator, *n.* A person who approves. (R.)

Ap'probatory, *a.* Approving.

Appropinque', *v. a.* [Lat. *appropinquo.*] To approach; — used ludicrously.

Appro'priable, *a.* That may be appropriated.

Appro'priate, *v. a.* [Fr. *approprier*; from Lat. *ad*, to, and *proprius*, one's own.] To take to *one's self* as *one's own;* to take, claim or use, as by exclusive right: to assume; to set apart for, or assign to a particular use; to alienate, as a benefice.

(*Law.*) See APPROPRIATION.

—*a.* Set apart for a particular use or person; suitable; fit or proper; adapted.

Appro'priated, *p. a.* Assigned to a particular use; claimed or used exclusively.

Appro'priately, *adv.* In an appropriate manner; fitly; properly; suitably.

Appro'priateness, *n.* Quality of being appropriate.

Appropria'tion, *n.* [Fr., from Lat. *appropriatio.*] The application of money or any other thing to a particular purpose.

"The mind should have distinct ideas of the things, and retain the particular name, with its peculiar *appropriation* to that idea." — *Locke.*

—The fixing a particular signification to a word.

"The name of faculty may, by an *appropriation* that disguises its true sense, palliate the absurdity." — *Locke.*

(*Law.*) The application of a payment made to a creditor by his debtor, to one or more of several debts.

(*Governm. Law.*) In the U. States no money can be drawn from the Treasury, but in consequence of appropriations made by law (*Const. Art.* 1, *s. g.*). Under this clause it is necessary for Congress to appropriate money for the support of the Federal government, and in payment of claims against it; and this is done annually by acts of *A.*, some of which are for the general purposes of government; and others, special and private in their nature. These general *A.* bills extend to the 30th of June in the following year, and usually originate in the House of Representatives, being prepared by the Committee of Ways and Means; but they are distinct from the bills for raising revenue, which the Constitution declares shall originate in the House of Representatives. A rule of the House gives *A.* bills precedence over all other business, and requires them to be first discussed in committee of the whole.

Appro'priative, *a.* Which makes appropriation.

Appro'priator, *n.* One who appropriates.

Approv'able, *a.* [See APPROVE.] That may be approved.

Approv'ableness, *n.* The state or quality of being approvable.

Approv'al, *n.* Approbation; commendation.

"A censor of Justice, without whose *approval* no capital sentences are to be executed."—*Temple.*

Approve', *v. a.* [Fr. *approuver*; Lat. *approbo*—*ad*, and *probo*, from *probus*, good, proper.] To deem good; to pronounce to be good; to find to be good; to like; to be pleased with; to commend; to prove; to justify; to sanction. — To make worthy of approbation.

"Study to show thyself *approved* unto God." — 2 *Tim.* ii. 15.

(*Law.*) To augment a thing to the utmost; to vouch, to appropriate; to improve.

Approved', *p. a.* Liked; commended; proved; judged favorably; justified; sanctioned.

—*Approved Endorsed Notes.* (*Com.*) Notes indorsed by a person other than the giver, for additional security.

Approve'ment, *n.* Approbation. (O.)

Approv'er, *n.* One who approves.

Approv'ing, *p. a.* Yielding approbation.

Approv'ingly, *adv.* By approbation.

Approx'imate, *a.* [Lat. *ad*, and *proximus*, nearest, next.] Nearest to; next; approaching to; nearly true or accurate; as, an *approximate* number.

(*Zoöl.*) An epithet applied to teeth, when the one passes on the side of the next, without any intervening vacancy.

Approx'imate, *v. a.* To carry, or advance near to; to cause to approach.

—To come near; to approach.

Approx'imately, *adv.* By approximation.

Approxima'tion, *n.* [Fr.] Act of approximating; approach; a drawing, moving, or advancing near.

(*Math.*) A continual approach to a root or quantity sought, but not expected to be found.

Approx'imative, *a.* Approaching to; near to; approaching.

Approx'imatively, *adv.* By approximation; approximately.

Appui, (*ap'pwee*), *n.* [Fr., a support.] A stay or support.

(*Milit.*) In the tactics of modern warfare on land, *points d'appui* are those strategical points in the plan of a battle as are best adapted to afford protection or yield assistance. The wings of an army, when in line of battle, being the most open and vulnerable to attack, are those parts which require the greatest covering and support, and are accordingly placed in positions where such natural safeguards as the surface of the country will allow of, as rivers, streams, forests, and steep or hilly grounds, will conduce to the above requirements. Any, or all of these, will therefore, be *points d'appui.*

(*Manege.*) The sense of action of the bridle in the horseman's hand. Thus, a man has *no appui*, when he cannot suffer the bit to bear even slightly upon the parts of the mouth; or *too much appui*, when he bears too heavily upon the bit, &c.

Appulse', *n.* [Lat. *appulsus*, from *appello* — *ad*, to, and *pello*, to drive.] Act of driving or striking against; as, "the *appulse* of the waters to the shores."—Approach; arrival.

(*Astron.*) The approach of a planet towards a conjunction with the sun or any of the fixed stars.

Appul'sion, *n.* The act of striking against.

Appul'sive, *a.* Striking against; driving towards.

Appul'sively, *adv.* In an appulsive manner.

Appur'tenance, *n.* [Fr. *appartenance*, from *appartenir*, to belong to; from Lat. *ad*, to, and *pertineo*, to pertain.] That which belongs or pertains to something else; an adjunct; an appendage.

(*Law.*) Things belonging to another thing as principal, and which pass as incidental to the principal thing. Thus, if a house and land be conveyed, everything passes which is necessary to the full enjoyment thereof, and which is in use as incident or appurtenant thereto. Appurtenances of a ship include whatever is on board a ship, excepting cargo, for the objects of the voyage and adventure in which she is engaged, belonging to her owner.

Appur'tenant, *a.* [Fr. *appartenant.*] (*Law.*) Belonging to; pertaining to of right. The thing appurtenant must be of an inferior nature to the thing to which it is appurtenant.

Aprax'in, FEODOR MATEIEVITCH, a distinguished Russian admiral, B. 1671. He may be considered as the creator of the Russian navy, and was the most powerful and influential person at the court of Peter the Great, who made him chief-admiral. In 1708, he defeated the Swedish general, Lübecker, in Ingermannland, and saved the newly built city of St. Petersburg from destruction. In 1713, he took Helsingfors and Borgo, and defeated the Swedish fleet. He was twice charged with embezzlement, tried, and condemned to pay a fine; but being too useful to be dispensed with, Peter, in both instances, neutralized the effects of the condemnation, by conferring upon him additional riches and dignities. D. 1724.

A'pricot, *n.* [Fr. *abricot*: Lat. *præcoria*, from *præcox*, early ripe.] A delicious kind of fruit produced by the *Prunus Armeniaca*, a species of the genus *Prunus*, q. *v.*

A'pril, *n.* [Lat. *Aprilis*, probably contracted from *aperilis*, from *aperio*, to open, as being the month in which the earth *opens* to bring forth buds, &c.; Fr. *Avril.*] The fourth month of the year. — It was called Ooster, or Easter-month by the Anglo-Saxons, and Grass-month by the Dutch.

April-fools' Day.—The first day of April, so called from the old custom of sending any one on this day upon a bootless errand. This strange custom of April-fools' day exists throughout Europe, and in those parts of America where the traditions of the mother-country prevail. One of the explanations of the custom is as follows: — In the middle ages, scenes from biblical history were often represented by way of diversion, without any feeling of impropriety. The scene in the life of Jesus, where he is sent from Pilate to Herod, and back again from Herod to Pilate, was represented in April, and may have given occasion to the custom of sending on fruitless errands, and other tricks practised at this season. The phrase of "sending a man from Pilate to

Herod" is common in Germany, to signify sending about unnecessarily. The reason of choosing the first of April for the exhibition of this scene was, that the feast of Easter frequently falls in this month, and the events connected with this period of the life of Jesus would naturally afford subjects for the spectacles of the season. The tricks of the first of April may, however, be the remains of some Roman custom derived from the East, and spread over Europe, like so many other customs, by these conquerors. It is certain that the Hindoos practise precisely similar artifices at the time of the Huli feast, on the 31st of March.—One of the best tricks of this description is that of Rabelais, who, being at Marseilles without money, and desirous of going to Paris, filled some phials with brick-dust or ashes, labelled them as containing poison for the royal family of France, and put them where he knew they would be discovered. The bait took, and he was conveyed as a traitor to the capital, where the discovery of the jest occasioned universal mirth. In France, the unlucky party who may be fooled is called *un poisson* (fish) *d'Avril;* in Scotland, a *gowk* (cuckoo); in England and America, an *April-fool.*

A priori. [Lat., from the former.] (*Log.*) A term applied to any argument in which a consequent conclusion is drawn from an antecedent fact, whether the consequence be in the order of time, or in the necessary relation of cause and effect:—*e. g.*, "The mercury sinks, therefore it will rain." This is an argument drawn from an antecedent in time, not from a cause to an effect. A murder has been committed; a party falls under suspicion as having had an interest in the death of the deceased, or a quarrel with him; this suspicion is founded on the argument *à priori*, from cause to effect; because the fact of his enmity or interest would afford a cause for his committing the murder. On the other hand, another party falls under suspicion as having been seen to quit the house at a particular time, having marks of blood on his clothes: these are arguments *à posteriori*, in which we reason either from consequent in the order of time to antecedent, or from effect to antecedent cause.

A'pron, *n.* [Fr. *aprun*, probably from O. Fr. *naperon*, diminutive of *nappe*, a table-cloth.] A cloth worn on the fore part of the body, as a protection to the clothes. A piece of leather spread over a person's legs when in a gig. The fat skin over the belly of a goose.—A cover for the vent of a cannon, &c.—The name is applied to various other things, from a supposed resemblance.

(*Arch.*) The platform raised at the entrance of a dock, a little higher than the bottom, to form an abutment against which the gates may shut.—Also the sill or lower part of a window.

(*Ship-building.*)—A piece of curved timber fixed behind the lower part of the stem, immediately above the foremost end of the keel.

A'proned, *a.* Wearing an apron.

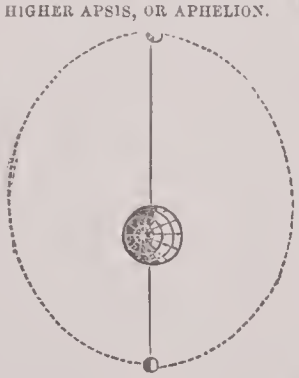
Apropos', *adv.* [Fr. from *à*, to the, and *propos*, purpose.] To the purpose; opportunely; by the way.

Ap'sheron, or APCHERON, a peninsula of Asia, running for 40 m. into the Caspian Sea, and terminating in Cape A., which forms the E. part of the Caucasian chain. This place is famous as being the spot of the sacred flame, whence the fire-worshippers of Asia drew their religious veneration. Sulphur and inflammable gases so impregnate the soil that immense quantities of black and white naphtha are annually taken from it. Saffron, salt, and madder are also produced. On its S. coast is the port of Bakou: Lat. of Cape *A.* 40° 12′ N.; Lon. 50° 20′ E.

Ap'sidal, *a.* Pertaining to the apsides.

Ap'sis, *n.*; *pl.* APSIDES, sometimes improperly written APSES. [Gr. *hapsis*, from *hapto, hapso*, to connect.] (*Astron.*) The two points of the orbit of a planet or satellite, at which it is moving at right angles to the straight line joining it with the primary. These two points of the orbit are the two extremities of the major axis, or the points at which a planet is at its greatest and least distance from the sun. The point at the greatest distance is called the higher apsis; that at the least is called the lower apsis: consequently, the higher apsis corresponds with the aphelion, and the lower apsis with the perihelion. The line joining these two points, which is the transverse axis of the orbit, is called the line of the apsides. It has a slow angular motion in the plane of the planet's orbit; and the time which the planet employs in completing a revolution with regard to its apsides is called the anomalistic period.

HIGHER APSIS, OR APHELION.



LOWER APSIS, OR PERIHELION.

Fig. 161.

(*Arch.*) That part of the church wherein the clergy were seated, or the altar placed. It was so called from being usually domed or vaulted. The apsis was either circular or polygonal, and domed over: it consisted of two parts, the altar, and the presbytery or sanctuary; at the middle of the semi-circle was the throne of the bishop, and at the centre of the diameter was placed the altar. The bishop's throne having been anciently called by this name, some have thought that therefrom this part of the edifice derived its name; but the converse is the fact.

Aps'ley, a river of Australia, in the N. division of New South Wales. It flows into the Pacific about 40 m. N.E. of Port Macquarrie, where it assumes the name of McLeay.

Aps'ley Strait, a channel between Melville and Bathurst islands, off the N. coast of New Holland; from 1½ to 4 m. in breadth, and 46 in length. Shores on both sides are low, and bordered by mangroves. A British settlement, now abandoned, was made at Fort Dougласs, on the Strait, in 1824.

Apt, *a.* [Fr. *apte;* Lat. *aptus*, from *apo*, to fasten, join, or tie, from the root *ap*, whence *apto;* Gr. *hapto*, to join, to tie.] Fit by nature or contrivance; suitable: prepared; inclined; liable.

"All that were strong and *apt* for war."—2 *Kings* xxiv. 16.

—Having a tendeucy to; ready; quick; dexterous.

Apt, a town of France, in the dep. of Vaucluse, 29 m. E.S.E. of Avignon. It possesses many ancient remains: is the "*Julia*" of antiquity, and was greatly embellished by Cæsar.

Aptenody'tes, *n.* (*Zoöl.*) A name given to the penguins.—See SPHENISCINÆ.

Ap'tera, *n. pl.* [Gr. *a* priv., *pteryx*, a wing.] (*Zoöl.*) An order of the Linnæan class *Insectæ;* characterized, as the term implies, by having no wings in either sex. It includes the modern orders *Crustacea*, *Arachnida*, and *Myriapoda.*

Ap'teral, *a.* (*Arch.*) Applied to a temple without columns at the sides.

Ap'terous, *a.* (*Zoöl.*) Belonging or relating to the aptera.

(*Bot.*) It denotes any part of a plant which is destitute of membranous expansion. The term is usually employed in distinction to alate, or winged.

Ap'teryx, *n.* [Gr. *a*, priv., and *pteryx*, a wing.] (*Zoöl.*) A family of birds, allied to the *Struthionidæ*, and till now represented by species only. *A. Australis* in form somewhat resembles a Penguin, and stands about two feet in height. The beak is very long, slender, marked on each side with a longitudinal groove, and furnished with a membrane at its base. Its wings are simple rudiments. The feathers have no accessory plume, but fall loosely, like those of the emu, and their shafts are prolonged considerably beyond the base. The feet have a short and elevated hind-toe, the claw of which is alone externally visible. The eye is small, and a number of bristle-like hairs surround the mouth. Its color is deep-brown; its time of action nocturnal; and it subsists on insects. It runs with rapidity, the limbs are extremely powerful, and it defends itself vigorously with its feet. This bird is chiefly met with in the southern parts of the interior of New Zealand. The natives value it greatly for the sake of its skin, which, prepared with the feathers on, they make into dresses. The name given to this bird by the New-Zealanders is *Kiwi.*

Ap'titude, *n.* [Fr., from Lat. *aptus*, from *apo*, to fasten, join, or tie.] Fitness; tendency; disposition; suitableness; readiness.

Apt'ly, *adv.* In an apt or suitable manner.

Apt'ness, *n.* Aptitude; fitness; suitableness; tendency; propensity; readiness.

Ap'tote, *n.* [Gr. *a* priv., and *ptotos*, that can, or is wont to fall, from, *pipto, peptoka*, to fall.] (*Gram.*) A noun without a case or cases; an indeclinable name.

Apule'ius, LUCIUS, B. at Madaura, Africa, and lived in the 2d century. He was educated at Carthage and Athens, and imbibed the Platonic philosophy. His most celebrated work is that entitled "*Metamorphoses; or, the Golden Ass.*" which has been translated into almost all European languages of modern date. This book purports to be a satire on the professors and principles of priestcraft and magic. By some it is held to have been designed as a pagan diatribe against Christianity. Be this as it may, we must admit that the story of Psyche contained in it possesses a singular charm.

Apu'lia, (*Anc. Geog.*) was a part of *Sapygia*, (so called from Sapyx, son of Daedalus,) including the modern S.E. provinces of Capitanata, Terra di Bari, Terra d'Otranto, &c. In the most ancient times, three distinct nations dwelt here—the Messapians, or Sallentines, the Peucetians, and the Dauni, or Apulians. The Peucetians were in the southern part, as far as the Aufidus; the Dauni in the northern, as far as mount Garganus. According to the tradition which conducts the wandering heroes of the Trojan war to Italy, Diomed settled in A., was supported by Daunus in a war with the Messapians, whom he subdued, and was afterwards treacherously killed by his ally, who desired to monopolize the fruits of the victory. Roman history mentions Arpi, Luceria, and Cannsium as important cities. Aufidus, a river of Apulia, has been celebrated by Horace, who was born at Venusia, in this territory. The second Punic war was carried on for years in Apulia. Cannæ, famous for the defeat of the Romans, is in this region. *Puglia*, the modern name, is only a melancholy relic of the ancient splendor which poets and historians have celebrated. It now supports more sheep than men, and has no political meaning, being merely the name of a geographical district.

Apu'lia, in *New York*, a post-office of Onondaga co., 124 m. W. of Albany.

Apu're, a river of S. America, in Venezuela. It rises in the Andes of New Granada, and after an E. course of about 500 m., receiving numerous tributaries, falls into the Orinoco in Lat. 7° 40′ N., and Lon. 66° 45′ W. On its banks are the towns of San Fernando, and Nutrias.

Apu'rimac, a river of S. America, in Lat. 15° 38′ S., Lon. 76° 25′ W., rises in the savannah of Condoroma, and flowing N., joins the Ucayale one of the chief affluents of the Amazons.

A'pus, *n.* (*Zoöl.*) A gen. of small crustaceous animals, ord. *Phyllopoda.* They inhabit ditches, lakes, and standing waters, generally in innumerable quantities. They swim well on their back, and when they burrow in the sand at the bottom of the streams, they raise their tails in the water. Their food principally consists of tadpoles. When first hatched they have only one eye, four oar-like legs, with whorls of hair, the second pair being the largest; the body has then no tail, and the shell only covers the front half of the body: the other organs are gradually developed during succeeding moultings. These creatures are the common food of the Wagtails.

Apyret'ic, *a.* [Gr. *a*, priv., and *pyretos*, fever.] (*Med.*) Without fever.

Apyrex'ia, *n.* (*Med.*) The intermission of feverish disorders.

Aqua, *n.* [Lat.] Water. It is used as a prefix in words taken from the Latin, and relating to water.

(*Chem.*) The formulæ of water are *Aq.* and HO, the latter being often used for basic, and the former for crystalline waters. A body containing water is said to be *hydrous*, and the compound with water is called a *hydrate.*

Aquack'anock, in *New Jersey.* See ACQUACKANONCK.

A'qua-for'tis, *n.* [Lat., strong water.] (*Chem.*) The commercial name of Nitric acid.

A'qua-mari'na, *n.* (*Min.*) A sea-green variety of emerald or beryl, much used in brooches.

Aquam'bo, or AQUAMBOE, a kingdom in the interior of the Gold Coast of Africa, reaching 20 m. along the river Volta, and 100 inland. It has a town of the same name.

Aquapim', a country on the W. coast of Africa, on the Gulf of Guinea. It is mostly uncultivated, but does a trade in gold-dust and palm-oil. Lat. about 6° N.; Lon. 0°.

A'qua Regiæ, *n.* [Lat., Queen's water.] (*Chem.*) A mixture of nitric acid and concentrated sulphuric acid, or oil of vitriol, with ⅛ to $\frac{1}{10}$ of its weight of nitre.

A'qua Re'gis, REGIA, or REGALIS, *n.* [Lat., royal water.] (*Chem.*) A mixture of 1 part nitric acid, and 3 to 4 parts chlorohydric acid; used for dissolving gold. It is so called from its power of dissolving gold, the king of metals. The scientific name is *nitro-chlorohydric acid*, or *nitro-muriatic acid.*

Aqua'rium, *n.* [From Lat. *aqua.*] A small pond placed in gardens, in which only aquatic plants are grown. It is generally a small pool or cistern, containing shelves or benches at different depths from the surface, on which pots are placed containing the plants.—Also, a tank or vessel containing either salt or fresh water, and in which either marine or fresh-water plants and animals are kept in a living state. In this form, the *A.* is not only an aid to scientific study, but also a fine ornament of drawing-rooms, and a source of rational amusement. To Mr. Warrington must be awarded the thanks of all lovers of nature, for having first produced a perfect aquarium. In 1850 this gentleman communicated to the Chemical Society of London the result of a year's experiments "on the adjustment of the relations between the animal and vegetable kingdoms, by which the vital functions of both are permanently maintained." To illustrate this adjustment, Mr Warrington kept for many months, in a vase of unchanged water, two small goldfish and a plant of *Vaisneria spiralis;* and afterward he made a similar experiment with sea-water, weeds, and anemones, which was equally successful. Before this, several attempts had been made to preserve fresh-water and marine organisms by naturalists. Mr. Ward, whose ingenious discovery of the method of growing ferns and other delicate plants in closed cases had already earned for him a world-wide reputation, stated, in 1849, that he had succeeded not only in growing seaweeds in sea-water, but in sea-water artificially made; and seven years earlier, Dr. Johnston succeeded in preserving the delicate pink coralline in a living state for eight years in unchanged sea-water. If an *A.* is provided with plants and animals in proper proportion, both will be easily kept

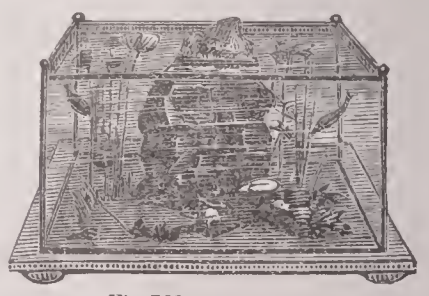


Fig. 162.—AQUARIUM.

healthy; the plants, under the action of light, consuming the carbonic acid gas given forth by the animals, and consequently restoring to the air, or water, in which they live, the oxygen necessary for the maintenance of animal life. It is, nevertheless, necessary to frequently aërate the water by taking out portions of it, and then pouring them in again from a small height. Some molluscous animals, such as the common periwinkle in salt water, or species of Planorbis in fresh water, are also necessary for the consumption of the vegetable matter continually thrown off by the growing plants, which otherwise would soon render the water greenish and untransparent. If the *A.* is intended for marine plants and animals, and sea-water cannot be procured, a substitute for it may be made by mixing 4 quarts of spring water with 3½ ounces of common table-salt, ½ ounce of Epsom salts, 200 grains troy of chloride of magnesium, and 40 grains troy of chloride of potassium. With due care, any species of aquatic plants or animals may be kept, and will grow in an *A.*; but the animals most

easily kept in good health are, in sea-water, the blennies, gobies, and gray mullets, and in fresh-water, the gold-fishes, &c. See AQUARIA, in SECTION II.

Aqua'rius, *n.* (*Astron.*) The *Water-bearer*, a constellation represented by the figure of a man pouring out water from an urn, supposed to be Ganymede, or Deucalion, *q. v.* — *A.* is situated in the Zodiac, where it is the 11th in order, or last but one of the zodiacal constellation; and is also the name of the 11th sign in the ecliptic. Its mean declination is 14° S., and its mean right ascension 335°, or 12 hours, 20 min.; it being 1 h. 40 min. W. of the equinoctial colure; its centre is, therefore, on the meridian on the 15th of October. It contains 108 stars, of which the four largest are of the 3d magnitude. — The ancient Egyptians supposed the setting or disappearance of *A.* caused the Nile to rise by the sinking of his urn in the water. In the zodiac of the Hebrews, *A.* represents the tribe of Reuben.

Aquas'co, in *Maryland*, a township of Prince George's co.

Aquash'icola, in *Pennsylvania*, a post-office of Carbon co.

Aquat'ic, *a.* [Fr. *aquatique*; Lat. *aquaticus*, from *aqua*.] Pertaining to water; watery. — A term loosely applied to animals which live in water, as fishes, and to plants which grow in water, either running or stagnant. In the former case they are called river plants; in the latter, pond plants. Such as grow in the sea are called marine plants. All are included under the generic name of WATER-PLANTS, *q. v.*

— *n.* (*Bot.*) A water-plant.

Aquat'ical, *a.* The same as AQUATIC.

Aquat'ics, *n. pl.* (*Sport.*) The term generically given to all sports having connection with water; as, yachting, boat-racing, rowing, swimming, duck-hunting, &c.

A'quatint, AQUATIN'TA, *n.* [From Lat. *aqua*, and It. *tinta*, tint.] (*Engrav.*) A style of engraving, or rather etching on copper, by which an effect is produced similar to that of a drawing in Indian ink. It is now almost out of use.

A'qua Tofa'na, or AQUETTA. (*Hist.*) A poisonous liquid which excited extraordinary attention at Naples, at the end of the 17th and beginning of the 18th centuries. Tofana, a Sicilian woman, was strangled after having murdered with it many hundreds of men. The strangest stories, with regard to its composition, have gone abroad. The drink is described as transparent, tasteless water, of which five or six drops are fatal, producing death slowly, without pain, inflammation, convulsions, or fever. Gradual decay of strength, disgust of life, want of appetite, and constant thirst, were its more immediate effects, speedily causing entire and rapid consumption. We believe it to be useless to give the different formulæ which have been suggested for the composition of this substance. It was probably the same poison as that notoriously used in Italy during the 15th and 16th centuries, of which Pope Alexander VI. died in 1503, and so fearfully celebrated in history as the *Wine of the Borgias*.

A'qua vi'tæ, *n.* [Lat., *water of life.*] A name sometimes given to brandy. The French term *Eau de vie*, the representative of brandy, is the literal translation of *Aqua vitæ*.

Aq'ueduct, *n.* (*Arch.*) An artificial channel constructed on arches for the conveyance of water from one place to another; more particularly applied to structures erected for the purpose of conveying the water of distant springs across valleys for the supply of large cities. Although not unknown to the Greeks, the *A.* may be considered as a design of Roman origin, conceived to meet the exigencies of a sufficient water-supply for their metropolis. Where springs and streams were found, rocks were penetrated and subterranean passages excavated to give them outlets from the hills, while galleries raised on high solid arches conducted them across the plain to their destination, which in many cases was a distance of 40 and 50 m. from the source of supply. These magnificent monuments, with their towering arches, must have produced a grand effect, striding, in gigantic form, in various directions toward the distant hills. They were from 50 to 60 ft. high, and of two stories, conveying distinctly separate streams. Wherever they crossed the public ways, they were decorated in the form of triumphal arches, with dedicatory inscriptions in honor of their founder. Three of these alone survive to supply the modern Rome, while the ruins of the others rise up, here and there, in melancholy grandeur, to tell of days of past Roman splendor. The first aqueduct was erected by Appius Claudius, B. C. 313; 39 years afterwards, Marcus Curius Dentatus applied the spoils of the Pyrrhic

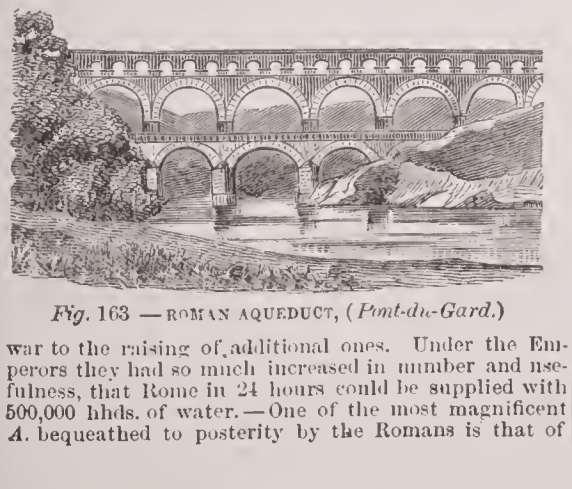


Fig. 163 — ROMAN AQUEDUCT, (*Pont-du-Gard.*)

war to the raising of additional ones. Under the Emperors they had so much increased in number and usefulness, that Rome in 24 hours could be supplied with 500,000 hhds. of water. — One of the most magnificent *A.* bequeathed to posterity by the Romans is that of Nîmes in France, the construction of which is attributed to Vipsanius Agrippa, son-in-law of Augustus Cæsar. This *A.* was 25 m. in length. The most remarkable portion of it is, undoubtedly, the *Pont-du-Gard*, (see *Fig.* 163,) crossing a deep valley, at the bottom of which flows the Garden. The entire structure was about 160 ft. in height. This work was altogether constructed with large stones without cement. The uppermost gallery formed the canal by which the water was conveyed. — The science of hydraulics, among the moderns, has rendered the general use of such expensive *A.* unnecessary; and they are now only applied in cases of emergency; such as conducting a river or canal over a valley, or across another body of water, &c.

Aque'laon, one of the Laccadive islands, in N. Lat. 10° 40′; E. Lon. 73° 56′.

A'queous, *a.* Watery; of the nature of water, or produced by it.

A. SOIL. (*Agric.*) Soil naturally abounding in water, the fluid being supplied by springs in the sub-soil.

A. HUMOR. (*Anat.*) The very limpid watery fluid which fills both chambers of the eye.

A'queousness, *n.* Quality of being aqueous.

Aquet'ta, *n.* [It., little water.] See AQUA TOFANA.

A'quia, in *Virginia*, a township of Stafford co.

A'quia Creek, in the E. part of Virginia, in Stafford co., empties into the Potomac. It is navigable for small craft for some distance from its mouth.

A'quiavil'co, a river of Mexico, in the prov. of Vera Cruz, falling into the Mexican Gulf; Lat. 18° 30′ N.

Aquifoliaceæ, HOLLY-WORTS, *n. pl.* (*Bot.*) An order of plants, of the alliance *Gentianales*. — DIAG. No stipules, simple stigmas at the end of a manifest style, axile placentæ, definite pendulous seeds, and an umbricated corolla. — They are evergreen trees or shrubs, whose branches are often angular. Leaves alternate or opposite, simple, leathery, without stipules. Flowers small, white or greenish, axillary, solitary or clustered, sometimes diœcious; sepals 4 to 6, imbricated in æstivation; corolla 4 to 6 parted, hypoginous, imbricated in æstivation; stamens inserted into the corolla, alternate with its segments; filaments erect; anthers adnate; ovary fleshy; stigma subsessile; fruit fleshy, inhericent; albumen large, fleshy. — The gen. *Ilex* is the type of this order, which includes 11 genera and 110 species, natives of America and S. Africa; only one, *Ilex aquifolium*, being found in Europe.

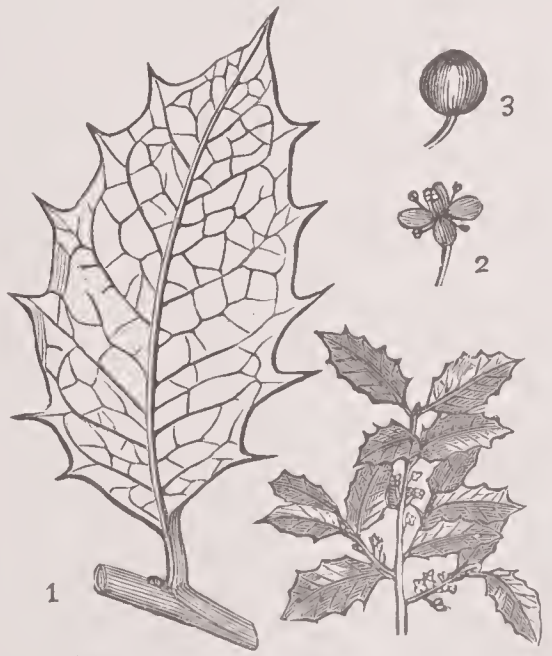


Fig. 164. — AMERICAN HOLLY, (*Ilex opaca.*)
1, 2, 3, leaves, flower, and fruit; natural size.

Aqui'la, *n.* [Lat., from Gr. *angkylos*, curved.] (*Zoöl.*) The true Eagles, forming the typical genus of the subfamily *Aquilinæ*, q. v.

Aqui'la, a strong city of S. Italy, cap. of the Abruzzo-Ultra, 58 m. N.E. of Rome. Situate on the Aterno, it is one of the finest and busiest cities in S. Italy, and has manufactures of linens. It was formerly much injured by earthquakes. *A.* is the site of *Amiternum* the birthplace of Sallust. *Pop.* 16,582.

Aqui'la, in *Georgia*, a village of Franklin co.

Aquila et Antinous. (*Astron.*) The *Eagle and Antinous*, a double constellation situated directly S. of the *Anser et Vulpecula*, and between *Taurus Poniatowskii* on the W. and *Delphinus* on the E. It contains 71 stars, including one of 1st magnitude (*Altair*), 9 of the 3d, and 7 of the 4th. It may be readily distinguished by the position and superior brilliancy of its principal star. See ALTAIR.

Aquile'ia, a seaport of N. Italy, in the gov. of Trieste, at the extremity of the Adriatic. This place in the time of the Romans was the entrepôt of commerce between N. and S. Europe, and had, before its destruction by Attila, a population of some 10,000. It was called the *second Rome*, and was the frequent residence of the Emperor Augustus. It still retains many traces of its former importance. 22 m. N.W. of Trieste. *Pop.* abt. 1,800.

Aquile'gia, *n.* [From Lat. *aquila*, the eagle.] A gen. of plants, ord. *Ranunculaceæ*. The wild columbine, *A. Canadensis*, grows wild in the U. States, in dry soil, generally on the sunny side of rocks. It is a beautiful plant, with a stem branching a foot high, and ternate, lobed leaves. Flowers terminal, scarlet without, and yellow within; pendulous, with numerous descending yellow stamens and styles; flowers in May.

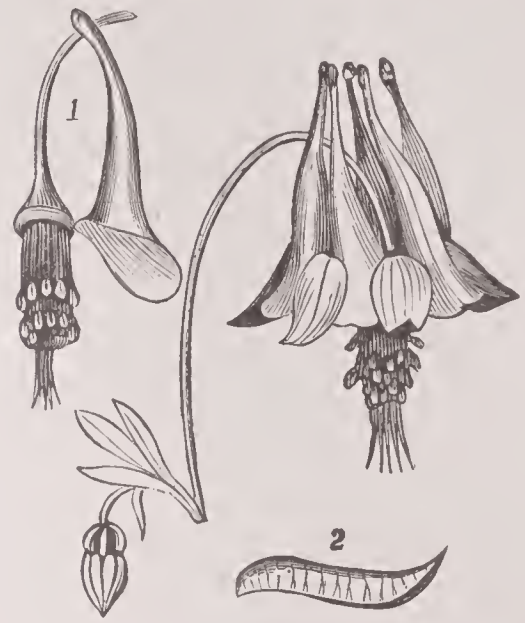


Fig. 165. — AQUILEGIA CANADENSIS, (*Wild Columbine.*)
1. Torus, with the stamens and pistils, and a petal detached.
2. Follicle.

Aquili'næ, *n. pl.* (*Zoöl.*) The Eagles; a sub-fam. of birds, fam. *Falconidæ*. Pre-eminent for courage, strength, and boldness among predatory birds, is the daring and majestic eagle. This time-honored monarch of the feathered tribes, which in the mythology of Greece and Rome was deemed worthy to rank as the chosen associate of Jupiter, was ever regarded as an emblem of dignity and might, and still has the reputation of being equally magnanimous, fierce, and voracious. What the lion is among quadrupeds, that the eagle is presumed to be among birds: one who disdains all petty game, and pursues only such prey as would seem to be worthy of conquest. This laudatory character of the king of birds, however, though true in the main, and generally acquiesced in, is, it must be confessed, more poetically descriptive than logically accurate: but while, in our zoological character, we are bound to make this admission far be it from us to disparage the "*bird of Jove*," or to pluck a single plume from his upsoaring wing. Eagles are distinguished by the feathering of the tarsi down to

Fig. 166. — THE ROYAL EAGLE, (*A. regalis.*)

the very base of the claws. Of all the feathered tribe the *E.* soars the highest; and of all others also it has the strongest and most piercing sight. Though extremely powerful when on the wing, the joints of its legs being rather stiff, it finds some difficulty in rising again after a descent; yet, if not instantly pursued, it will easily carry off a goose, or any other bird equally large. The wonderfully acute sight of the *E.* enables him to discern his prey at an immense distance; and having perceived it, he darts down upon it with a swoop which there is no resisting. It is well understood that the *E.* is able to look steadfastly at the sun; which alone must give him a decided superiority over every other denizen of the air; this is accounted for by his being furnished with double eyelids, one of which is closed while the other is open, so that the glaring light of any dazzling object may be rendered more easily supportable. The nest is composed of sticks, twigs, rushes, heath, &c., and is generally placed upon the jutting ledge of some inaccessible precipice, or in forests, near some lofty tree. They do not lay more than two or three eggs. The species of *E.* are many. The largest is the Imperial *E.* (*A. imperialis*), native of S. America. It measures 3½ ft. from the tip of the bill to the end of the tail. The Golden E. (*A. chrysaëta*), nearly the same in Asia, Europe, and N. America, measures 3 ft. 3 in. The royal *E.* (*A. regalis*), particularly common in Brazil, is a bird of great beauty (*Fig.* 168), although not quite so large as the two preceding. It flies with majestic rapidity, and such is the expanse of its wings that it sometimes strikes and kills its prey with them before touching it with its claws. Its strength is such as to enable it to tear into pieces in an instant the largest sheep; and it pursues wild animals almost indiscriminately.

Aq'uiline, *a.* [Fr. *aquilin;* Lat. *aquilinus,* from *aquila.*] Belonging to the eagle; curved and hooked like the beak of an eagle.

Aq'uilon, *n.* [Lat. *aquilo,* the north-wind, from *aquila.*] The north-west wind; so called from its rapidity and vehemence, resembling the flight of an eagle.

Aquilo'tes, a tribe of S. American Indians, formerly belonging to the Gran-Chaco. They are believed to be now extinct, or incorporated with other tribes.

Aquin', a town of the island of St. Domingo, on its S. coast, 46 m. W. of Jacmel.

Aqui'nas, Sr. Thomas, surnamed the "*Angel of the Schools.*" One of the most eminent scholastic philosophers; b. 1227, in Italy. After the completion of his studies at the University of Naples, he assumed the Dominican robe, notwithstanding the repugnance evinced by his family. Going to Cologne, he there entered on a course of study under Albertus Magnus, and accompanied him to Paris. He successfully espoused the cause of the monks before Pope Alexander IV. in 1253; and soon after became doctor of theology at Paris. Rejecting dignities, he confined his ambition to preaching and expounding, and this in an unassuming manner. In 1272, *A.* was called to Naples to teach in the schools, and was afterward invited to partake of the deliberations of the council of Lyons, but was seized with illness on his way thither, and died in a monastery, in 1274. In 1323, John XXII. canonized him, and he was declared a Doctor of the Church by Pius V. in 1567. *A.* combined, with great learning and a vigorous understanding, the gifts of fervent piety, and toleration in controversy. He sought chiefly to demonstrate the sympathy existing between reason and the doctrines of Christianity. His greatest work, the "*Summa Theologiæ,*" is an enduring triumph of human intellect in the middle ages. *A.* laid down, and his disciples, the Thomists, after him, the doctrines of grace and predestination, which, however, were controverted by Duns Scotus, and the Scotists. The best edition of the works of *A.* is that published at Rome, 1570, in 17 vols., folio.

Aqui'no, an episcopal town of S. Italy, in the prov. of Terra di Lavaro. It is noted as the native place of Juvenal and St. Thomas Aquinas. Situate 5 m. N.E. of Pontecorvo.

Aqui'ras, a district and settlement of Brazil, in the prov. of Ceara, between the lake of the same name and the Atlantic. *Pop.* abt. 5,200.

Aquire', a river of Guiana, which after a course W.N.W. to E.N.E. for 100 m. enters the Orinoco near its month. It is only navigable for canoes.

Aquitaine', the ancient name of Gnienne, a ci-devant prov. of France, now forming the dep. of the Gironde and Lot-et-Garonne. It was one of the four great divisions of Gaul known to the Romans.

Aquo'kee River. See Tocoa.

Aquo'ne, in *North Carolina,* a post-office of Macon co.

A'ra, the name of two rivers of Spain, one in Catalonia, a branch of the Segri; the other in Aragon, a branch of the Cinca.

A'ra, *n.* (*Zoöl.*) The macaw, a bird of the sub-fam. *Arinæ,* q. v.

Araaso'java, in Brazil. See Guarosojava.

Ar'ab, or **Ara'bian,** *n.* A native of Arabia.—See Arabian.

Ar'aba, a river of Persia, falling into the Arabian gulf, in Lat. 25° 30′ N.; Lon. 65° 49′ E.

Ar'abah, a desert of Arabia.

Ar'aban, a town of Turkey-in-Asia on the Khabur, 76 m. S.E. of Orfa; Lat. 36° 20′ N.; Lon. 40° E.

Arabau'ate, a large lake of Peru, in the prov. of Mainas, which communicates with the Guallaga. It abounds with turtle.

Ar'abat, a fortress of Russia, on the Sea of Azov, 70 m. from Simpheropol in the Crimea. It formerly belonged to the Turks.

Ar'abat, Tongue of, in the Crimea, a narrow slip of sandy land, 70 m. long, and 1,600 to 2,000 ft. wide, which divides the *Sivash* or Stagnant sea from the Sea of Azov.

Arab'azari, a town of Karamania, 16 m. N.E. of Alamek.

Arabel'la Stuart, commonly called the *Lady Arabella,* was the only child of Charles Stuart, Earl of Lennox, younger brother to Henry Lord Darnley, the husband of Mary Queen of Scots. She was therefore cousin-german to James I., to whom, previously to his having issue, she was next in the line of succession to the crown of England, being the grand-daughter of Henry VII., by the second marriage of his eldest daughter Margaret. Her proximity to the throne was the source of her misfortune. Elizabeth, for some time before her decease, held the Lady *A.* under restraint, and refused the request of the king of Scotland to give her in marriage to the Duke of Lennox, with a view to remove her from England. The detection of a plot of some English nobles to set aside James in favor of *A.*, of which she was altogether innocent, ultimately proved her destruction; for, although left at liberty for a time, when it was afterward discovered that she was secretly married to the grandson of the Earl of Hertford, both husband and wife were committed to the Tower. After a year's imprisonment, they contrived to escape, but the unhappy lady was retaken. Remanded to the Tower, the remainder of her life was spent in close confinement. D. 1615, aged 38 years.

Ar'abesque, or Moresque, *a.* [Fr.] After the manner of the Arabian architecture, sculpture, &c.

—*n.* (*Sculp.* and *Paint.*) A term applied to a species of capricious ornament, consisting of intricate, rectilinear and curvilinear lines, fruits, flowers, and other objects, to the exclusion, in pure arabesques, of the figures of animals, which the religion of Islam forbade. It is not to the Arabs, however, that the invention of this ornamental system ought to be attributed. It was known to the ancients, and the friezes of their monuments are frequently decorated with foliage and various inscriptive ornaments: an elegant illustration of this line of decoration may be seen on the parade of the baths of Titus at Pompeii, and on a great number of Greek vessels found at Herculaneum. The Arabs, whose religion prohibited any representation of animated beings, made naturally a great use of this kind of architectural embellishment; and hence, it is probable, was given to it the name under which it is known. It was principally during the period of the Renaissance that it became generally employed in Europe: anything more graceful and airily delicate than the works of *A.* executed in that epoch it is hardly possible to conceive. Nevertheless, it was reserved for the celebrated painter Raphael to bring this style of ornament to a point of perfection which has not been surpassed. Nothing can compare with the richness and beauty of the *A.* executed after his designs, in the Loggia of the Vatican, at Rome. See Arabian Architecture.

Ar'abesqued, *p. a.* Ornamented with arabesques. (R.)

Ara'bia, an extensive region of Asia in its N.W. quarter; which forms almost a peninsula of an irregular quadrangular form, and is so peculiarly connected with Africa by the narrow isthmus of Suez, that with equal justice it might also be said, geographically speaking, to be a peninsular offshoot of the latter continent. This country is bounded on the N. by Syria and the Euphrates; on the E. by the Persian gulf; on the S. by the Indian ocean and the straits of Bab-el-mandeb; and on the W. by the Red sea, and the isthmus of Suez, which divides it from Egypt. Lat. between 12° and 34° N.; Lon. between 32° 30′ and 60° E.—*Ext. A.'s* greatest length on a line drawn W.N.W. from Ras-el-Had, on the sea of Oman, to Suez, may be computed at about 1,500 m.; its average breadth at about 800.—*Area,* as measured on D'Anville's map, about 1,200,000 sq. m.—*Divisions. A.,* according to the ancients, was divided into three parts: 1. *A. Felix,* or the "Happy," bordering on the Persian gulf, the Indian ocean, and the S. extremity of the Red sea; 2. *A. Petræa,* or the "Stony," lying along the Red sea to the N. of *A.* Felix; and 3. *A. Deserta,* or the "Desert," forming the interior portion N. of the tropic of Cancer, and extending to the borders of Syria. Under these names, however, these divisions are not known to the Arabians. Their nomenclature may thus be defined: that division called *A.* Deserta contains the countries denominated *Nejd* and the *Djowf; A.* Petræa forms *El Héjaz;* while *A.* Felix comprises the modern provinces called *Yemen, Hadramaut, Oman,* and *El Achsa.*—*Desc.* The greater part of *A.* presents the appearance of a vast and sterile desert, more especially as regards the interior; though even there may be found a few fertile spots or oases, some mountains of considerable height, and luxuriant valleys. Along the sea-board, from Suez to the head of the Persian gulf, a belt of low, and, for the greater part, fertile land, impinges upon the desert, varying in breadth from two days' journey to a single mile. This tract is called "Tehama," or the *Low Land.* The extreme S. provinces of *A.*, as, for instance, Hadramaut and Yemen, are more particularly distinguished for fertility of soil and rich vegetation; and to these parts, it is supposed, has been applied the poetic simile of "Araby the Blest." In all parts of this country, however, there prevails a scarcity of water.—*Mountains.* A range called Jebel-el-Akabah, a S. ramification of the Lebanon chain, runs S. by W. as far as the gulf of Akabah, where it is joined on the N.E. by Mount Tor, the "Sinai," and "Horeb," of Scripture. Extending from the latter to the straits of Bab-el-mandeb, are a series of mountains, which in parts of the Héjaz exhibit peaked tops of from 5,000 to 8,000 ft. In the interior lies Jebel-Shemmar, on the caravan route from Bagdad to Medina, which is said to compare with Mount Lebanon both as to elevation and extent, and also for the forest-embowered villages surrounding it. The Torik, Jebel-Kur, and El-Arad, are other mountains of *A.*, and comparatively but little known.—*Rivers. A.* has no considerable river, those known being only small streams, sometimes rising into torrents after heavy rains. The most noticeable are the Aftan, Ober, Keber, &c.—*Lakes.* None known, though it is believed that, in the Nejd, and far interior, some may be found.—*Climate.* The climate of *A.* is perhaps the driest in the world, and almost insupportably hot, the tropic of Cancer passing, as it does, through the heart of the country. This intense heat is aggravated by the mephitic winds, called *simooms,* which are of frequent occurrence in the desert. In the vicinity of the mountains a more genial temperature prevails. (*Zoöl.*) In the deserts, the panther, jackal, wolf, and hyæna have their habitat; among the mountains roam the musk-deer, the wild ass, and the rock-goat; and on the more verdant plateaux, the antelope, gazelle, and jerboa. The principal and more domesticated animals are the horse and the camel; the breed of the first, as indigenous to *A.*, has been famous in all ages; while the latter quadruped is aptly named the "Ship of the desert," from its indispensable value for purposes of locomotion in this land of sandy wastes. Of birds, the eagle, the vulture, and varieties of hawks are common; the desert is the home of the ostrich; and the pelican stalks the shores of the Red sea. Pheasants, fowl, and small sorts of game are plentiful in Yemen and those countries adjoining the Indian ocean. Locusts swarm, and are by the natives considered edible. Various kinds of fish are abundantly found on the E. coast, which not only serve for food, but are used as manure for the soil.—*Prod.* Dates, dhourra (a kind of millet), wheat, barley, tobacco, indigo, coffee, spices, tamariuds, balm, various gums, and fruits. Agriculture obtains only in a very limited degree.—*Geol.* In the mountains of *A.* are porphyry, jasper, quartz, freestone, basalt, marble, alabaster, and limestone. Among the mineral productions are the emerald, onyx, agates, cornelian, gypsum, saltpetre, sulphur, naphtha, asphaltum, iron, lead, and copper. In Yemen, gold mines were formerly worked, but no present indications of the existence of this precious ore are found, the development of the mineral resources of *A.* remaining yet inactive. Rock salt is manufactured about Lohein.—*Manf.* Woollens, linens, and silks; firearms, spear-heads, and other arms; tin and copper utensils, &c. *Com. A.* is well situated for trading intercourse with other countries. Immense quantities of merchandise are yearly transported across the deserts by strings of camels, forming what are called in the East, *caravans.* Mocha, Djedda, and Lohein on the Red sea, are the great emporiums of the coffee-trade; Muscat is the entrepôt of traffic with the Persian Gulf, and India; and Aden, E. of the straits of Bab-el-mandeb, has become of late years a busy British settlement, and the connecting point of steam-communication between Europe, via Suez, and India.—*Exp.* The principal exports are coffee, spices, gums, drugs, and pearls.—*Inhab.* The aborigines of *A.* are originally of pure Caucasian race. They are pleasing in their form and physiognomy, though their physique and muscular development is on a smaller scale than that of most Europeans. The women are generally attractive in appearance, but cannot be called strictly beautiful. The character of the Arab is peculiar. Possessing a passionate temperament, and easily irritated, they are as quickly appeased. Candor, hospitality, love of independence: these are among their best traits. On the other hand are found the bad qualities of intense thirst for revenge, vanity, superstition, and proneness to thievery. The Arab is the most civilized and humane of robbers; he plunders a traveller, and then offers him hospitality and protection. Abstemious to an extreme, these people live on the simplest food, drink only water, and occasionally coffee; yet some are found who indulge in wine and ardent liquors, despite the inhibition of the Koran. Tobacco-smoking is universal, and the *hasheesh* is frequently used as a narcotic. The costume of the men usually consists of a turban, or *caftan,* shirt, drawers, and papooshes or slippers. That of the women comprises a robe and immense pantaloons of various stuffs and colors, a cloak or *burnous* of Indian striped cotton or silk, and half-boots, or slippers of yellow leather. On their heads they commonly wear a caftan, and when out of doors invariably cover their faces with a long linen veil called *yashmak.* The Arabs are bigoted adherents of the faith of Islam; their system of government is patriarchal, and the Koran forms the sole legal code. They lead, for the most part, a wandering and nomadic life, dwelling in tents, and occupy themselves with religious duties and rapine, about equally. The most celebrated and peculiar tribe is the *Bedouins,* q. v. *A.* contains many small states, and a great number of independent tribes. Of the former, Héjaz and Yemen form the *vilayet,* or viceroyalty of Arabistan, under the rule of the Sultan of Turkey; Muscat is governed by its own sovereign, the Imaum; and Mecca, by a potentate bearing the title of Sherif or Xerif. The others elect their own chiefs under various designations, as Emir, Sheikh, &c.—*Hist.* See Arabians.—*Chief towns.* Mecca, the "Holy City" of the Mohammedans; Medina, Aden, Sana, Djedda, Muscat, Riad (the capital of Nejd), Heyel, and Bereydah.—*Pop.* Estimated at 12,000,000, about seven-eighths of which are Arabs; the remainder being Jews, Turks, Banians, Europeans, &c. The first European who is believed to have penetrated and traversed the interior of *A.* is the English traveller Palgrave, whose valuable "*Narrative of a Year's Journey through Central and Eastern Arabia,*" was published at London, in 1865.

Fig. 167.—Arabian Lady, Riding.
(Egypt and Arabia.)

Ara'bia, in *Ohio*, a post-office of Lawrence co.

Ara'bian, Moor'ish, or Saracen'ic, Architecture. Before the birth of Mohammed, the Arabs, a people essentially nomadic, did not possess a distinctive style of architecture. They had, it is true, seven temples in which were enthroned the idols of their worship, but these edifices were destroyed by the early Moslems, with the exception of that at Mecca, called the *Cauba*, from the name of the famous black stone which has always been an object of veueration to the followers of Islamism. This celebrated temple forms a square building of about 33 ft. in length, by 31 in width, with a height of 32 ft. It is lighted by a doorway on its E. side, and by a window. Mohammed having consecrated it to the worship of the only God, the caliphs, his successors, surrounded the shrine with a square yard or enclosure, and built porticos and rooms for the use of pilgrims. All know how rapid and productive were the conquests achieved by the Moslems after the death of the prophet Mohammed in A. D. 632. Contact with more civilized nations gave rise, in this people, to an active and passionate love for the arts and sciences. The first mosque erected by the Arabs was that of the caliph Omar, built on the site of the temple of Jerusalem. His son Walid (705-715) erected at Damascus, on the ruins of the church of St. John the Baptist, a mosque so magnificent that its cost was not less than $180,000,000. It was on this mosque that was originally placed the tall spiral shaft called the *minaret*, from the top of which, for the first time, the muezzins called the Faithful to prayer. Wherever Islamism penetrated, and predominated, were founded buildings consecrated to the new religion, as well as palaces, hospitals, caravanseras, &c.; but the ensemble of these early Arabian structures sufficiently demonstrated that their architects were Greek artists. It was in Spain that the *A.* style of architecture exhibited itself in all the originality of which it was susceptible. The great mosque of Cordova was begun by Abd-er-rahman-ben-Moawiah in 770, and finished by his son, near the end of the 8th century. But of all the Morisco monuments in Spain, the most marvellous and world-renowned is, without a doubt, the *Alhambra*, (see Granada.) The *Alcazar of Seville*, built posterior to the Alhambra, enjoys an almost equal celebrity, but in the former the *A.* style is only evident in its decadence. If the gratification of the eye were the sole aim and object of architecture, this would singularly place the *A.* school far above the great architects of other nations. It is impossible to imagine anything more aërial, *svelte*, and tender in form and proportion than the Moorish type of structure as found in Spain. The system of decoration generally seen in these erections, produces upon the senses an almost undefinable impression; the multiplicity and minutiæ of detail so prominently pervading the whole, together with the harmonious contrast of the richest colors exhibited throughout, both excite and charm the imagination. The sky-opening, of star-like form, that the Arabs of Spain employed in the construction of their domes, produces, from the manner in which it conveys light into the interior halls, a truly magical effect. Notwithstanding all this, the Moorish style does not present that aspect of clearness and grandeur which is so apparent in the Egyptian, the Greek, and the Roman monumental remains. Summarily, the *A.* order of architecture, considered from the point of view of construction, and also at the point of sight of the general system of decoration, has obtained its salient features from the architectural systems of other nations, and more especially from the Byzantine. Its only, and grand characteristics are, the method by

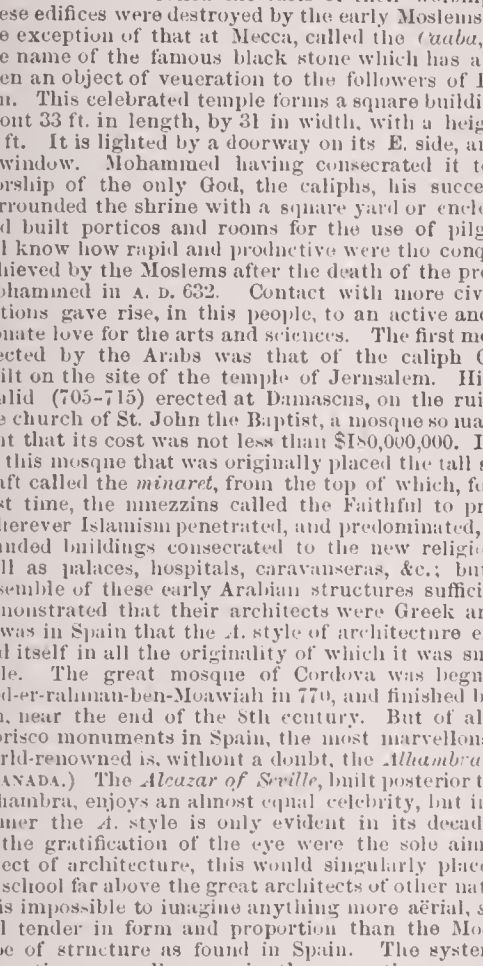


Fig. 168.—Arabian archway, in Tarragona (Spain).

which the Arabs have combined other styles, the variety exhibited in the different parts of their constructions, and the extraordinary harmony which, in spite of all, is manifest in their architectural conceptions. The more distinctive points connected with the *A.* system are, briefly, as follows. Their columns are remarkable for extraordinary lightness and variety of form, are by no means deficient in beauty, and generally support low arcades. The shafts are short and slender, either plain or ornamented with lineal carving, sometimes grooved perpendicularly, sometimes spirally. The capitals are either imitations of the Greek orders, or formed of clustered foliage covered with a plain abacus. Such was the fondness of the Arabians for columnar ornamentation, that in all their mosques and palatial residences they introduced an infinite concourse of them, disposed in clusters or rows. The arches employed were of three kinds: the crescent, the circular, and the pointed. The crescent (or horse-shoe arch) is the symbol of the Mohammedan hægira, as the cross is that of the Christian crucifixion. It was by them called the sacred arch, and is invariably found in the doorways and domes of their mosques. The round arch they borrowed from the Romans. The pointed arch is believed to have been of their own invention, suggested by some of the forms of Oriental lattice-work. Another favorite style of ornament was the intricate arrangement of compartments or panels, in which they excelled. This style was afterward imitated in the modern groining of Gothic roofs and ceilings. The open fretwork so common to *A.* architecture is decidedly derived from Persia. Corbels and machicolated parapets of castles, were also adoptions of the *A.* school. Besides the before-mentioned examples of *A.* structures, some of the finest are to be found in Hindostan, as the mosques of Benares and Lucknow, the mausoleum and palace of the sultan Akbar at Agra, (*Fig.* 56.) and of Shah Jehan, known as the Taj-Mahal of the Great Mogul, at Delhi.

Ara'bian Gulf. See Red Sea.

Ara'bian Nights' Entertainments, or "The Thousand and One Nights," a celebrated collection of Oriental tales, which have, since their introduction to the civilized world, become the delight of all who peruse them. This collection, which had long been famous throughout the East, was brought to the notice of Europeans by the translation of Antoine Galland, a great French orientalist, in 1704. It speedily became translated into the other principal European languages, fixed popular admiration, and to this day retains its place in popular literature. The scheme of its conception is so well known that it would be needless here to relate it. These tales, though fabulous in substance, possess in the most eminent degree the characteristic imagery and poetical versatility of the Orientals. Numerous imitations have at times appeared, which but feebly compare with the original; perhaps the best of modern paraphrases is that of Oehlenschläger's *Aladdin*, which is founded on one of the well-known tales of the original series. The best editions of this work which have yet appeared are the one edited by Lane, the English orientalist, and Burton's uncompromisingly accurate translation from the original (1885-1887).

Ara'bians, or **Ar'abs.**—I. *History.* The *A.* are a people of the Caucasian race, who, by Oriental tradition, are said to deduce their origin from Joktan, 5th in descent from Shem; and also, from Adrian, in a direct line from his progenitor Ishmael, the son of Abraham. The posterity of the former are deemed pure, or genuine *A.*; those of the latter, naturalized or adopted *A.*, from their having settled in Arabia many centuries after the advent of the Joktanides. The *A.* eventually became an homogeneous people, and established governments in Arabia, Chaldæa, and Syria; but without attaining decided power and pre-eminence until the beginning of the 7th century, when Mohammed, or Mahomet, the great apostle and founder of Islamism, consolidated the *A.* into one great nation. The *A.*, within a century later, carried their prowess in arms, and spirit of religious enthusiasm, from the Indies to the Atlantic, touched the African deserts, penetrated Spain and Southern France, absorbed Asia Minor and the countries about the Caspian sea, conquered India, Persia, Syria, and Egypt, and finally established the great caliphate of the Moslems at Damascus. From A. D. 661 to 750, the Ommiades dynasty ruled there as caliphs, until the rival power of the Abbassides overcame them, and founded a new dynasty, the seat of whose caliphate was transferred to Cufa, and ultimately to Bagdad. The latter city continued to be the capital of the Moslem empire, and the metropolis of the East, until the 13th century. The power of the caliphate then sensibly declined, owing to the foundation of other and independent thrones in Egypt and Western Africa, and that of the caliphate of Cordova in Spain, established by the last descendant of the Ommiades. About the commencement of the 16th century, the Turks conquered and abolished the Eastern caliphate, which from that period merged into the great Ottoman empire.—See Bedouins, Karmathes, and Wahabees.

II. *Language.* See Arabic.

III. *Literature.* Long before the time of Mohammed, the *A.* excelled in letters, though of its dawn, and first cultivation, but little is known. It has been stated that the Book of Job, a poem in itself, is of Arabian origin; be this, however, as it may, it is certain that the art of poetry had highly advanced among the *A.* long before the Christian era. The golden age of *A.* literature commenced with Mohammed, whose writings on religious faith and morality, known as the *Koran*, became afterwards considered as the sacred book of the *A.* race. Successive ages extended and encouraged the taste of this people for literature and science, and this spirit of intelligence was fostered by the munificent patronage it received from the Abbassides caliphs (A. D. 750), more particularly so by the great monarchs Al-Mansur, Haroun-al-Raschid, who caused the works of the most famous Greek writers to be translated into the Arabic; and Al-Mamum, who surpassed his predecessors, invited learned men from all countries to his capital, established academies at Bagdad, Bassora, and Bokhara, and large libraries at Alexandria, Bagdad, and Cairo. The caliph Motassem (A. D. 841) instituted a literary rivalry between his dynasty at Bagdad, and that of the Ommiades in Spain. What Bagdad was to Asia, such was Cordova to Europe; where, during the 10th century, the *A.* were the chief pillars of literature. They excelled in geography, history, philosophy, medicine, physics, and mathematics. The philosophy of the *A.* was of Greek origin, partaking of the school of Aristotle. In poetry, excepting the dramatic, they left no style unachieved; they invented the ballad, and there can be no doubt that they exercised a powerful effect on the poetry of the early civilization of that epoch. The romantic adventures of chivalry, the mythical lore of Faërie-land, sorcery, and magic, all this, and more, passed from the *A.* into the poetry of Western Europe, imparting to the latter much of the imaginative spirit and refinement of character it has since developed.—See Antar, and Arabian Nights' Entertainments.

Ara'bian Sea, a large expanse in the Indian ocean, extending from the peninsula of Hindostan on the E., to Arabia on the W., a distance probably of 1,500 m.

Ar'abic, *n.* The language of the Arabs, or people of Arabia. This tongue belongs to the so-called *Semitic dialects*, among which it is distinguished for its antiquity, richness, and softness. The *A.* language now forms two dialects, the ancient or *literate A.* of the Koran, and the *A. vulgar*, of which latter the purest is spoken in Yemen. The *A.* spoken at the present day is said to differ as much from that of the Koran, as the Italian from the Latin; but the well-educated Arabs, like the learned of the Turkish empire, still employ it in correspondence and literary composition. The number and variety of its grammatical forms is great, but its strong gutturals and deep intonation render it harsh to the ears of northern people. In harmony and energy, the *A.* is said to excel; and its richness in respect of words surpasses all other languages. The Arabs, indeed, represent it as so copious, that no uninspired man can become a perfect master of it; as, for instance, they allege that it has 1,000 terms to express *sword*, 500 for *lion*, and 200 for *serpent*. As the language of Mohammed, the *A.* has been diffused over a greater portion of the earth than any other. It is studied, and understood, even if not spoken, from the shores of the Atlantic to the banks of the Ganges; and from the Tartar steppes to the countries on the Niger. In the Sunda, Molucca, and Philippine isles, it is generally spoken. Throughout the greater part of Spain also, and the whole of Sicily, it once prevailed; and on the eastern coast of Africa, as far as Madagascar, it is still spoken. This vast extension may be one cause of its copiousness, as it doubtless is the chief one of its diversity of dialects and pronunciation. The language of one province is almost unintelligible to the inhabitants of another. The dialect of the mountaineers of Yemen, owing to their little intercourse with strangers, bears the strongest resemblance to the language of the Koran. The Ismaelitic forms of the *A.* prevail in the N. of Arabia, the Himyaritic in the S., and the Koraitic in Mecca and the adjacent country. The idiom of the Arabs in the N.W. part of Africa is the most corrupt of any, excepting that of Malta. We possess valuable grammars and lexicons of the *A.* by Erpen, Michaelis, Richardson, Jahn, Rosenmüller, De Sacy, Tychsen, Ewald, Roorda, Meninski, and Freytag. The modern, or vulgar, *A.* has been investigated by Savary, Eichhorn, Burckhardt, and others; and of the Algerine *A.* several vocabularies and grammars have been published in Paris.

Arabgir', or Arabgheer, a town of Armenia in Asiatic Turkey, between Egin and Keban-Maden.—*Manuf.* of cotton goods. Distant from the Euphrates about 20 m.; from Aleppo, 270 m. *Pop.* 20,000.

Arab-Hissar, a town of Asiatic Turkey, in Anatolia, 38 m. N.W. of Mogla. Near it are the ruins of an ancient city.

Arab'ical, *a.* Arabian; Arabic.

Arab'ically, *adv.* In the Arabian manner.

Arabic Figures. See Numerals.

Arabic Gum. See Gum-arabic.

Arab'icus Sinus. See Red Sea.

Ara'bidæ, *n. pl.* (*Bot.*) A tribe of plants, ord. *Brassicaceæ*.

Ar'abine, *n.* (*Chem.*) That portion of gum-arabic soluble in cold water. It is colorless, tasteless, and without smell: between 282° and 392° softens, and may be drawn into threads; becomes acid in a moist atmosphere; insoluble in alcohol, and precipitated from its aqueous solution in flakes; converted by boiling with sulphuric acid into sugar, but does not ferment. It consists of C 42·11, H 6·43, O 51·46. This solution is known by the name of mucilage, and is employed in pharmacy to make cough mixtures; and in calico printing, to thicken colors and mordants. *Form.* $C_{12}H_{11}O_{11}$.

Ar'abis, *n.* (*Bot.*) A gen. of plants, tribe *Arabida*.—Diag. Sepals erect; petals unguiculate, entire; silique linear, compressed; valves 1-veined in the middle; seeds in a single row in each cell. Fls. white.—The Sickle Pod, *A. Canadensis*, found on rocky hills in the W. States, is a plant remarkable for its long, drooping pods, which resemble a curved sword-blade; stem 2-3 ft. high, slender, round, smooth; small white flowers in June.

Ar'abis, a river of S. Asia.

Ar'abism, *n.* An idiom or phrase of the Arabic language.

Ar'abist, *n.* One versed in Arabian literature.

Arabis'tan, a division of the Ottoman empire in Asia, forming a *vilayet* or government; consisting of the prov.

inces or *sandjaks* of Bagdad, Haleb, and Souristan, in Syria, and the Héjaz and Yemen in Arabia.

Arab'istan, ("Land of the Arabs.") A vast extent of level country of Persia, in the prov. of Khúzistan, comprising the districts of Hawiyat, Shushter, and Dizful.

Ar'able, *a.* [Fr.; Lat. *arabilis*, from *aro*; Gr. *aroo*, to plough.] Applied to land fit for ploughing, or tillage.

Ara'bo. See RAAB.

Ar'abog, in Arabia. See RABOGH.

Arabo-Tedesco. [It. *Arabo*, and Gr. *Tedesco.*] (*Arch.*) A style consisting of a mixture of Arabian or low Grecian with German-Gothic. It is a term used chiefly by the Italians. An example of this style may be shown in the Baptistery of Pisa (*Fig.* 169), erected by Dioti Salvi

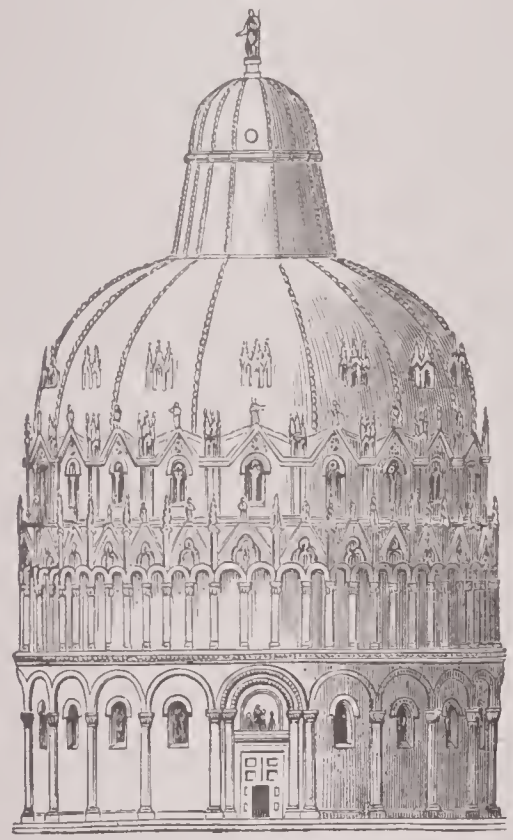


Fig. 169. — BAPTISTERY OF PISA, (12*th century.*)

in 1152. It is a circular edifice, with an arcade of the 2d order, composed of columns with Corinthian capitals and plain round arches. Between each arch rises a Gothic pinnacle, above which it is finished by sharp pediments enriched with foliage, terminating in a trefoil.

Ar'aby, *n.* Same as Arabia; used chiefly in a poetical sense.

Ar'acan, or ARRACAN, formerly an independent kingdom, conquered by the Burmese in 1784, now a province of British Burmah. It is situate on the S. E. coast of the Bay of Bengal; is bounded on the E. by Burmah, and on the N. by Chittagong in British India. Lat. between 16° and 22° N.; Long. between 92° and 94° E.; *area*, 18,500 sq.m.—*Desc.* On its E. border is a lofty range of mountains, with but few passes. On the coast are innumerable islands. The interior is chiefly covered with forests, jungles, lakes, and rivers; the principal of which latter are the *Aracan* and *Mayoo*, both navigable.—*Com.* A considerable trade is carried on with Bengal and Europe.—*Prod.* Rice, cotton, indigo, buffalo-hides and horns, ivory, tobacco, silk, fruits, and gold and precious stones. Iron and coal are found.—*Chief Towns.* Aracan and Akyoh.—*Pop.* (1895), 488,500. —In 1824, this country was conquered by the British.

ARACAN, a city and cap. of the above prov., on a branch of the Kuladyne river; Lat. 20° 35′ N., Lon. 93° 15′ E. It is fortified, and possesses pagodas. *Pop.* (1895), 3,000.

ARACAN, or KULADYNE, a river of the above prov., rises in Burmah, and after a S. course of about 200 m. through Aracan, falls into the Bay of Bengal. It is navigable for small vessels.

Araca'ri, *n.* (*Zoöl.*) A gen. of birds of the fam. *Toucan*, q. v.

Aracee, ARADS. *n. pl.* (*Bot.*) An ord. of plants of the alliance *Arales*.—DIAG. Aral endogens, with numerous naked flowers on a solitary spadix covered by a simple hooded spatha, sessile anthers, loose seeds, and a slit axile embryo. They are herbaceous plants, or shrubs, often with a fleshy corm; stemless, or arborescent, or climbing by means of aërial roots. Leaves sheathing at the base, convolute in the bud, usually with branching veins. Spadix generally inclosed in a spathe; flowers mostly monœcious and achlamydeous, arranged upon a naked spadix; stamens definite or indefinite, hypogynous, very short; anthers ovate, extrorse; ovary free, 1-several-celled; stigma sessile; fruit succulent; seeds pulpy. Natives of all tropical countries; rarely of temperate climates. An acrid principle pervades this order, and exists in so high a degree in some of them as to render them dangerous poisons. (See DIEFFENBACHIA.) Genera 26; species 170. The Gen. *Arum* is the type of the order.

Ar'achis, *n.* (*Bot.*) A gen. of plants, ord. *Fabaceæ*. The ground-nut, or underground kidney-bean, *A. hypogæa*, is an annual plant, native of tropical America; leaves hairy pinnate, with four leaflets; flowers yellow, the standard veined with red. After flowering, the flower-stalk elongates and bends toward the earth, into which the pods penetrate, ripening underground. The pods have a lining of a sort of network, containing 2 to 4 seeds, which are about the size of a hazel-nut, of a sweet taste. This plant succeeds in temperate countries when sown after all danger of frost is over. The seeds, boiled or roasted, form an article of food in some parts of Africa. They contain an oil which is quite equal to olive-oil, either for lamps or for the table. This plant delights in a light and sandy, but at the same time fertile soil. The seeds are dug up as roots or tubers usually are.

Arach'nida, *n.* [Lat. from Gr. *arachne*, a spider.] (*Zoöl.*) A class of articulated animals, including the *Araneidæ* or true spiders, the *Acaridæ* or mites, the *Pedipalpi* or scorpions, the *Pseudo-scorpions*, and the *Phalangita* or long-legs, all ranked by Linnæus under insects, but, though having a great analogy with them, and being equally fitted to live in the air, are distinguished from them by their number of limbs, their internal structure, and habits. All the *A.* are destitute of antennæ, and have the head united with the thorax: they have generally eight legs; they have no wings; and in most of them there is a complete circulating system. Most of the *A.* are carnivorous, but in general they confine themselves to sucking the juices of insects: and in order to enable them to capture and subdue animals otherwise capable of effectual resistance, nature has furnished them with a poisonous apparatus.

Arach'nidan, *a.* (*Zoöl.*) One of the Arachnidæ.

Arach'noid, *a.* [Gr. *arachne*, a cobweb, and *eidos*, form.] (*Anat.*) A thin membrane of the brain, without vessels and nerves, resembling a spider's web, situated between the dura and pia mater, and surrounding the cerebrum, cerebellum, medulla oblongata, and medulla spinalis. Sometimes applied also to the tunic of the crystalline lens and vitreous humor of the eye.

(*Bot.*) Resembling cobweb in appearance; seeming to be covered with cobweb, in consequence of the entanglement of long white hairs.

Araco'ma, in *W. Virginia*, a village of Logan co.

A'rad, an island in the Persian gulf, near that of Bahrein.

A'rad, OLD and NEW, two cities in the kingdom of Hungary, separated by the Danube. The former is a considerable place, the seat of a bishop and academies of learning. It holds one of the largest fairs in the kingdom.—NEW *A.* is principally known as being a fortress of the first class in the Austrian empire, and a prison for political offenders. *Pop.* of both towns (1895) 52,600.

Arad'eo, a town of S. Italy in the province of Naples, 13 m. N.W. of Gallipoli.

Araeostyle, *n.* [Gr. *araios*, wide, and *stylos*, column.] (*Arch.*) One of the five proportions used by the ancients for regulating the intercolumniations or intervals between the columns in porticos and colonnades. As Vitruvius does not determine precisely its measure in terms of the diameter of the column, Perrault proposes that the interval be made equal to four diameters, which is the interval now usually assigned to it. It is only used with the Tuscan order.

Araeosystyle, *n.* [Gr. *araios*, wide; *syn.* with; *stylos*, a column.] A term used by the French architects to denote the method of proportioning the intervals between columns coupled or ranged in pairs, as introduced by Perrault in the principal façade of the Louvre at Paris, and by Sir Christopher Wren in the W. front of St. Paul's Cathedral, London.

Arafat', Mount, or JEBEL-EL-ORFAT, a granitic hill in Arabia, 15 m. S.E. of Mecca. It is about 200 ft. high, and is one of the holy places of pilgrimage with the Mohammedans. On its eastern side are the ruins of a mosque where Mohammed was wont to pray. It is annually visited by the pilgrims from Mecca, and the Mohammedans say that at this place Adam met Eve after their expulsion from Paradise, and consequent separation for 120 years.

Arafu'ras, or ALFU'RAS, a savage race of people — the *Alfoers* and *Alforese* of the early navigators — inhabiting the interior of New Guinea, and the Papuan group of Islands in the S. Pacific ocean. They seem to resemble the natives of Australia in physical character and appearance. Their color is a deep dirty brown, or black. Leyden, in his *Asiatic Researches*, says they are "indigenous in almost all the Eastern isles, and are sometimes found on the same island with the Papuans, or Oriental Negroes."

Ara'go, FRANÇOIS JEAN DOMINIQUE, a celebrated French astronomer and perpetual secretary of the Academy of Sciences of Paris, B. in 1786, at Estagel in the S. of France. He was educated at Toulouse, and thence removed to the Polytechnic school of Paris. He entered, in 1804, upon scientific study, and rose rapidly to distinction. Joining the staff of the French Observatory, he proceeded to Spain with M. Biot, to take the measurement of an arc of the meridian. On his return to Paris, he was elected, at the age of 23, a member of the Academy of Sciences, replacing the great Lalande; and also appointed professor of the École Polytechnique. From this time, he commenced upon a scientific career of the most brilliant character, sustained until his death. Without enumerating all his great discoveries, mention must be made of his determination of the diameters of the planets, afterward followed up by Laplace; the discovery of polarization by colors; and that of rotatory magnetism. He was also the inventor of the Polariscope. In 1830, he was nominated Director of the Observatory, and of the *Bureau des Longitudes*. The *Annuaire des Longitudes* he also directed; and founded, conjointly with Gay-Lussac, the "*Recueil des Annales de Physique et de Chimie.*" *A.*, as a politician, was earnest, moderate, and consistent. Early imbued with republican principles, he refused adhesion to the constitution of the First Empire. After 1830, he became a member of the Chamber of Deputies; and in 1848, on the downfall of the Orleans dynasty, was appointed by the republican government minister of war and marine. In June of that year, during the temporary dictatorship of Cavaignac, he closed his political career. *A.* was a member of nearly all the learned societies of Europe, and, as an astronomer, has achieved a world-wide reputation. D. 1853.—His son, EMMANUEL, B. 1812, took an active part in the revolution of 1848; acquired great distinction as an advocate; became a member of the provisional government without portfolio in 1870, and was elected senator in 1874. D. 1896.

A., ETIENNE, brother of the above, B. 1803, well known as a popular writer in light literature. He took an eminent part in the revolution of 1848; and also in the insurrection of June, which resulted in his being sentenced to exile for life. The amnesty of 1859 enabled him to return to Paris. D. 1892.

A., JACQUES ETIENNE VICTOR, another brother of the astronomer, B. 1790, was very distinguished as a writer of romances and vaudevilles, but is principally known for his two interesting books of travel: "*Promenade autour du Monde*," and "*Souvenirs d'un Aveugle. Voyage autour du Monde.*" pleasant records of a voyage round the world, accomplished in 1817. Although afflicted with blindness since 1837, he departed for California in 1849, as leader of a company of speculators to search for gold on a large scale, but was deserted by his companions in Valparaiso. He has published his misadventures under the title "*Voyage d'un Aveugle en Californie et dans les Regions Aurifères.*" Paris, 1851. D. 1855.

A., JEAN, brother of the three preceding, B. 1789, was general of the republican army in Mexico. He has written, in Spanish, a good history of Mexico. D. 1836.

Ara'go, in *Oregon*, a cape on the Pacific ocean, about 36 m. N. by E. of Cape Blanco.

Ara'go, in *Nebraska*, a post-village and township of Richardson co.

Ar'agon, commonly called the kingdom of *A.*, a former province of Spain, bounded on the N. by the Pyrenees; E. by Catalonia; S.E. and S. by Valencia; S.W. by New Castile; and on the W. by Old Castile and Navarre. It lies between 40° and 43° N. Its greatest length from N. to S. is 200 m.; and its average breadth about 130. *Area*, about 17,976 sq. miles.—*Desc.* This country is generally mountainous, skirted by the loftiest range of the Pyrenees, and by the great Sierras of Moncayo, Morella, Teruel, &c. In the centre is the basin of the Ebro, which receives the waters of numerous rivers. The higher elevations are cold and sterile, and the valleys warm and fertile. The W. wind, called by the natives the *fagueno*, is accompanied by abundant showers, and is very favorable to vegetation.—*Prod.* The principal agricultural resources of *A.* are wheat, barley, oats, rye, maize, flax, hemp, and fruits, inclusive of grapes and olives of the finest quality; barilla, madder, and saffron. Excellent timber is plentiful, and the richest pastures feed quantities of cattle. Among its minerals, copper, lead, and iron are found in abundance. Cobalt, quicksilver, marble, and copperas are also plenty. Its ancient gold and silver mines attracted the Romans. *Animals.* Wild ones, as the bear, wolf, and lynx, inhabit the gorges of the Pyrenees. Sheep of the merino species are reared in great numbers, and their wool constitutes the main wealth of the prov. — *Manf.* unimportant. This province is now divided into the 3 provs. of Ternel, Huesca, and Saragossa. *Cap.* Saragossa. — *Hist. A.* originally was the territory of the ancient Celtiberes. In 470, it passed from the Romans to the Goths. In 714, it was conquered by the Moors, and subsequently governed by its own sovereigns until its fusion with the kingdoms of Castile and Leon, by the marriage of Ferdinand and Isabella in 1474. *Pop.* (1895) 928,700.

Ar'agon, a river of Spain, rising in the Pyrenees, and joining the Ebro after a course of 80 m. S.W.

Arago'na, a town of Italy, in Sicily, 8 m. N.N.E. of Girgenti. The mud volcano of Maccalnba is in its vicinity. *Pop.* abt. 6,600.

Ar'agonite, *n.* (*Min.*) An orthorhombic mineral; lustre vitreous; color white, sometimes gray, yellow, green, or violet; streak uncolored; transparent; translucent; brittle.—*Comp.* Carbonic acid 44, lime 56=100. Was discovered in Aragon, in six-sided prisms, with gypsum, imbedded in a ferruginous clay.

Ara'guay, or ARAGUAYA, a large river of Brazil, which rises in about 19° S. lat., near the Parana, to about 6° S. lat., where it joins the Tocantins. The united stream, after a course of 1,000 miles, falls into the delta of the Amazon in S. lat. 1° 40′. Many tribes of warlike Indians dwell on its banks.

Araignée, *n.* [Fr., a spider.] (*Fort.*) A branch, return, or gallery of a mine.

Arak' Mountains, the W. division of a range of mountains which runs from Tartary, E. and N.E., through the N. provinces of China, until it meets the Samen mountains separating China from Asiatic Russia. Lat. 42° N.; Lon. 72° E.

Arakho'va, in Greece, a village of the Morea, in Areadia. Mount Parnassus towers above the vineyards of *A.*, and the Coryeian Cave may be best visited from this spot.

A'ral (SEA or LAKE OF), next to the Caspian sea, the largest inland body of water in Asia, measuring 290 m. in its greatest length, and from 100 to 250 m. in breadth. *Area.* It contains a total superficies of about 23,300 sq. m. It is situated in the plains of the Turcoman and Kirghiz countries, near the S.W. extremity of Independent Tartary. Lat. between 43° and 47° N.; Lon. bet. 58° and 61° 30′ E. The principal rivers embouching

Dominique François Arago

1786–1853

into this sea are the Sihoun (the ancient *Jaxartes*), and the Jihoun (*Oxus*). *A.* is studded with islands, whence its Tartar name *Aral dinguiss*, i. e. "Sea of isles." Its waters are salt, and are sometimes frozen in winter; the fish it contains are similar to those of the Caspian.

Arai'næ, *n. pl.* (*Zoöl.*) The Macaws, a genus of birds, fam. *Psittacidæ*, or parrot tribe. These magnificent birds are distinguished by having their cheeks destitute of feathers and their tail-feathers long. They are all natives of S. America, and abound in swampy grounds which are covered with palm-trees, the fruit of which they are particularly fond of. They generally appear in pairs, and are always observed to perch on the summits of trees. They build their nests in the hollows of decayed trees; and lay twice a year, generally two eggs at a time. When young they are easily tamed, and soon grow familiar with persons they are accustomed to see; but, like all the parrot tribe, they show an aversion to strangers. In a domesticated state they will feed on almost every article, more especially sugar, bread, and fruits. Like other parrots, they use their claws with great dexterity, though in climbing they always begin by taking hold with their bill, using their feet only as a second point of their motion. They may be taught to speak, but their articulation is hoarse and unpleasant. Their general voice is a loud and piercing scream. The scarlet Ara, or *Macrocrrus macao*, is the most splendid with regard to color, as well as one of the largest of all the Psittacidæ. From the tip of the bill to the extremity of the tail, some of them measure 36 inches. We have illustrated the *A. canga*, a lovely Brazilian species.

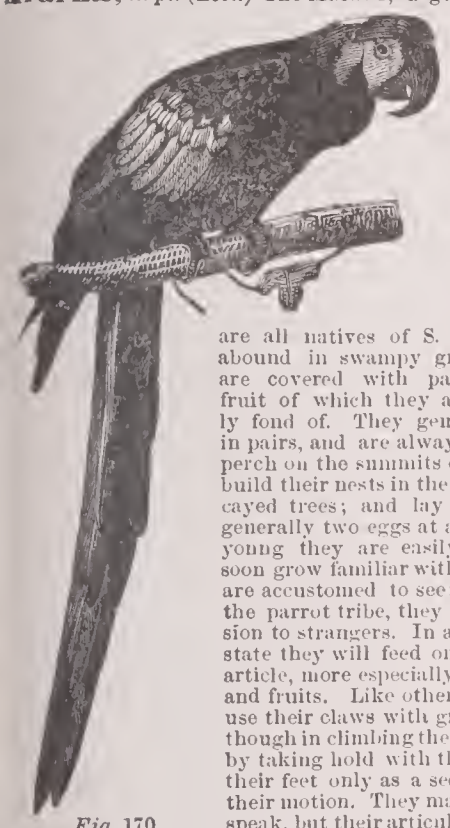


Fig. 170.
RED AND YELLOW MACAW.
(*Ara Canga.*)

Ara'les, *n.* (*Bot.*) An alliance of plants in which are found the lowest structure known among flowering plants.—DIAG. Unisexual petaloid or naked flowered endogens, with a single naked spadix, and an embryo in the axis of mealy or fleshy albumen. The Aral alliance is divided into the orders *Pistiaceæ*, *Typhaceæ*, *Araceæ*, and *Pendunaceæ*.

Ara'les, or ARALIANS, a nation of Independent Tartary, inhabiting the S. shores of Lake Aral. They number about 100,000, speak the Turkish language, and profess Islamism. In summer, they live in tents; in winter, in immense camps; and subsist by rearing vast herds of cattle.

Ara'lia, *n.* (*Bot.*) The typical genus of the order *Araliaceæ*, q. v.

Aralia'ceæ, ARALIADS, IVY-WORTS, an order of plants, alliance *Umbellales*.—DIAG. A 3- or more-celled fruit

Fig. 171.
1. Hedera Helix; 2. Flower of Dimorphantus edulis; 3. Perpendicular section of the ovary; 4. Undivided ovary; 5. Ripe fruit. 6. Cross section of it; 7. Section of seed of H. Helix.

without a double epigynous disc, pentamerous flowers, a valvate corolla, alternate leaves without stipules, and anthers turned inward, opening lengthwise. They are trees, shrubs, or herbaceous plants, which are in many respects much as umbellifers, from which they are distinguished by their ovary having more cells than 2, and by their greater tendency to form a woody stem. The ord. is divided into 21 genera and 160 species; natives of northern temperate climes of both hemispheres. Several species are well known in medicine, &c., as Sarsaparilla, Spikenard (gen. *Aralia*), Ginseng (gen. *Panax*), and Ivy (gen. *Hedera*).

Aramæ'a. [From Heb. *aram*, the highland.] (*Anc. Geog.*) This name was given to the whole of the country situated to the N.E. of Palestine, including the countries known to the Greeks by the names of Syria, Babylonia, and Mesopotamia.—See ARAMAIC.

Aramagh'auch, a fortified town of Persia, in the prov. of Azerbijan.

Arama'kutan, one of the Kurile group of islands in the N. Pacific, in N. Lat. 49° 35′.

Arama'ic, a language branching from the Semitic, and probably the root of the whole family of Semitic tongues, was spoken in all the countries named Aramæa. It was divided into two principal dialects, the Western Aramaic or Syriac, and the Eastern Aramaic or Chaldee. After the Babylonian captivity, the pure Hebrew had gradually given place to the Aramaic, which was generally spoken in Palestine in the time of Christ. It is the harshest of all the Semitic languages, and has now almost entirely died out, giving place to the Arabic, and Persian, or Persic.

Aramay'ona, a valley of Spain in the prov. of Alava, famous for its iron-works.

Aramin'go, in *Pennsylvania*, that part of the city of Philadelphia situated about 4½ m. N. by E. of the city hall. It was formerly a district of Philadelphia co.

Ara'mo, a town of Chili, 30 m. S. of La Concepcion.

A'ran, a valley of Spain, prov. of Lerida, in the Pyrenees, bounded on the N. by the French dep. of Haute-Garonne and Arriège, on the S.W. by Aragon, and on the S. and S.E. by Catalonia. It consists chiefly of wood and pastures, with but little arable land. Inhabited principally by herdsmen, woodcutters, and contrabandistos or smugglers.

Aran'cay, a town of Peru, in the prov. of Truxillo, in S. Lat. 9° 20′.

Aran'da de Due'ro, a town and partidos (district) of Spain, in the prov. of Burgos, 90 m. from Madrid; *pop.* 4,623.

Arane'idæ, *n. pl.* (*Zoöl.*) The Spiders, a family of annulose animals, ord. *Arachnidæ*.—See SPIDERS.

Arane'iform, *a.* Formed or shaped as a spider.

Ara'neous, *a.* Resembling a spider's web, or cobweb.

Aran'ha, two towns in Portugal, one in Estremadura, 12 m. N.E. of Leiria; the other in the prov. of Alentejo, 10 m. S.S.W. of Porto Alegre.

Aranjuez', a town of Spain, in the prov. of New Castile, 28 m. S.S.E. of Madrid. This place is principally remarkable as containing a royal palace and fine gardens, belonging to the Spanish sovereigns, built in the reign of Philip II.

Aran'sas, in *Texas*, a small river which passes through the N.E. part of Bee co., and runs S.E. until its entry into the bay of the same name.
—A village of Aransas co.

Aransas Bay, ARANSASO or ARANSAZUA, a bay on the coast of Texas, N. of Corpus Christi bay.

Aran'tac, a seaport of Peru, 30 m. S.W. of Arequipa, in S. Lat. 16° 53′. The harbor is deep, but the narrow entrance prevents many vessels from frequenting it.

Ara'ny, JANOS, a distinguished Hungarian poet, B. at Nagy-Szalonta, 1819. His principal poems are: *Az elveszett alkotmány* (The lost Constitution of the Past); *Toldi*, a Trilogy; *Murány Ostroma* (Conquest of Murány); and *Katalin* (Catherine). D. 1882.

Arap'ahoe, in *Colorado*, an E. county; County town Denver.

Arapahoe, in *Oklahoma*, the cap. of "G." co. *Pop.* (1897) abt. 300.

Arap'ahoes, a tribe of North American Indians, formerly inhabiting the country E. of the Rocky Mountains, now on reservations in Wyoming and Indian Territory. They were once numerous and warlike, but are now few and inoffensive.

Arapai'ma, *n.* (*Zoöl.*) A genus of malacopterygious fishes, nearly allied to the *Clupeida*, or Herring family, and remarkable for the mosaic work of strong, bony, compound scales with which the body is covered. The *A.* is the largest known fresh-water fish in the world, being sometimes taken 18 ft. in length, in the Rio Negro, South America.

Arapa'res, a mountain-chain in Brazil, in which the rivers Jurneao, Arinos, Paraguay, and Cuyaba take their rise.

Araparip'nen, a town of Brazil, on a branch of the Maranon, 170 m. W.S.W. of Para.

Arapi'jo, a town of Brazil, in the prov. of Pará, 18 m. W.S.W. of Gurupa.

Arap'iles, in Spain. See SALAMANCA.

Ar'aqui, a river of Asia, in Georgia, which, rising in the Caucasus, joins the Kur, 25 m. above Tiflis.

Ararau'gua, a river of Brazil, falling into the sea about 50 m. to the S.W. of San Antonio de Laguna, after a course of about 60 m., 15 of which are navigable from its mouth.

Ar'aras, Sierra d', a range of mountains in Brazil, forming part of the boundary between the prov. of Minas-Geraes and Goyaz.

Ar'arat, a district of Australia, in the British colony of Victoria. It is one of the principal gold-mining districts, and contains a *pop.* of about 52,000.

Ar'arat, a river of *N. Carolina*, emptying into the Yadkin.

Ar'arat (Mount), a famous mountain of Asia, in Armenia, on the confines of the Russian, Turkish, and Persian empires; Lat. 39° 42′ N.; Lon. 44° 35′ E. Its base is washed by the Araxes, from whose low plain it rises to an immense height, terminating in two conical peaks, one much higher than the other. After many fruitless attempts to reach its principal summit, or Great Ararat, this arduous task was accomplished in 1850, by Professor Parrot, who determined its altitude to be 17,230 ft. above sea-level. The whole of the upper region of the mountain, from the height of 12,750 ft., is covered with perpetual snow and ice, and is frequently the scene of tremendous avalanches. It is believed to be of volcanic origin. *A.* is said to be the *Ararat* of Scripture on whose summit the ark rested. (Gen. viii. 4.)

Fig. 172.—MOUNT ARARAT.

Ar'arat Mountain, *N. Carolina.* See PILOT MOUNTAIN.

Ar'as (the anc. *Araxes*), a river of Asia, rising in Armenia, and flowing past Mount Ararat to the Kur, which it enters after a course of about 420 m.

Ara'tion, *n.* [Lat. *aratio.*] Ploughing; tillage.

Ara'tor, in *Missouri*, a village of Pettis co

Ara'tus, a Greek poet and astronomer, B. in Cilicia; flourished about 300 B. C.

Ara'tus OF SICYON, B. 273 B. C., delivered his native city from the tyrant Nicocles, and, with the help of Ptolemæus Philadelphus, restored the republican form of government. D. 216 B. C., poisoned by order of Philip, king of Macedon.

Arauca'nia, a large territory of S. America, comprising all the country lying between 37° and 39° 50′ S. Lat., and 70° and 75° 20′ W. Lon. On the N. it is bounded by the river Biobio; S. by the Valdivia; E by the Andes; and on the W. by the Pacific ocean. *A.* was formerly divided into 4 tetrarchies, each governed by a *toqui* or tetrarch, and subdivided into 9 *allaregues* or provinces, each of which is presided over by an *apo-ulmen*. The form of government is an intermixed democracy and aristocracy. The natives proper of *A.* belong to the Moluches race of Indians, and derived their name of *Araucanians* or *Aucas* from the Spaniards. A partial agricultural industry prevails, but horses, cattle, guanacos, and vicunas form the principal wealth of the country. The inhabitants have a sort of criminal code, and a religion which admits the immortality of the soul. They are a warlike people. None of the aborigines of S. America have resisted with such obstinate bravery the attempts of Europeans to reduce them to subjection, and, until recently, they retained their independence. They learned from the Spaniards the use of cavalry tactics in warfare, and are now in this respect almost unrivalled. The gov. of *A.* was republican until 1859, in which year a Frenchman, named M. de Tonneins, who had travelled through the country, formed a party of adherents, and proclaimed himself sovereign, under the title of King Aurelius Antonius I. To get rid of him, the opposite party called for the aid of Chili, whose troops defeated and made him prisoner in 1862. He eventually was liberated, and retired to France. After having his regal title formally recognized in the course of a lawsuit, he returned to *A.*, was again at war with Chili in 1869–'70; but in 1871 had to sail once more for France, where he died in poverty. *A.* was nominally annexed to Chili by a law of Oct. 13, 1875.

Arauca'ria, *n.* [From *Araucania.*] (*Bot.*) A genus of trees, order *Pinaceæ*. The Chili pine, *A. imbricata*, is a very remarkable evergreen tree, found in the Cordilleras of Chili: height 50 to 100 ft., rarely 150 ft. The trunk is quite straight, and without knobs, with a strong arrow-like leading shoot, pushing upward. It is covered with a double bark, the inner part of which, in old trees, is from 5 to 6 inches thick, fungous, tenacious, porous, and light; and from it, as from almost every other part of the tree, resin flows in great abundance. The branches are horizontal, inflexed, and ascending at the extremities. The leaves are sessile, ovate-lanceolate, stiff, straight, verticilate, imbricate, and closely encircling the branches; concave, rigid, glabrous, shining, and remaining attached to the tree for several years. The male and female catkins are on separate trees. The cones, when ripe, are globular, from 3 to 4 in. in diameter, and of a dark brown color. The wood is white, and toward the centre of the stem bright yellow. It is

hard, and might prove valuable for many uses if the places of growth of the tree were less inaccessible. The *A. imbricata* has been introduced into Europe.

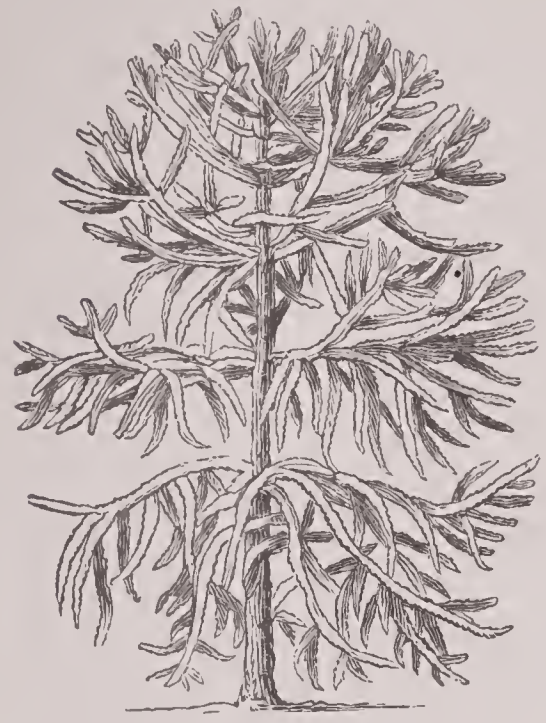


Fig. 173. — ARAUCARIA IMBRICATA, (*the Chili Pine.*)

Arau'co, a S. prov. of Chili, created in 1852 from the N. part of Araucania. *Area*, 13,714 sq. m.; *pop.* 140,896, besides 30,000 Indians, who still maintain their independence in the interior *Cap.* Araueo, on a bay of same name, 300 m. S. of Valparaiso.

Arau'ré, a town of Venezuela, S. America, 60 m. E.N.E. of Truxillo; Lat. 9° 17′ N., Lon. 69° 28′ W. *Pop.* 10,000.

Ar'ba, a small island of Europe, in the Adriatic gulf, separated from Croatia by a narrow channel. *Cap.* of the same name. *Pop.* abt. 4,000.

Ar'ba, in *Indiana*, a post-office of Randolph co.

Ar'balest, ARCU'BALEST. AR'BALET, AR'BALIST, *n.* [Lat. *arcubalista*; Fr. *arbaleste.*] (*Mil.*) A cross-bow. This weapon is supposed to have been introduced into European armies by the crusaders, although used long before in the chase. The arrows used with the cross-bow were short and thick (quarrels, bolts). The weapon was used in the English armies after the reign of Richard I.; but the Italians, and especially the Genoese, were most expert in the use of it at one time. So deadly a weapon

Fig. 174. — ARBALEST OR CROSS-BOW.

was it at one time considered, that papal bulls were issued in the twelfth century condemning and forbidding its use in combats between Christians. It was disused in England, as a weapon of war, in the reign of Henry VIII. Cross-bows were of several sizes; the large or stirrup cross-bow was bent by the foot —See ARCHERY.

Arbalesti'na, *n.* (*Mil.*) In the fortified castles of the middle ages, a small window, through which the arbalisters shot their arrows.

Ar'balister, *n.* A cross-bow man.

Arbe'la, or ERBIL, in Turkey in Asia, a town of the pashalic of Bagdad, 40 m. E. by S. of Mosul. Lat. 36° 11′ N., Lon. 44° E. This was formerly a large city, and is renowned in history as the scene of the great victory (B. C. 331) obtained by Alexander the Great over Darius, which caused the complete subversion of the Persian empire. *Pop.* abt. 6,000.

Arbe'la, in *Michigan*, a flourishing township of Tuscola county.

Arbe'la, in *Missouri*, a post-office of Scotland co.

Ar'biter, *n.* [Fr. *arbitre.*] A person appointed or chosen by parties engaged in controversy, to examine into and decide their differences; an umpire; an arbitrator. One who rules or controls.

—*v. a* To judge; to arbitrate.

Ar'bitrable, *a.* That depends upon the will.

Ar'bitrage, *n.* [Fr.] Arbitration. (R.)

Ar'bitral, *a.* Which relates to arbitration.

Arbit'rament, *n.* Determination; decision; will.

(*Law.*) The award or decision of arbitrators upon a matter of dispute which has been submitted to them.

Ar'bitrarily, *adv.* By will only; despotically; absolutely.

Ar'bitrariness, *n.* Quality of being arbitrary.

Ar'bitrary, *a.* [Fr. *arbitraire*, from Lat. *arbitrarius.*] Depending on will or discretion It is used of a tendency to abuse the possession of power, and be harsh and unforbearing. Tyrannical; despotic; harsh; dictatorial; imperious; selfish; irresponsible.

Ar'bitrate, *v. a.* and *n.* [Fr. *arbitrer.*] To act as an arbiter or arbitrator. To be a hearer, beholder, or observer of something; to hear and decide; to decide or determine.

Arbitra'tion, *n.* (*Law.*) The investigation and determination of a matter or matters of difference between contending parties, by one or more unofficial persons, chosen by the said parties, and called arbitrators or referees. Any matter may be determined by *A.* which the parties may adjust by agreement, or which may be the subject of a suit at law. Any person who is capable of making a valid and binding contract with regard to the subject may, in general, be a party to a reference or arbitration. Every one is so far, and only so far, bound by the award as he would be by an agreement of the same kind made directly by him. In common law it is entirely voluntary, and depends upon the agreement of the parties to waive the right of trial in court by a jury. State law sometimes makes *A.* compulsory, as in the case where there is necessary the investigation of a long and involved account. An award by arbitrators is not, however, equivalent to a legal decision, and if resisted the award can only be sustained by an action at law. But statutes frequently provide that an award may be entered as a judgment upon the records of a specified court, in which case it is not subject to review. Ordinarily, however, the decision of arbitrators is accepted as binding. In cases of disputes between laborers and employers *A.* may be either voluntary or compulsory. As it is not easy, however, to enforce a decision, acceptance is usually voluntary, and in this direction *A.* has proved highly useful. The French "courts of conciliation," dating from 1891, have done much to prevent or settle labor troubles, by bringing employers and workmen into amicable contact. Similar measures have been attempted in Great Britain, and Boards of *A.* have been formed here in several States, but effective *A.* is yet largely wanting.—See ARBITRATION, INTERNATIONAL.

Ar'bitrator, *n.* An umpire; an arbiter. — A ruler; a governor.

(*Law.*) A disinterested person to whose judgment and decision matters in dispute are referred. An *A.* ought to be incorrupt and impartial. His powers and duties are conferred and imposed by the submission. He is bound by the rule of law, and cannot award anything contrary thereto. His authority is at an end as soon as the award is made.

Ar'bitratrix, Ar'bitress, *n.* A female arbiter.

Arbit'rement, *n.* Decision; determination.

(*Law.*) The award of the arbitrators. — See ARBITRAMENT.

Ar'bitry, *n.* [Lat. *arbitrium.*] Free will.

Arboe', a parish of Ireland, in the counties of Londonderry and Tyrone.

Arbo'ga, a town of Sweden, on the navigable river Ulvisœu; *pop.* 3,576.

Arbo'gastes, a Gaul, who entered the service of the Roman emperors Valentinian and Theodosius. On the death of the former, he placed upon the throne the rhetorician Eugenius, which usurper was defeated by Theodosius. *A.* escaped to the mountains, and at last put an end to his life, about 395.

Arbois, (*ar-bwaw'*,) a town of France, dep. of Jura, on the Cuisance. It is well built, in a valley encircled by hills and vineyards, which produce good white wines. Pichegru was born here.

Arbola-bre'a, *n.* (*Chem.*) A greenish-gray resin, from the *caaarium album* of Manilla.

Ar'bor, *n.* [Lat., *a tree.*] A bower; a place of retirement and shelter in a garden, &c., formed of trees or shrubs.

(*Mech.*) The principal spindle or axis which communicates motion to the other parts of a machine.

Ar'bor Dianæ. [Lat., the tree of Diana. The metal silver was called Diana by the old alchemists.] (*Chem.*) Metallic silver deposited by the influence of mercury in the form of a tree. The experiment is made by dissolving 15 grains of nitrate of silver in half a wineglassful of water, adding a few globules of mercury, and allowing the glass to stand at rest for some hours.

Ar'bored, *a.* Furnished with an arbor.

Arbo'reous, Ar'borous, *a.* [Lat. *arboreus*, from *arbor*, a tree.] Belonging to a tree or trees; — woody, or growing in wood.

(*Bot.*) Tree-like, in size or appearance.

Arbores'cence, *n.* [Lat. *arborescence*, from *arboresco*, from *arbor*, a tree.] The state of being arborescent; the resemblance to a tree.

Arbores'cent, *a.* Resembling a tree; becoming woody.

Ar'boret, *n.* [It. *arboreto.*] A small tree or shrub; a place planted or overgrown with trees.

Arbore'tum, *n.*; *pl.* ARBORE'TA. [Lat.] (*Hort.*) A plantation of trees or shrubs; an arboret.

Ar'bor Hill, in *Iowa*, a post-office of Adair co.

Ar'bor Hill, in *Virginia*, a post-office of Augusta co.

Arboricult'ural, *a.* Relating to arboriculture.

Arboricult'ure, *n.* [Lat. *arbor*, and *cultura*, from *colo, cultus*, to cultivate.] The art of cultivating trees and shrubs. — See PLANTATION.

Arboricult'urist, *n.* One who practises arboriculture.

Arbor'iform, *a.* [Lat. *arbor*, tree, and *forma*, form.] That has the form of a tree.

Ar'borist, *n.* One who makes trees his study.

Arboriza'tion, *n.* The appearance or figure of a tree or plant in minerals or fossils.

Ar'borous, *a.* See ARBOREOUS.

Arbor-Satur'ni, *a.* [Lat., Saturn's tree.] (*Chem.*) A substance formed by hanging a plate of zinc in a solution of acetate of lead.

Ar'bor-vi'tæ, *n.* [Lat., the tree of life.] (*Bot.*) See THUJA.

(*Anat.*) The cortical substance of the cerebellum, so disposed that when cut transversely it appears ramified like a tree, whence its name.

Arbor'vitæ, in *Alabama*, a post-office of Bullock co.

Arbroath'. See ABERBROTHWICK.

Ar'buckle, in *W. Va.*, a twp. of Mason co.

Ar'buscle, *n.* [Lat. *arbuscula.*] A little tree or shrub

Arbus'cular, *a.* Resembling a shrub.

Arbus'tive, *a.* That is planted with trees or shrubs. (R.)

Arbus'tum, *n.* [Lat.] An orchard, hop-garden, or vineyard.

Arbuth'not, JOHN, an English physician and poet, b 1675. He settled in London, and in 1709 was appointed physician to Queen Anne, which office he held until his death. He was a noted wit, and the companion and collaborator of Pope, Swift, and other eminent literati of that period; D. 1735.

Ar'butine, *n.* (*Chem.*) Colorless bitter needles, soluble in water; reaction neutral; obtained from the leaves of the aretostaphylos uva ursi. *Form.* $C_{32}H_{22}O_{19}$.

Arbu'tus, *n.* (*Bot.*) A gen. of plants, ord. *Ericaceæ*. The *A. unedo* bears a red fruit somewhat like a strawberry, whence the plant has been familiarly named the Strawberry-tree; its bark and leaves are astringent. It is found in the greatest luxuriance about the lakes of Killarney, in Ireland.—See TRAILING ARBUTUS.

Arc, *n.* [Fr. from Lat. *arcus*, a bow, an arch. Etymol. uncertain.] (*Geom.*) A portion of a circle or other curved line. The arc of a circle is the measure of the angle formed by two straight lines drawn from its extremities to the centre of the circle. The straight line joining the ends of an arc is its *chord*, which is always less than the arc itself. In *Fig.*177, *d d* is the chord of the arc *d h d*.

—An arch; a vault.

Arc, Joan of. See JOAN OF ARC.

Ar'ca, *n.* [Lat.] (*Antiq.*) A chest, in which the Romans were accustomed to place their money; the coffin in which persons were buried, or the bier on which the corpse was placed previously to burial.

(*Zoöl.*) A gen. of bivalve shells, distinguished by their great number of teeth, resembling those of a fine saw.

Ar'cada, or ARCADE, in *Michigan*, a township of Gratiot co.

—A township of Lapeer co.

Arcade', *n.* [Fr. from *arcus*, a bow.] (*Arch.*) A series of arches of any form, supported on pillars, either enclosing a space before a wall, or any building which is covered in and paved; or, when used as an architectural feature for ornamenting the towers and walls of churches entirely closed up with masonry. The cloisters of the old monasteries and religious houses were, strictly speaking, arcades. The term is also applied to a covered passage having shops on either side of it. Two *A.* inscribed in a greater *A.* are called *geminous A.* This arrangement, seen for the first time in the Byzantine architecture, became common in the Gothic buildings Often in the latter there are three inscribed *A.*, and

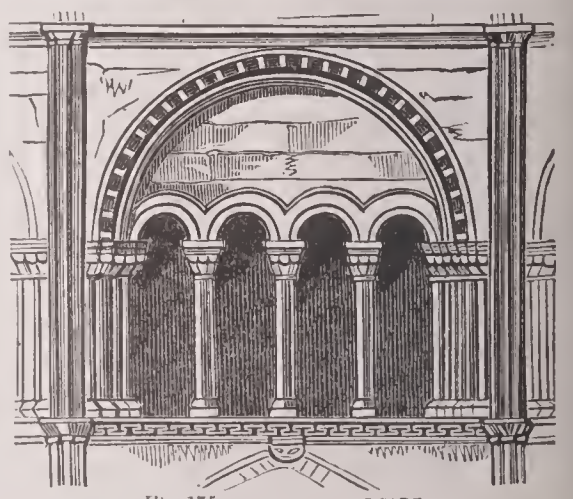


Fig. 175. — GOTHIC ARCADE.
Cathedral of Toulouse, (France.)

that in the middle is sometimes greater than the two others. *Fig.* 175 represents a rarer example of four arcades concentred under a common arcade.

Ar'cade, in *New York*, a township and village of Wyoming co., about 35 m. S.E. of Buffalo.

Ar'cade, in *Wisconsin*. See ARKDALE.

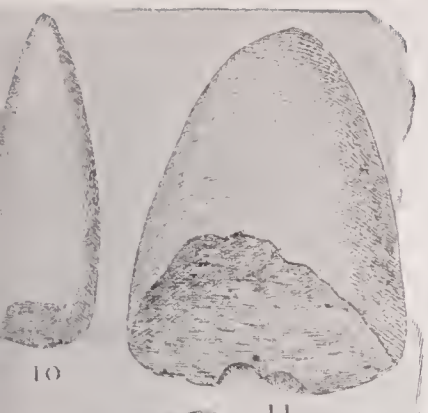
Arcad'ed, *a.* Furnished with an arcade.

Arca'dia, the classical name of Middle Peloponnesus, now forming the modern province of *Arkadia*, in the Morea, Greece. It occupies a high table-land lying between Lat. 37° 15′, and near 38° N.; Lon. 21° 44′ to 22° 35′ E., having on the N. Achaia, E. Argolis, W. Elis, and on the S. Laconia and Messenia. *Area*, 1,600 sq. m. It is intersected by mountain ranges, some of which are very lofty, and contains plains of some extent. Its principal river is the Roufia (*Alpheus*), the largest in the Morea. Lake Stymphalus, of classic mention, is found here. From its elevation, *A.* is much colder and more rigorous than the rest of the Morea. The inhabitants still retain their primitive mode of life as shepherds, living in tents, and pursuing a migratory existence. The plane, fir, ilex, chestnut, oak, &c., are common, and deer and game plentiful. Chief towns. Tripolitza, Londari, Karitena, &c. Many interesting ruins are seen here, among them the remains of the cities of Phigaleia, Megalopolis, and Pallantium. *Pop.* 113,719.

(*Hist.*) From its first inhabitants, the Pelasgi, the land derived the name *Pelasgia*. In later times, it was divided among the 50 sons of Lycaon, into kingdoms, and re-

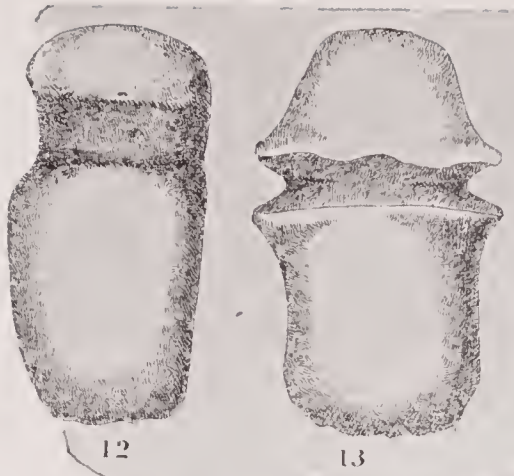
ARCHÆOLOGY OF THE UNITED STATES.

1-8. Different forms of arrow-heads. 9. Spear-point or perforators. 19. Stone scraper (N. J.). 20. Bird-s stone. 27. Stone vessel (Cal.). 28. Shell gorget, human figures. 29. Rattlesnake gorgets. 30. Spider gorget. 31. Stone gorget (N. bowl, human face. 38. Soapstone calumet-bowl. 39. New Jersey pipe. 40. Simple form of Mound pipe. 41. Common Atlantic coast 48-50. Clay vessels. 51. Clay vessel (Mo.). 52. W ter-jug. 53. Clay pot.



10

11



12

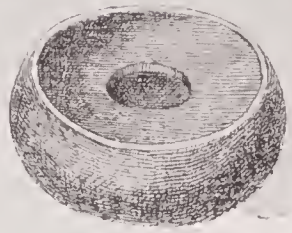
13

14

15

16

24



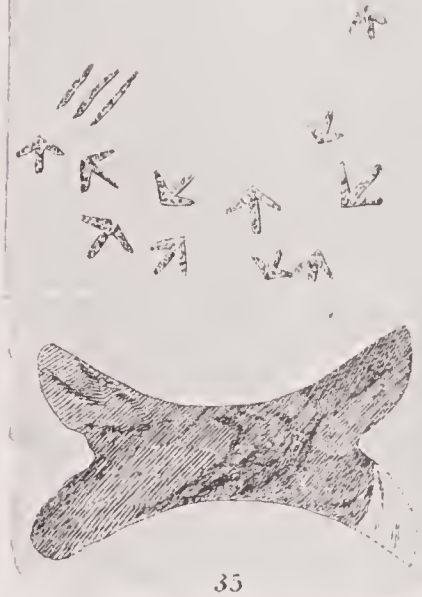
25

26

22

23

34



35

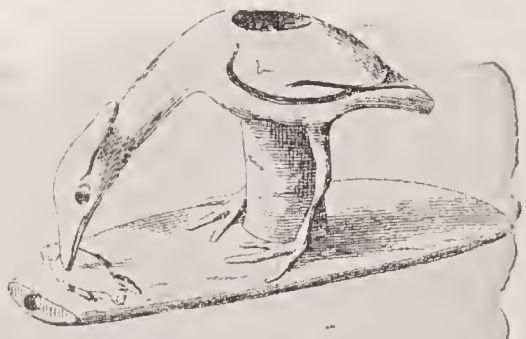
36

32

33

42

43

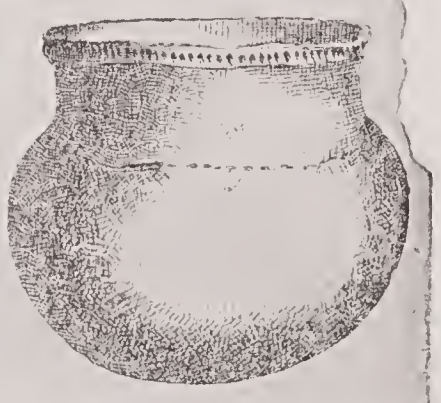


44

50

51

52



53

10, 11. Chisels or celts (N. J.). 12, 13. Stone axes (N. J.). 14, 15. Plummets (Ills.). 16. Bone fish-hook (N. Y.). 17, 18. Stone awls
stone (Vt.). 21. Stone spade (N. J.). 22. Semilunar knife (Mass.). 23. Stone gorget. 24. Mortar and pestle (Mass.). 25, 26. Discoidal
2. Stone idol (Ga.). 33. Tablet (Ohio). 34. "Track-rocks" of Ohio. 35. Ceremonial axe. 36. Bird-shaped pipe-bowl. 37. Clay pipe.
42. Toucan pipe. 43. Sea-cow pipe. 44. Stone pipe, tufted heron. 45. Clay bottle. 46. Ceramic burial-urn. 47. Wide-necked jar.

ceived from Arcas the name *Arcadia*. In the course of time, the small kingdoms made themselves free, and formed a confederacy. The principal were Mantinea, where Epaminondas obtained a victory, and a tomb (now the village of Mondi), Tegea (now Tripolitza), Orchomenus, Pheneus, Psophis, and Megalopolis. Their chief deity was Pan; their chief business, breeding of cattle and agriculture. This occasioned the pastoral poets to select Arcadia for the theatre of their fables. Thus it has been made to appear as a paradise, although it was far from deserving this character.

Arca'dia, in *Illinois*, a post-office of Morgan co., 40 m. S.W. of Springfield.

Arca'dia, in *Indiana*, a post-village of Hamilton co., 31 m. N. of Indianapolis. *Pop.* (1898) 750.

Arca'dia, in *Kansas*, a post-office of Crawford co.

Arca'dia, in *Louisiana*, a post-village, cap. of Bienville parish, about 50 m. E. of Shreveport. *Pop.* (1898) 1,050.

Arca'dia, in *Missouri*, a post-village and township of Iron county, situated four miles South of Pilot Knob.

Arca'dia, in *New York*, a post-village and township of Wayne co., on the Erie Canal, 185 m. W. by N. of Albany.

Arca'dia, in *N. C.*, a P. O. of Davidson co.

Arca'dia, in *Ohio*, a post-office of Hancock co., abt. 10 m. N.E. of Findlay.

Arca'dia, in *Rhode Island*, a post-office of Washington county.

Arca'dia, in *Tennessee*, a post-office of Sullivan co.

Arca'dia, in *Wisconsin*, a post-village and township of Trempeleau county, situated on the Trempeleau river.

Arca'dian, and **Arca'dic,** *a.* Pertaining to Arcadia.

Arca'dius, Emperor of the East in 395, was the elder son of Theodosius the Great. Rufinus (*q. v.*) was murdered by his order. He married Eudoxia, known to posterity as the persecutrix of Chrysostom. B. 383; D. 408.

Ar'cady, *n.* A poetic name of Arcadia.

Arca'num. See next column.

Ar'cata, in *California*, a post-village and township of Humboldt county, at the head of the Bay of Humboldt.

Arc'-boutant, *n.* [Fr.] An arch-formed buttress, much employed in sacred edifices built in the pointed style, as also in other structures, and commonly called a *flying buttress*, whose object is to counteract the thrust of the main vault of the edifice. It is also called *arched buttress* and *arched abutment*. In the accompanying figure, representing the design of a church in the pointed style of the 12th century, A A form the arc-boutants.

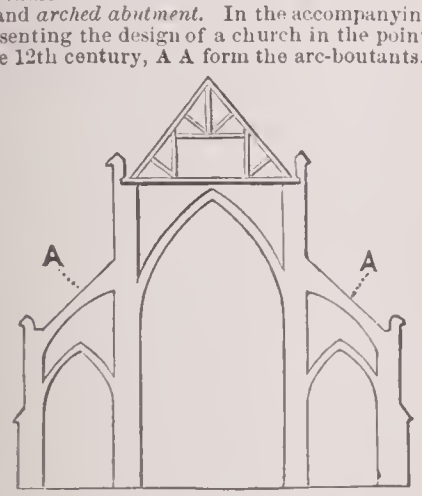


Fig. 176. — POINTED STYLE, (*12th century.*)

Arcesila'us, a Greek philosopher, B 316; D. 241 B.C. — See ACADEMICS.

Arch, *n.* [Fr. *arche*; Lat. *arcus*. Etymol. uncertain.] A bow; any place covered with an arch; a vault; the vault of the heavens.

(*Geom.*) A portion of the circumference of a circle or other curve; an arc.

(*Arch.*) A mechanical arrangement of blocks of any hard material disposed in the line of some curve, and supporting one another by their mutual pressure. The ends of an arch (*Fig.* 177) are supported on columns or sides of masonry, called *abutments* or *piers* (*a a*), rising perpendicularly from the ground; the arch is said to spring from its piers, and the first stones resting on the piers on either side (*b b*) are sometimes called the *springing-stones*. The upper part of the arch is called the *crown* (CC), and the stone in the centre (H), often in the form of a wedge, which locks or binds the arch together, is termed the *key-stone*. The sides of the arch (DC, CD) between its crown and piers, are called its *haunches*, or *flanks*. The

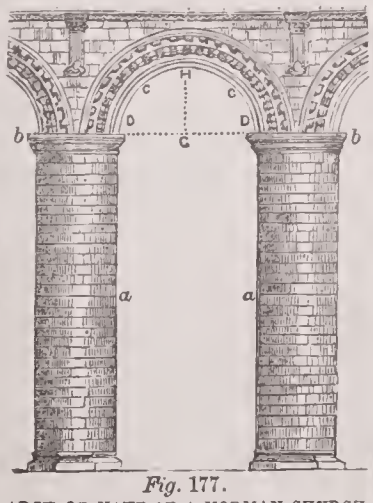


Fig. 177.
ARCH OF NAVE OF A NORMAN CHURCH AT GLOUCESTER, ENGLAND.

stones which compose the arch, all wedge-shaped, smaller at the under end than at the upper, are called *voussoirs, trados*, or *soffit*, and the upper ends the *extrados*, or *back*. The line joining the extremities of the arch (DD) is called its *span*, and one drawn perpendicular to the span, from its central point to the centre of the bottom of the keystone (G H), its *rise*. These lines are also called the *chord* and *versed sine* of the arch. The Egyptians and Assyrians are said to be the first nations who used the arch in their buildings; arches, both of stone and brick, having been found by Belzoni, Wilkinson, and Layard, at Thebes, Gizeh, Nimroud, and Khorsabad. The form of the *A.* is supposed to have been known to the Greeks, although there is no evidence in the remains of their temples to show the truth of the supposition. The Romans were fully acquainted with its constructive value, and were probably the means of introducing it, in its most simple and primary form — that of a semicircle — into European architecture. The only forms used, until the adoption of the pointed arch in mediæval architecture, in the 12th century, were the semicircle, segment of a circle, and ellipse. The horse-shoe form, peculiar to Arabian architecture, was probably derived from the segment of a circle greater than a semicircle. The pointed arch was used by the Arabs as early as the 9th century, and is supposed to have been introduced into Europe at the close of the first crusade, and adopted in various forms as a prominent feature in Gothic architecture. The mechanical principles of the construction of arches will be treated under the head of BRIDGE, *q. v.*

Arca'num, *n.* [Lat., from *arceo*, to enclose.] That which is enclosed; something hidden; a secret. Generally used in the plural, *arcana*, secret things, mysteries. This term is of frequent application in the writings of the alchemists and ancient philosophical writers, and generally used to designate any substance the mode of preparing which was kept secret. Thus the old chemical philosophers called the red oxide of mercury, which was produced by the action of nitric acid, *arcanum corollanum*; sulphate of potash was termed, by the same writers, *arcanum duplicatum*, &c.

Arch, *v. a.* To cover with an arch, or with arches: to form with a curve.—To bend into the form of an arch. —*v. n.* To build arches.

Arch, *a.* [Probably from Gr. *arg*, crafty, roguish, and perhaps allied to *rogue*.] Cunning; sly; roguish; knavish; mischievous; waggish; mirthful; — as, an *arch* lad.

Arch. [Gr. *archos*, chief; *archē*, beginning, origin, the first place or power.] Chief; of the first class; principal. — A prefix used in numerous compound words. We omit those which are self-explaining.

Arch (Triumphal), a structure raised by the Romans to celebrate a victory, or some great historical event; or to add an additional lustre to the commemoration of the military exploits of a victorious general. These structures originated in the custom of adorning with the spoils of war the gate by which a successful military leader entered Rome on his return from battle. After a time these temporary monuments were replaced by others of the more endurable nature of stone and bronze. The *arcus triumphalis*, as the Romans styled this form of structure, was usually erected in some public thoroughfare. In design they were commonly either one large arch, or one large central arch, with one or two smaller ones on each side. In every case the fronts and sides of the erection were decorated with trophies, the entablature being crowned with some piece of sculptural allegory, beneath which was an inscription emblazoning the deeds of the hero in whose honor the arch was erected. The most remarkable of these edifices still existing are the arch of Augustus at Rimini; that of Trajan at Beneventum; at Rome, those of Constantine, Severus, Drusus, Gallienus, and Titus. The oldest and most admirably proportioned, however, is that of Titus, whose conquest of Judæa it was built to celebrate. The arch in the highest state of preservation is that of Constantine. (See *Fig.* 178.) Many similar monuments

Fig. 178. — TRIUMPHAL ARCH OF CONSTANTINE, (*Rome.*)

of departed Roman greatness exist in France, Egypt, Spain, and Greece. France possesses of modern *A.* the greatest number. Those of the Porte St. Denis and Porte St. Martin, erected in 1673 and 1674 respectively, record the victories of Louis XIV. The splendid Arc du Carrousel, forming the western entrance of the Tuileries, built in honor of the French armies, was commenced in 1806, and finished in 1809; in height it is 47 ft., in breadth 55. Surmounting it is a great equestrian group, composed of a chariot drawn by 4 horses, and guided by the allegorical figures of Peace and Victory. But the grandest and most colossal triumphal *A.* of modern construction is that standing at the end of the Avenue des Champs Elysées, at Paris. It was erected to commemorate the victories of Napoleon I. and his armies, and, although commenced in 1806, was not completed until after the revolution of 1830. It has 3 arches, the central one being 95 ft. high. In the interior are graven the names of the most eminent of the French generals, with that of their leader. London possesses but two structures of this kind — the arch at Hyde Park, supporting the equestrian statue of the Duke of Wellington, and the Marble Arch.

Archæog'raphy, *n.* [Gr. *archaios*, ancient from *ar-chē*, a beginning, and *grapho*, to describe.] A treatise on antiquity.

Archæolo'gian, *n.* Same as ARCHÆOLOGIST.

Archæolog'ic, Archæolog'ical, *a.* Relating to archæology.

Archæol'ogist, *n.* [Fr. *archéologue*.] One versed in archæology, or in antiquity, or ancient learning of art.

Archæology, (*ark-e-ol'o-je,*) *n.* [Fr. *archéologie*; Gr. *archaios*, ancient, and *logos*, discourse.] That science which makes us acquainted with the antiquities of nations that have lived and died, and the remains of various kinds which throw a light upon the history of those now existing. Almost every country now boasts its national archæological society. The term is capable of a very widely extended signification, including everything that is connected with the rise and progress of any nation, its history, laws, religious observances, public and private buildings, manners and customs of all classes of the people, the arts in use among them, and the extent of their acquirements and discoveries in science. The archæologist seeks to study and preserve any materials which tend to elucidate the objects already mentioned, and these materials naturally resolve themselves into three great divisions, each susceptible of further subdivision. The 1st class may be considered to consist of all records, written or printed, legal documents, old chronicles, diaries of a public or private nature, state papers, letters, &c. The 2d may be termed *oral*, or *traditional*, in contradistinction to the 1st, which may be broadly called *written A.*, and consists of the ballads, legends, and folk-lore of a people, their sports, superstitions, and the rise and origin of local customs, proverbs, and expressions. The 3d, termed *monumental A.*, consists of works of art, paintings, sculpture, coins, medals, pottery, glass, wooden and metal utensils, tools of all descriptions, armor, weapons, carriages, boats, roads, canals, walls, encampments, burial-grounds, earthen mounds for purposes of defence or sepulture, and even human and animal remains. Every country owns, in a greater or less degree, relics of antiquity, highly interesting to the archæologist. From the sculptured stones and obelisks of Egypt and Assyria, records have been unravelled by Layard, Rawlinson, and other savans, that throw great light on the early history of those countries, and offer convincing testimony of the indisputable truth of Holy Writ. In Mexico and Central America, evidences have been found of the existence of a clever and ingenious people who had passed from the earth before the discovery of the Western hemisphere by Columbus.

Archa'ic, Archa'ical, *a.* [Gr. *archaikos*, ancient.] Ancient; old; obsolete.

Archaiol'ogy, *n.* Same as archæology, but not in common use.

Ar'chaism, *n.* [Gr. *archaismos*, from *archaios*.] An antiquated word, expression, or phrase. In general, the use of archaisms is objectionable, but in certain kinds of writing, and particularly in poetry, they may even be an ornament, as they are often peculiarly forcible.

Archan'gel, *n.* [Gr. *archē*, chief, and *aggelos*, an angel.] A chief angel; an angel of the highest order. In Scripture the term is only applied to Michael, and is nowhere employed in the plural.

Archangel, (*ark-ain'jul,*) a govt. of Russia in Europe, occupying the entire country from the Ural Mountains on the E. to Finland on the W., and from the Vologda and Olonetz on the S. to the Arctic Ocean and White sea on the N. Nova Zembla, and some large islands of the Arctic Sea, are also included within it. Altogether its estimated area is 296,067 sq. m. The largest part of this great territory is bleak, sandy, and perpetually sterile. Immense plains, lakes, and morasses, interspersed with occasional pastures, form the features of the country. The principal source of wealth lies in the forests, which are almost inexhaustible. Hunting and fishing are the principal occupations of the inhabitants. The reindeer, among the Laps in the N.W., and the Samoyedes in the N.E., is domesticated.—*Prod.* Hay, hemp, cordage, mats, tallow, tar, turpentine, potash, &c. The natives, though of Finnish origin, have now become essentially Russian. The Samoyedes, who are in the lowest scale of civilization, and spread over a vast tract of country, do not exceed in number 7,000; the Laps, not more than 2,000.—*Chief towns. A.* the cap., Onega, and Dwina. *Pop.* in 1897 (est.) 550,000.

Arch'angel, or ST. MICHAEL, cap. of the above gov., and the principal city and seaport of N. Russia, lies on the Dwina, about 34 m. from its fall into the White sea. Lat. 64° 32′ 8″ N.; Lon. 40° 33′ E. It is almost wholly built of wood, and has been frequently destroyed by fire. Its commerce is very extensive. The harbor is situated one mile below the town, and vessels drawing more than 14 ft. of water have to lighten in the roads before crossing the bar. There is a govt. dock-yard, and numerous private ship-building concerns. The entrance to the Dwina, on which *A.* was subsequently built, was discovered by Richard Chancellour, an Englishman, in 1554, and was for a long time the only port in the empire accessible to foreigners. *Pop.* 20,178.

Archangel'ic, *a.* Belonging to archangels.

Archangel'ica, *n.* (*Bot.*) A genus of plants, tribe *Angelicidæ*.—See ANGELICA.

Arch'bald, in *Pennsylvania*, a post-village of Lackawanna co., on the Lackawanna river, 10 m. N. E. of Scranton, on New York, Ontario & West. and Delaware & Hudson R.Rs. *Pop.* (1898) 4,760.

Archbish'op, *n.* [Gr. *archē*, chief, and *episkopos*, bishop.] (*Eccl. Hist.*) The title given to a bishop who, besides exercising episcopal authority in his own diocese, has an admitted superiority over the bishops in his province, who are sometimes called his *suffragans*. He is also, sometimes, called primate or metropolitan. The title was first used in the 4th century. It was at that time considered as equivalent to patriarch, or bishop of an imperial diocese; as Rome, Constantinople, Antioch, Alexandria, Ephesus. England has two *A.*, those of Canterbury and York. The former is styled *Primate of all England*, and takes precedence of all under the rank of the blood-royal. The election of an *A.* does not differ from that of a bishop; but while the latter is only *installed* in his office, an *A.* is *enthroned*. An *A.* is styled "Grace," and "Most Reverend Father in God," and subscribes himself "by Divine Provideuce." During the vacancy of a see, the *A.* is guardian of the spiritualities; and he also nominates to the benefices or dignities at the disposal of the bishops in his province, if not filled up within six months.

Archbish'opric, *n.* The jurisdiction, place, or province of an archbishop.

Arch'bold, in *Ohio*, a post-village of Fulton co., 41 m. W.S.W. of Toledo.

Arch-but'tress, *n.* An arc-boutant.

Arch-cham'berlain, Arch-chan'cellor, *n.* The names formerly given, the first in Germany, and the second in France, to a great officer of the court.

Archdea'con, *n.* (*Eccl. Hist.*) A chief deacon; a church dignitary next in rank to a bishop. This office is almost wholly abolished in the Catholic church. The Episcopal church of England still has *A.*, who are the deputies of the bishops to superintend the clergy of each diocese.

Archdea'conry, *n.* The office, jurisdiction, or residence of an archdeacon.

Archdea'conship, *n.* The office of an archdeacon.

Archdi'ocese, *n.* The dioccse of an archbishop.

Archdivine', *n.* A principal theologian.

Archdu'cal, *a.* Pertaining to an archduke.

Archduch'ess, *n.* A title given to the females of the House of Austria, and to the wife of an archduke.

Archduch'y, *n.* The territory of an archduke or archduchess.

Archduke', *n.* A duke whose authority and power is superior to that of other dukes. In Fraucc, in the reign of Dagobert, there was an *A.* of Austrasia; and at a later period, the provinces of Brabant and Lorraine were termed archduchies. The dukes of Austria assumed the title of *A.* in 1156; hut the dignity was not confirmed till 1453. In the present day, this title is not assumed by any excepting the princes of the imperial House of Austria.

Archduke'dom, *n.* Same as ARCHDUCHY.

Arched (*ärcht*), *p. a.* Made with an arch; covered with an arch; in the form of an arch.

Archegosau'rus, *n.* [Gr. *archegos*, leader, and *sauros*, lizard.] (*Pal.*) A fossil saurian reptile, found by Goldfuss, in 1847, in large concretionary modules of clay-ironstone, from the coal-field of Saarbrück. Four species have been described. Prof. Owen makes it a remarkable connecting link between the reptile and the fish, and on these grounds: it is related to the salamandroid-ganoid fishes by the conformity of pattern in the plates of the external cranial skeleton, and by the persistence of the *chorda dorsalis*, as in the sturgeon, while it is allied to the reptiles by the persistence of the *chorda dorsalis*, and the branchial arches, and hy the absence of the occipital condyle, or condyles, as in *Lepidosiren*, and by the presence of labyrinthic teeth, as in *Labyrinthoden*, which, however, also ally it to the ganoid *Lepidosteus*.

Archela'us, a king of Macedon, natural son and successor of Perdiccas II. He was a liberal patron of literature and the arts, and greatly favored, amoug others, Euripides and Zeuxis. D. ahout 398 B. C.

Archela'us, a Greek philosopher, the disciple and successor of Anaxagoras. *A.* is said to have had Socrates for his pupil at Athens. Flourished about 440 B. C.

Archela'us, son of Herod the Great. His reign is described as most tyrannical and bloody. The people at length accused him before Augustus, (Judea being then dependent upon Rome.) The emperor, after hearing his defeuce, banished him to Vienue, in Gaul. To avoid the fury of this monster, 7 A. D., Joseph and Mary retired to Nazareth.

Archela'us, the son of Apollonius, a sculptor. He was a native of Ionia, and is thought to have lived under Claudius. He executed in marble the apotheosis of Homer, which was found, in 1568, at a place called *Fratocchia* belonging to the house of Colonna.

Archel'ogy, *n.* [Gr. *archē*, a principle, and *logos*, a discourse.] A treatise on principles.

Archem'ora, *n.* (*Bot.*) A gen. of plants, ord. *Apiaceæ*. The water-dropwort, or cow-bane, *A. rigida*; stem 2–4 ft. high; leaves pinnately divided; umbels spreading, smooth; petals white: is found in swamps from Michigan to Florida. Its fruit, with subequal greenish ribs, and large purple vitæ filling the intervals, ripe in September, is said to be poisonous.

Ar'chenholz, JOHANN WILHELM VON, B. 1743, D. 1812. He was a German historian of great industry and research; wrote a *History of the Seven Years' War*, and also a voluminous work on British history, in 20 vols.

Arch'er, *n.* [Fr., from Lat. *arcus*, a bow.] A bowman; one who shoots with a bow and arrow.

Arch'er, in *Florida*, a p.-v. of Alachua co.

Arch'er, in *Nebraska*, a village of Richardson co., about 24 m. S. by E. of Brownville.

Arch'er, in *Ohio*, a twp. and v. of Harrison co.

Arch'er, in *Texas*, a N. co., drained by the Little Wichita. Area, 900 *sq. m.*

Arch'eress, *n.* She who shoots with a bow and arrow.

Arch'ery, *n.* [From Lat. *arcus*.] The art of shooting with a bow and arrow. This art, either as a means of offence in war, or of subsistence and amusement in time of peace, may be traced in the history of almost every nation. It always, however, declines with the progress of time, which introduces weapons more to be depended on, and not so easily exhausted as a buudle of arrows. With the ancients, the *sagitarii*, or archers, were an important class of troops. In the middle ages, tho bow was much more used by the burghers than by the barons. The Swiss were famous archers. In modern times, this weapon is used by the Asiatic nations, by the tribes of Africa, by the American Indians, &c. In 1813 and 1814, irregular troops, belonging to the Russian army, particularly the Bashkeers, appeared in Paris, armed with bows and arrows, and made surprising shots. This weapon was the leading arm of the English people for centuries, and their expertness in the use of it was proverbial. Great dependence was placed upon archers in

Fig. 179.—ANCIENT EGYPTIAN ARCHER, AND QUIVER.

war; and frequently has the success of a battle been attributed to their means, as at Cressy, Poitiers, and Agincourt. Most of the English sovereigns had a bodyguard entirely consisting of archers. In the reign of Charles II. the Royal Company of Archers, as it was called, became merged in the Artillery Company of London. *A.* has been revived in modern times as a pastime, and is largely practised throughout Great Britain, Germany, and Switzerland; and also in some cities of the United States. The Toxopholite Society of London was first established in 1781.—The principal instruments employed in *A.* are the bow, string, arrow, glove, and brace. The bows are generally made of yew and ash, and the best arrows come from the latter description of wood. The distance to which an arrow can be sent by a good archer is generally from 200 to 250 yards. Interesting particulars of this art may be found in *Blaine's Encyclopedia of Rural Sports*.

Archety'pal, *a.* Having the nature of an archetype; original; constituting a model or pattern.

Ar'chetype, *n.* [Gr. *archetypos*—*archē*, beginning, original, or origin, and *typos*, type.] The chief type, pattern, or model; the original model from which a thing is made; an authentic or original draught.

Archetyp'ical, *a.* Relating to an archetype.

Arche'us, *n.* [From Gr. *archē*, beginning.] (*Alchemy.*) A name given by Paracelsus to the original principle in nature, *Primum mobile*, pervading all things and presiding over all organic phenomena.

Arch'ibald, in *Pennsylvania*. See ARCHBALD.

Archida'mus, the name of five kings of Sparta, of whom there is little or nothing to say.

Archidiac'onal, *a.* Pertaining to an archdeacon.

Archido'na, a town of Spain, 34 m. N. of Malaga; *pop.* 8,172.

Archiepis'copacy, *n.* [Gr. *archos*, a leader, chief, commander, and *episkopos*, a bishop.] The state of an archbishop.

Archiepis'copal, *a.* Belonging to an archbishop.

Archiepis'copate, *n.* The office of an archbishop; an archbishopric.

Ar'chil, ORCHIL, CUDBEAR, *n.* [Corrupted from the Fr. *orseille*.] A violet dye obtained from many species of lichens, chiefly the *Roccella tinctoria*, *fuciformis*. *A.* is chiefly used to improve the dye of other colors, and to give richness and brilliancy to them. The coloring matter is due to the chemical principle *orcine*. In silk-dyeing, *A.* produces the lilac color; it economizes the use of indigo in woollen cloth. It also stains marble violet.

Archi'locus, a celebrated lyric poet of Greece. B. at Peros, the son of a slave, though of noble descent. He distingnished himself by the violence of his satires, and to him is attributed the invention of Iambic verse. He flourished abt. B. C. 710–670.

Archiman'drite, *n.* [Fr.; from Gr. *archē*, chief, and *mandea*, a monastery.] In the Greek church, a chief of the monks; an abbot.

Archimede'an, *a.* Relating to Archimedes.

Archime'des, the most famous of ancient mathematicians, was a native of Syracuse. He possessed equal knowledge of the sciences of astronomy, geometry, hydrostatics, mechanics, and optics. Among his inventions were the combination of pulleys for lifting heavy weights, the revolving screw, and a spherical representation of the motion of the heavenly bodies. His inventive genius was especially exemplified in the defence of Syracuse when besieged by Marcellus. It is said that on this occasion he devised a burning-glass, formed of reflecting mirrors of such power, that by it he set fire to the enemy's fleet. This well-known story is, however, believed to be equally an invention. Upon the city being taken by storm, *A.*, then in his 74th year, was among those who lost their lives, B. C. 212. His burial-place was afterward discovered by Cicero. Nine of the works of *A.* have descended to posterity.

Archime'des, PRINCIPLE OF. (*Hydraul.*) A well-known principle in hydrostatics, the discovery of which is attributed to the celebrated philosopher whose name it bears. This important theorem may be thus defined:—When a solid is immersed in a fluid, it loses a portion of its weight, and this portion is equal to the weight of the fluid which it displaces, that is, to the weight of its own bulk of the fluid. An experimental proof of this principle is thus obtained:—From one of the arms of a balance is suspended a hollow cylinder, having a cylindrical mass of any substance capable of exactly fitting into it, hanging from it by means of a thread. From the other arm of the balance hangs a scale-pan, into which weights are placed until the solid cylinder and the hollow one are exactly counterbalanced. Water is then poured into a vessel around the solid cylinder, until it is completely immersed; upon which the weights in the scale-pan will preponderate, the solid cylinder seeming to have lost a considerable portion of its weight. The balance will, however, be brought into equilibrio, if water be poured into the upper hollow cylinder until it is quite full. Now, as this hollow cylinder is of such a size that the solid mass exactly fits its interior, it follows that the water with which the hollow cylinder is filled is precisely equal in bulk to the solid cylinder; which proves that the apparent loss of weight suffered by the latter is precisely equal in weight to a mass of water equal in bulk to itself. This very ingenious method forms one mode—but not the most exact—by which the specific gravity of solids is ascertained. A wonderful story is told in connection with the discovery of this important principle. Hiero, king of Syracuse, intending to offer to the gods a crown, caused one to be manufactured of pure gold. When brought home, the crown appeared to be of full weight, but it was suspected that a part of the gold had been stolen, and a like weight of silver substituted. Archimedes was desired to investigate the supposed fraud, and while engaged in solving the difficulty, he happened to enter the bath, where observing that a certain quantity of water overflowed, equal to the bulk of his body, he instantly saw in it the solution of the problem. Carried away by his ardor, he is said to have hastened home, without waiting to dress, crying out, "Eureka!" (I have found it!)—See SPECIFIC GRAVITY.

Archime'des' Screw, or SPIRAL PUMP. *n.* (*Hydraul.*) A machine invented by Archimedes, the celebrated Syracusan philosopher, while studying in Egypt. Observing the difficulty of raising water from the Nile to places above the reach of the flood-tides, he is said to have designed this screw as a means of overcoming the obstacle. It consists of a pipe twisted in a spiral form round a cylinder, which, when at work, is supported in an inclined position. The lower end of the pipe is immersed in water, and when the cylinder is made to revolve on its own axis, the water is raised from bend to bend in the spiral pipe until it flows out at the top. The *A.* is still

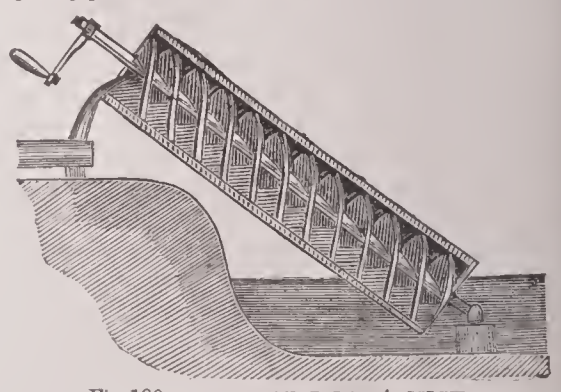


Fig. 180.—DOUBLE-THREADED *A.* SCREW.

used in Holland for raising water, and draining low grounds. The Dutch water-screws are mostly of large size, and are moved by the wind, one windmill furnishing sufficient motive-power to keep several screws going at once.

Arch'ing, *p. a.* Curved as an arch.

Archiog'rapher, *n.* [Gr. *archos*, chief, and *grapho*, to write.] The head-secretary.

Archipelag'ic, *a.* Relating to an archipelago.

Archipel'ago, *n.* A term applied to such tracts of sea as are interspersed with many islands. It is more especially applied to the numerous islands of the Ægean Sea, or that part of the Mediterranean lying between Asia Minor and Greece. These islands are principally divided into two groups called the *Cyclades* and *Sporades*. The former contains the islands of Kyth-

nos, Lyra, Seriphos, Keos, Anoros, Tenos, Naxos, Thera, Ios, Melos, Kimolos, &c., all belonging to Greece, and forming the prov. of the *Cyclades*, containing an aggregate population of 120,037. The *Sporades* group consists of Scio, Cos, Rhodes, Samos, Mitylene, Lemnos, &c., and belong to the Turkish empire, forming the *sandjak* or government of Djezairi-Bahri. The islands of both groups will be severally described in their proper places.

Archipel'ago (Eastern), Indian, or Malay. This great *A.* contains a vast number of islands within the tropics, and extends between 95° and 135° E. Lon.; and 11° S. and 19° N. Lat., having on the N. and N.W. the Chinese sea; N.E. and E. the Pacific; and S. and S.W. the Indian ocean. It has been separated into 5 divisions, each distinguished by peculiarities of situation, climate, and productions; viz.: 1*st div.*, Long. 95° to 116°, includes Sumatra, Java, Bali, Lombok, Madura, Banca, Billiton, the Malayan peninsula, and the W. or larger portion of Borneo.—2d *div.*, Long. 121° to 130°, includes Celebes, Sambawa, Flores, Sandal-wood island, Timor, and the E. part of Borneo to 3° N. Lat.—3*d div.*, Long. 124° to 130°, Lat. 10° S. to 2° N., includes Ceram, Gilolo, the Papuans, Aru islands, &c.—4*th div.*, Long. 116° to 125°; and Lat. 4° to 10° N., includes Mindanao, the Sooloos, Palawan, and N.E. part of Borneo.—5*th and last div.* includes the remainder of the Philippines, and is the only portion within the limit of the hurricanes.—See Banca, Borneo, Celebes, Java, Sumatra, Philippines, &c.—The other archipelagos will receive separate notice, each under its proper name.

Ar'chitect, *n.* [Fr. *architecte*, from Lat. *architectus*; Gr. *architekton*, from *teucho*, to prepare, to make, to work.] One skilled in the art of building; one who plans or designs buildings, &c., and superintends their erection; a contriver.

Architec'tive, *a.* Used in architecture. (R.)

Architecton'ic, Architecton'ical, *a.* Skilled in the art of building. (R.)

Architec'tural, *a.* Pertaining to architecture, or to the art of building; that is, according to the rules of architecture.

Ar'chitecture, *n.* [See Architect.] The art or science of building according to certain proportions and rules determined by the character and future appropriation of the edifice to be erected. It bears different denominations, according to the purposes for which it is applied. When called *Civil A.*, it has for its object the construction of any public or particular buildings intended to meet the requirements of social man. This class of *A.* may be subdivided into *domestic*, *rural*, and *monumental*, agreeably to any particular object it has in view.—*Military A.* relates to the erection of works necessary to the defence or attack of a town or territory. See Fortification.—*Naval A.* has for its object the construction of marine vessels, whether intended for purposes of war or commerce. See Ship-building.—*Hydraulic Architecture* signifies the art of conducting and retaining bodies of water; as also that of the formation of structures necessary for the same purpose. See Aqueduct; Bridge; Canal, &c.—We have here but to treat of *civil A.*, and more especially of *monumental* and *religious A.*, at all epochs, and of all nations; because it is in the erection of religious edifices that the architect has displayed all the resources of his art; and that with every religious system there has invariably been a corresponding architectural system, forming both its symbol and its material realization. *A.* constitutes a veritable art, but this is only when a people or nation shall have arrived at a certain point of civilization, wealth, and luxury. In its original design, we can consider it but as an industrial pursuit, which had for its object the providing of a shelter for mankind against the inclemency of the seasons. And, whatever may be the perfection to which the state of *A.* has attained in any country, there is always found certain characteristic features belonging to it that reveal the first principles of its origin. It is also found that writers generally agree in recognizing three different types of *A.*, of which every one relates to the three different estates of the human race. The oldest people were shepherds, agriculturists, and hunters. The first of these led an errant and migratory existence, and tended their flocks in the more fertile plains. They were consequently obliged to provide themselves with such movable dwellings as it would be practicable to carry with them during their peregrinations. They accordingly invented the *tent*, which forms the evident type of all Chinese *A.*: the inhabitants of that country, in common with all the Tartar tribes, being originally nomads, or, in other words, shepherds, and *cenobites*, that is to say, dwellers in tents. On the other hand, the agriculturist, finding himself under the necessity of fixing his permanent habitation in the country of his choice, was obliged to build a homestead sufficiently strong and commodious to shelter not only himself and family, but also his herds and harvests. The *hut* or *cottage* with sloping roofs was the first result of this necessity. As for those people who lived by the chase, or by fishing, their mode of life, in incessantly roaming over mountains and forest countries, suggests the belief that they were contented to take shelter in such natural excavations as the rocks might present to them, or to dig cavities called *barrows*, in which they domiciled. This manner of habitation may be judged from the ruins of Petra, (*Fig.* 181,) on the S. of the Dead sea, in Arabia Petræa. Altogether, we ought not to believe that the art of *A.* in any country has reference to any unique principle or type; because, if the Chinese system of *A.* be derived from a tent, that of Greece from the primitive hut, and that of India from subterraneous excavations, others will admit that Egyptian *A.* proceeds from a combination of these two last principles. It is impossible, in the actual state of science, to fix exactly for such remote periods the chronology of *A.*: neither does the general plan of this work permit of a condensed general article on its history.

Fig. 181.—Ruins of Petra. (*Arabia.*)

We will, therefore, give only such a sketch of the principal orders as will enable the reader to refer to the various names under which will be found all that is important to know of the *A.* of any country. To Greece we are indebted for the three principal orders of *A.*, the *Doric*, the *Ionic*, and the *Corinthian*; Rome added two others, both formed out of the former, the *Tuscan* and the *Composite*. Each of these has a particular expression; so that a building, or any parts of one, may be rude, solid, neat, delicate, or gay, accordingly as the Tuscan, the Doric, the Ionic, the Corinthian, or the Composite are employed. The columns of these several orders are easily distinguishable to common observers, by reason of the ornaments that are peculiar to their capitals; but the scientific difference consists in their proportions. The *Tuscan* order is characterized by its simplicity and strength. It is devoid of all ornament. The *Doric* is enlivened with ornaments in the frieze and capital. The *Ionic* is ornamented with the volute scroll, or spiral horn; its ornaments are in a style of composition betwixt the plainness of the Doric and the richness of the Corinthian. The *Corinthian* is known by its capital being adorned with two sorts of leaves; between these rise little stalks, of which the volutes that support the highest part of the capital are formed. The *Composite* is nearly the same as the Corinthian, with an addition of the Ionic volute. In their private buildings the Roman architects followed the Greeks; but in their public edifices they far surpassed them in grandeur. During the dark ages which followed the fall of the Roman empire, the classic architecture of Greece and Rome was lost sight of, but was again revived by the Italians at the time of the restoration of letters. The *Gothic* style was so called because it was first used by the Visigoths; but at first it was vastly inferior to that which we now call Gothic, and which exhibits grandeur and splendor with the most accurate execution. The *Saxon* and *Norman* styles were so called because they were respectively used by the Saxons before the conquest of England, and by the Normans after, in the building of churches. The Saxon style was distinguished by the semicircular arch, which they seem to have taken partly from the Romans, and partly from their ancestors on the continent of Europe. The Norman was particularized by the following features: the walls were very thick, generally without buttresses; the arches, both within and without, semicircular, and supported by very plain and solid columns. (See *Fig.* 177.) These two styles continued to be the prevailing modes of building in England until the reign of Henry II., when a new style was introduced, which was called *Modern Gothic*. Whether this was purely a deviation from the other two modes, or whether it was derived from any foreign source, is not known. It is, however, supposed to be of Saracenic extraction, and to have been introduced by the crusaders. This style is distinguished by its numerous buttresses, lofty spires and pinnacles, and large and ramified windows, with a profusion of ornaments throughout. In the 15th and 16th centuries the taste for Greek and Roman *A.* revived, and brought the five orders again into use, although for sacred edifices the Saxon and Gothic styles still maintain the pre-eminence. It was in Italy that the reaction began which resulted in the deposition throughout the whole of Europe of the Ogivale *A.* The Gothic art had not taken great root in Italy, and nearly all of the buildings built in the Ogivale style show traces, more or less numerous, of the persistency of the Roman art. The contemplation of those classical monuments so plentiful in the Italian states, brought back, year by year, the Italian architect to them as to a school for imitation. The first signs of this revolution in art were manifested about the 14th century. But, it is to the celebrated Brunelleschi, born in 1377, that posterity has rightly accorded the title of restorer of the antique *A.* After him, the one who most contributed to the artistic movement of which we have spoken, was L. B. Alberti, of the noble Florentine family of the Alberti. Amongst the crowd of great architects produced by Italy in the 16th century, we must mention the illustrious names of Bramante, Michael-Angelo Buonarotti, Rafaelle, San-Gallo, Balthasar Peruzzi, Giacondo, San-Micheli, Vignola, Serlio, and Ammanati. The style of that epoch has received the distinguishing title of *Renaissance*. We need not further pursue this sketch of the history of *A.*, as the innumerable buildings erected within the two last centuries in Europe and in America are well known to every one; and it belongs more peculiarly to a special treatise, in which to criticize the tendencies exhibited by the *A.* of this period. Besides, the modern *A.* presents no idiosyncratic character which would permit us to give to it a particular name; as, for a long time past, it has continued to imitate, with more or less skill, all the antique monuments and works of the great masters of the art who lived in the 15th and 16th centuries.—See Arabian; Byzantine; Celtic; Chinese; Composite; Corinthian; Doric; Egyptian; Gothic; Indian; Ionic; Norman; Renaissance; Roman; Rustic; Saxon; Tuscan; &c. See *Fergusson's History of Architecture*.

Ar'chitrave, *n.* [Fr., from Gr. *archos*, chief, and Lat *trabs*, a beam.] The lower of the three principal members of the entablature of an order; being, as its name imports, the chief beam employed in it, and resting immediately on the columns. It is sometimes called *epistylum*, from *epi*, upon, and *stylos*, column. The height of the *A.* varied in the different orders, as also in different examples of the same order.—*A. cornice*, an entablature consisting of an *A.* and cornice only, without the interposition of a frieze. It is never used with columns or pilasters, unless through want of height.—*A. of a door or window*, a collection of members and mouldings round either, used for the decoration of the aperture. The upper part, or lintel, is called the *traverse*; and the sides, the *jambs*.

Ar'chives, *n. pl.* [Fr.; Gr. *archeion*, from *archē*, beginning, origin.] A collection of written documents, containing the rights, privileges, claims, treatises, constitutions, &c., of a family, corporation, community, city, or country; also, the place where such records are kept. The *A.* of the U. States are easily accessible, and proper recommendation will open them to any one who wants to use them for scientific purposes.

Ar'chivist, *n.* A keeper of archives or records.

Ar'chivolt, *n.* [Fr. *archivolte*; It. *archivolto*, from Lat. *arcus*, a bow, and *volutus*, turned.] (*Arch.*) The ornamental band of mouldings round the voussoirs, or arch; stones of an arch which terminates horizontally upon the impost. It is decorated, as to the members, analogously with the architrave, which, in arcades, it may be said to represent. (See *Fig.* 170.)

Arch'-lute, *n.* (*Mus.*) See Lute.

Arch'ly, *adv.* (See Arch.) Shrewdly; wittily; roguishly; jestingly.

Archmock', *n.* Principal mockery, or jest. (O.)

Arch'ness, *n.* Quality of being arch; cunning; shrewdness; waggishness; roguishness.

Ar'chons, *n. pl.* The highest magistrates in ancient Athens. (See Attica.) The Jews, also, had *A.* during their captivity.

Arch Spring, in *Pennsylvania*, a post-office of Blair co.

Arch'stone, *n.* (*Arch.*) The stone that binds an arch; the keystone.

Arch'way, *n.* A way or passage under an arch.

Archwife', *n.* The wife of a person of high rank. (O.)

Arch'wise, *adv.* In the form of an arch.

Arch'work, *n.* The formation of arches.

Arch'y, *a.* That resembles an arch.

Ar'chytas, a Pythagorean philosopher and mathematician; b. at Tarentum, about B.C. 400. He is known as having been one of the first to apply the theory of mathematics to practical uses.

Ar'cis-sur-Aube, a town of France, dep. of Aube, on the river Aube; Lat. 48° 32′ N.; Lon. 4° 8′ E.; is the entrepôt of the iron of the Aube valley. This place suffered heavily during the campaign of 1814. Here, Napoleon I. repulsed with a much smaller force one of the principal divisions of the allied army. *Pop.* 3,090.

Ar'cograph, *n.* [From Lat. *arcus*, a bow, and Gr. *grapho*, I describe.] An instrument by means of which a circular arc may be drawn without the use of a central point.

Arco'la, in *Illinois*, a manf. city in rich farming district of Douglas co. *Pop.* (1890) 1,733.

Arco'la, in *Indiana*, a post-village of Allen co., 8 m. W. N. W. of Fort Wayne.

Arco'la, in *Iowa*, a village of Monona co.

Arco'la, in *Louisiana*, a post-office of St. Helena par.

Arco'la, in *Minnesota*, a village of Washington co.

Arco'la, in *Ohio*, a village of Lake co.

Ar'cola, in *Virginia*, the P. O. name of Gum Spring, in Loudoun co., about 115 N. of Richmond.

Ar'cole, (*ar-ko-lai'*,) [Eng. *Arcola*,] a village of Italy, in Lombardy, 15 m. E.S.E. of Verona; a series of sanguinary battles took place here on the 15th, 16th, and 17th Nov., 1796, between the Austrians, and the French under Napoleon I.; when the latter gained a splendid and signal victory.

Arco'li, in *Nebraska*, a village of Saline co., about 85 m. W. of Nebraska City.

Ar'çon, Jean Claude Lemiceaud d', an eminent French engineer, b. 1733. He distinguished himself by the invention of the famous floating batteries used at the siege of Gibraltar, in 1782. D. 1800.

Ar'cos de la Fron'tera, a town of Spain, in Andalusia, on the river Guadalete, 29 m. N.E. of Cadiz; *pop.* 13,000.

Arcot', a maritime district of Hindostan, in the Carnatic, and presidency of Madras. *Area*, 13,400 sq. m. Near the coast the country is low and fertile, but further inland it becomes hilly, and full of jungles. Agriculture is

largely followed on the ryot system. (See INDIA.)—*Manuf.* Cottou stuffs and irou.—*Towns.* Arcot, Vellore, Cuddalore, &c.

ARCOT, a city, cap. of the above dist., and formerly of the Carnatic. Lat. 12° 54′ N.; Lon 79° 24′ E. It contains many ruins, among them the palace of its ancient princes, or *nabobs*. The inhabitants are principally Mohammedans, and speak Hindostauee; they have a handsome mosque and other religious edifices. *A.* came into possession of the British iu 1801. It lies 68 m. W.S.W. of Madras. *Pop.* 53,168.

Arc'tia, or TIGER MOTH, *n.* (*Zoöl.*) A gen. of night-flying insects, fam. *Bombycidæ*. The one selected for illustration is well known and abundant. It measures from two and a half to three inches in the expanse of the fore

Fig. 182.—TIGER-MOTH (*Arctia caja*).

wings, which are of a rich brown color, with numerous irregular spots and streaks of cream-white; the hind wings bright red, with blue-black spots; the thorax brown, with a red neck-band, and the abdomen red, with blue-black bars. The caterpillar is dark brown, and very hairy, the hairs on the back dusky, and those on the neck and sides reddish, the head black: its food is nettles, chickweed, lettuce, strawberries, &c. When full fed, it spins itself a web, wherein, at the latter end of April, it changes to the chrysalis state; and the moth appears about the end of June or beginning of July.

Arc'tic, *a.* [Gr. *arktikos*, from *arktos*, a bear.] An epithet given to the North Pole, or the pole raised above our horizon. It is called the *arctic pole*, on account of the constellation of the Little Bear, the last star in the tail whereof points out the north pole.—*Arctic circle* is a lesser circle of the sphere, parallel to the equator, and 23° 30′ distant from the north pole, whence its name. This and its opposite, the Antarctic, are called *the two polar circles*, and may be conceived to be described by the motion of the poles of the ecliptic round the poles of the equator, or of the world.

Arctic Highlanders, the name often given to the most northerly human community, a group of Eskimos dwelling north of Cape York, West Greenland.

Arctic Ocean, or NORTHERN ICY SEA, extends from the Arctic Circle, Lat. 66° 30′ N., to the N. pole, and washes the N. shores of Europe, Asia, and America; known respectively as the White Sea, the gulfs of Obi, Kara, and Yenisei, and the Polar Sea. The chief rivers embouching into it are, in America, the Coppermine, Mackenzie, and Black; and, in Asia, the Obi, Yenisei, Lena, and Colima. · Its princ. islands are Spitzbergen, the Laffodens, Wongatz, and Nova Zembla, in Europe; those of New Siberia, in Asia; and the Polar Archipelago, in America. An expanse of ice of nearly 4,000 sq. m. extends during an eight months' winter round the pole, and even in summer the temperature is at freezing-point. From this region come the icebergs which drift into the N. Atlantic. In 1878, an expedition under Nordenskjöld crossed the Kara Sea, and continued its route by Behring's Straits towards Japan, thus perhaps demonstrating a new commercial route connecting the Atlantic with the Pacific Ocean. The highest altitude then reached in the *A.* Ocean was 83° 20′ 26″, or 399½ m. from the Pole, by Markham, in 1876. See NORTH-WEST and NORTH-EAST PASSAGES.

Arcti'idæ, *n. pl.* (*Zoöl.*) A sub-family of Lepidopterous insects, fam. *Sphingidæ*, comprising those species which have the wings deflexed in repose, the posterior pair not extending beyond the costa of the anterior.

Arctostaph'ylos, *n.* [Gr. *arktos*, a bear; *staphylos*, a cluster of grapes.] (*Bot.*) A gen. of plants ord. *Fabaceæ*.—The *A. uva ursi* is a shrub 1 foot high, growing in mountains in the N. States and Canada; flowers in short, terminal clusters; *drupe* globular, about as large as a currant. The leaves are astringent, and much valued in nephritic complaints. The Indians use them for mixing with tobacco.—The Alpine bearberry is found in the Alpine regions of the White Mountains. Its flowers are white, its berries grateful, and are sometimes used as food.

Fig 183.—A. UVA URSI.

Arctu'rus, *n.* [Gr. *arktos*, a bear, and *oura*, the tail.] (*Astron.*) A star of the first magnitude, in the constellation Boötes, or *Archtophylox*, 26° S.E. of Cor Caroli, and Coma Berenices, with which it forms an elongated triangle, whose vertex is at *A*. The star is so called because it is situated near the tail of the Bear. According to M. Secchi, the spectrum of *A.* presents the same fine metallic rays as Orion and Scorpion (Antares). The appearances which render, at first sight, these spectra so different, depend on wide bands of absorption, which are absent in *A.*, well marked in Orion, and still more developed in Antares. These obscure and ill-defined bands are independent of the metallic lines, and may be compared to those produced by the gaseous terrestrial atmosphere in the solar spectrum near the horizon, and they may have a similar origin. The two systems, therefore, the one formed by five metallic rays or lines, and the other by black, gascous bands, are independent of each other. *A.* was supposed to be the nearest star to our system visible in the northern hemisphere, but this idea is now exploded.

Ard. [A.S.] An affix signifying natural disposition; as, Godd*ard* is a divine temper; Rein*ard*, a sincere temper; Giff*ard*, a bountiful and liberal disposition; Bern*ard*, filial affection, &c.

Ard, or *aird*, is also a Celtic root meaning height (comp. Lat. *arduus*, high), which appears in many geographical names in Ireland, Scotland, France, &c.

Ardagh', in *Ireland*, a bishopric in the co. of Armagh.—A parish in the co. of Cork.—Another parish, co. of Limerick.—Another parish, co. of Mayo.—Another parish, co. of Meath.—A village and parish in the co. of Longford.

Ardar'a, a town of Ireland, in the prov. of Ulster, 15 m. N.W. of Donegal, at the head of Longhrismore bay.

Ard'bear, an inlet of the sea, on the coast of Galway, in Ireland. It forms a fine harbor, at the head of which stands the town of Clifden.

Ardbrac'can, a town and parish of Ireland, in the co. of Meath.

Ard'candries, a parish of Ireland, in the co. Wexford.

Ard'canny, a parish of Ireland, in the co. Limerick.

Ard'carne, a parish of Ireland, in the co. Roscommon.

Ard'cath, a parish and village of Ireland, in the co. Meath.

Ardcav'an, a parish of Ireland, in the co. Wexford.

Ard'clare, a parish of Ireland, in the co. Roscommon.

Ardclin'is, a parish of Ireland, in the co. Antrim.

Ardcol'lum, a parish of Ireland, in the co. Wexford.

Ardcro'ny, a parish of Ireland, in the co. Tipperary.

Ar'dea, *n.* [Lat.] A gen. of birds, sub-fam. *Ardeinæ*; the HERON, *q. v.*

Arde'byl, a town of Persia, prov. of Azerbeitzan, 38 m. from the Caspian sea, from which it is separated by a high chain of mountains. It is an inconsiderable place, falling into decay, and only noted for containing the tomb of Sheikh Suffu, the founder of the Suffite dynasty of Persian monarchs, and of a religious sect. It is still a great resort for pilgrims.

Ardèche', a dep. of France, lying along the W. side of the Rhône, which separates it from the Drôme. Lat. between 44° 16′ and 45° 21′ N.; Lon. between 3° 50′ and 4° 50′ E.; *area*, 2,130 sq. m. The greater part of it is occupied by the Cevennes mountains, of which Mont Mezen rises to the height of 5,770 ft. Its surface comprises besides, forests, meadows, and vineyards. *Rivers.* The Rhône, Loire, Cance, and Ardèche. The forests produce vast quantities of chestnuts, and the culture of the vine is carried on extensively. The wine of St. Peray is highly esteemed. The silk-worm is also largely raised. The paper produced at Annonay is among the very best in Europe. There are other important manufactures and industries. *A.* has 3 arrondisements. The chief towns of this department are Privas, the cap., Annouay, and Anbenas. *Pop.* (1897) est. 387,174.

ARDÈCHE, a river of France, which gives its name to the above dep. It rises in the Cevennes, and, after a course of 45 m., falls into the Rhône above Pont St. Esprit.

Arde'cleave, a village of Ireland, in co. Londonderry.

Ardee', a barony, town, and parish of Ireland, in the co. Louth, 40 m. N.W. of Dublin; *pop.* 4,480.

Arde'idæ, *n. pl.* (*Zoöl.*) The Heron family, comprising grallatorial birds which are formed for wading, and generally seek their food on the margins of rivers and lakes, and in marshes, where they obtain fish, reptiles, and even small mammalia. They have the bill acuminate, compressed, acute, and the edges usually notched at the end; the frontal feathers generally extending beyond the nostrils, the inner toe connected by a basal web to the other. This fam. includes the *Herons*, the *Aigrettes* or *Egrets*, and the *Bitterns*.

Ar'delan, a prov. of Persia, forming the E. division of Kurdistan; 200 m. long, by nearly 160 broad. Senna, the cap., is in Lat. 35° 12′ N.; Lon. 40° E. It produces fine oak timber and gall-nuts, the latter of which is exported to India. The tribes of this country are nomadic, and incessantly engaged in war and rapine. They have a language of their own, and some of their chiefs possess great power.

Ar'dency, *n.* [Lat. *ardens*, pp. of *ardere*, to burn.] Ardor; eagerness; warmth of passion; as, "the *ardency* of our love for the Redeemer."

Ar'dennes, a dep. of France, bordering N. on the duchy of Luxembourg; Lat. between 49° 13′ and 50° 10′ N.; Lon. between 4° 5′ and 5° 21′ E.; *area* 1,955 sq. m.—*Desc.* In the N. it is full of mountains and woods, in the S.E. the soil is chalky, in the S.W. it consists of a rich loam, and in the E. it is stony.—*Rivers.* The Meuse and the Aisne, with their affluents.—*Prod.* Corn in abundance, cattle, horses, and sheep.—*Min.* Iron, slate, marble.—*Manf.* Ironmongery, cashmere shawls, cloth, &c.—*Towns.* Mezieres, Rethel, Rocroy, Sedan, Vouziers. *Pop.* 326,864.

The Forest of Ardennes, which occupies the N. part of the above dep., extended far into Germany in the time of Cæsar, but is now rather a series of heights and woods, than an entirely connected forest. Here, as the *Forest of Arden*, Shakspeare is believed to have laid the scene of his famous comedy, "As You Like It."—Sir Walter Scott has also celebrated it in his novel of *Quentin Durward*.

Ar'dent, *a.* [Fr. from Lat. See ARDENCY.] Hot; burning; fiery; causing a sensation of burning; as, an "*ardent* fever," "alcohol is an *ardent* spirit."—Fierce; vehement.

"With flashing flames his *ardent* eyes were filled."—*Dryden.*

—Passionate; affectionate; used generally of desire.

"With haughty pride may hear her charms confest,
And scorn the *ardent* vows that I have blest."—*Prior.*

Ar'dently, *adv.* Eagerly; affectionately.

Ar'dentness, *n.* The quality of being ardent; ardency; ardor.

Ard'fert, a town and parish of Ireland, co. Kerry.

Ard'field, a parish of Ireland, co. Cork, E. of Ross bay.

Ardfin'nan, a parish of Ireland, in the co. Tipperary.

Ard'glass, a seaport and parish of Ireland, in the co. Down. This was once a place of great strength and importance. 7 m. S.E. by S. of Downpatrick. *Pop.* 1,100.

Ardgnin', a parish of Ireland, in the co. Down, on Lough Strangford.

Ardkeen', a parish of Ireland, in the co. Down.

Ardkill', a parish of Ireland, in the co. Kildare.

Ardmayle', a parish of Ireland, in the co. Tipperary, 3 m. N. by W. of Cashel.

Ard'more, a village and parish of Ireland, in the co. Waterford.

Ard'more Head, a promontory in the above parish, forming the E. side of Youghal harbor. Lat. 51° 37′ N.; Lon. 70° 43′ W.

Ard'mulcan, a parish of Ireland, in the co. Meath, 3 m. E.N.E. of Navan.

Ardna'geehy, a parish of Ireland, in the co. Cork.

Ardna'glass Bay, an inlet on the W. coast of Ireland, co. Sligo.

Ardnamur'chan Point, a promontory on the W. coast of Scotland, in Argyleshire, forming the most westerly point on the mainland of Great Britain. Lat. 56° 45′ N.; Lon. 3° 8′ 30″ W.

Ardnur'cher, or HORSELEAP, a parish of Irelaud, co. W. Meath.

Ar'doch, a village of Scotland, in Perthshire, 8 m. N. of Dunblane. It is celebrated for its fine antiquities.

Ar'dor, *n.* [Lat. from *ardere*, to burn; Fr. *ardeur*.] Heat, in the literal sense; as, the *ardor* of the fire.—Heat, in a figurative sense; as, the *ardor* of passion, of love, of courage.

Ar'doye, a town of Belgium, 14 m. S.S.W. of Bruges. *Pop.* 8,146.

Ardoyne', a parish of Ireland, in the co. Carlow.

Ard'patrick, a parish and village of Ireland, in the co. Limerick.

Ardra'han, a parish of Ireland, in the co. Galway.

Ard'ree, a parish of Ireland, in the co. Kildare, 1 m. S. of Athy.

Ar'dres, a small, but well-fortified town of France, in the dep. of Pas-de-Calais, 9 m. S.E. of Calais. In its vicinity, in June, 1520, was held the famous meeting between Francis I., king of France, and Henry VIII. of England. The pomp and magnificence displayed on both sides during the 18 days of the meeting, gave rise to the name of the "*Field of the Cloth of Gold*," as the appellation of the place of rendezvous.

Ardris'tan, a parish of Ireland, in the co. Carlow.

Ardros'san, a seaport and parish of Scotland, in Ayrshire, on the Firth of Clyde, 24 m. W.S.W. of Glasgow. *Pop.* of parish, 7,173.

Ardsal'lagh, a parish of Ireland, in the co. of Meath, on the Boyne.

Ard'shir. See ARTAXERXES BEBEGAN.

Ard'skeagh, a parish of Irelaud, in the co. of Cork, 2 m. S. by E. of Charleville.

Ard'straw, a parish and village of Ireland, in the co. Tyrone.

Ard'trea, a parish of Ireland, in the counties of Tyrone and Londonderry.

Ar'duous, *a.* [Lat. *arduus*, steep, high.] Lofty; hard to climb.

"High on Parnassus' top her sons she show'd,
And pointed out those *arduous* paths they trod."—*Pope.*

—Figuratively, difficult; attended with great labor.

"The *arduous* employment that God designed with him."

Ar'duously, *adv.* In an arduous manner; with difficulty.

Ar'duousness, *n.* The state or quality of being arduous; height; difficulty.

Are. The plural present indicative of the substantive verb *to be*.

—*n.* The French superficial square measure, the side of which is 10 metres, or 32·809 English feet. It consists, therefore, of 1076·44 English sq. feet. The next denomination in the ascending scale is the *Decare*, or ten ares, and the *Hectare*, or 100 ares. In the descending scale the 10th part of an are is called a *Deciare*, and the 100th a *Centiare*.

A'rea, *n.* [Lat., probably from *areo*, to dry; it was formerly a place where corn was piled up to be dried before it was threshed.] Any plain or open surface; superficial contents; space enclosed within lines or boundaries; any enclosed space.

(*Geom.*) The superficial contents of any figure.

(*Geog.*) The contents of any surface.

Arec'a, *n.* [Malabar, *Areec.*] (*Bot.*) A gen. of trees, ord. *Palmaceæ*, distinguished by having pinnate leaves and double spathex. The *A. catechu* is a tall, slender, and graceful palm. Its stem is from 6 to 8 inches only in diameter, but the sheaf of green leaves that springs out of its top is 30 to 40 feet from the ground. Its fruit is the well-known *Betel nut*, remarkable for its narcotic and intoxicating power; from the same popular fruit is prepared a kind of catechu. This tree grows all over tropical India, and the whole archipelago, including the Philippines. Its Malay name is *Pinang*, hence *Pulo-Pinang* is the Betel-nut island. In nearly all the large

islands it has a different name, an indication that it is indigenous. In Javanese it is called *jambi*, and a region on the N. coast of Sumatra, where it is very abundant, has therefrom received its name. In favorable situations, this tree begins to bear when it is six years old, and usually yields about 100 nuts in a loose, conical cluster. Each nut, when ripe, is about as large as a pullet's egg, and of a bright ochreous yellow. This yellow skin encloses a husk, the analogue of the thick husk of the cocoa-nut. Within this is a small spherical nut, closely resembling a nutmeg, but very hard and tough when taken directly from the tree. It is chewed with a green leaf of the *siri*, *Piper betel*. — See BETEL, and CATECHU.

A. oleracea, the Cabbage-palm, whose huge terminal bud is known by this name, is a tall tree, 100 to 200 feet high, with a comparatively very slender stem, growing in the W. Indies. The bud or cabbage is sweet, nutritious, and delicate; but when cut off, the tree dies.

Arecife', a seaport, and cap. of Lanzerota one of the Canary islands; Lat. 28° 56′ N.; Lon. 13° 36′ W.; *pop.* 2,778.

Areek', *adv.* [A.S. *reac*, smoke.] In a reeking condition; smoking; steaming.

Arefac'tion, *n.* [Lat. *arefacio—areo*, to dry, and *facio*, to make.] The act of drying; the state of growing dry.

Ar'efy, *v. a.* To exhaust of moisture; to dry.

Are'na, *n.* [Fr. *arène;* Lat. *arena*, sand.] A term applied to that part of an amphitheatre where the combats of gladiators and wild beasts took place; from its being usually covered with sand. It is now used in a general sense to denote a place where any contest or display of power takes place.

Are'na, in *Wisconsin*, a post-village and township of Iowa co.

Arenac', in *Michigan*, a post-village of Arenac co., situated near Saginaw bay.

Arena'ceous, *a.* [Lat. *arenaceus*, from *arena*, sand.] Sandy; having the properties of sand.

A. Rocks. (*Geol.*) The name given to rocks composed entirely, or to a large extent, of grains of silex. Beds of loose sand occur extensively in the more recent deposits. The grains, either of quartz or flint, are generally water-worn and rounded. In older deposits, the grains of sand are bound together by silicious, calcareous, argillaceous, or ferruginous cements. It is seldom that a rock is composed of quartzose materials alone; grains or particles of other mineral substances are frequently mingled with the grains of quartz. Silvery flakes of mica are seldom absent; and they often occur in layers parallel to the planes of stratification, causing the rock to split into thin slabs, and exposing a glittering surface. These are called *micaceous sandstones*. When grains of feldspar occur, it is a *feldspathic sandstone*. Often large quantities of calcareous matter, either as cement or as distinct grains, occur; and these are called *calcareous sandstones*. The presence of lime can always be detected by the effervescence which takes place on the application of muriatic or other acid. When the sandstone is coarse-grained, it is usually called *grit*. It becomes *conglomerate*, or *pudding-stone*, if the grains are large enough to be called pebbles; or *breccia*, if the fragments are sharp and angular.

Arena'ria, SAND-WORT, *n.* [Lat. *arena*, sand.] A gen. of mere weed-plants, ord. *Caryophyllaceæ*.

Arena'rious, *a.* Relating to sand; arenaceous.

Arena'tion, *n.* (*Med.*) Sabulation, or the sprinkling of hot sand upon the bodies of patients.

Ar'endahl, in *Minnesota*, a post-township of Fillmore co.

Aren'dal, a seaport town of Norway, 75 m. N.E. of Christiansand; Lat. 58° 27′ N.; Lon. 8° 50′ 25″ E.; *pop.* 5,800.

Ar'endtsville, in *Pennsylvania*, a post-office of Adams co.

Aren'ga, *n.* (*Bot.*) See SAGUERUS.

Arenilit'ic, *a.* [From Lat. *arena*, sand, and Gr. *lithos*, stone.] Relating to sandstone.

Are'nis de Mar, a seaport of Spain, in Catalonia, 26 m. N.E. of Barcelona; *pop.* 4,976.

Arenose', *a.* Sandy; full of sand.

A'rensburg, a seaport of Russia in Europe, in the gov. of Livonia, at the mouth of the gulf of Riga. It is the cap. of the island of Oesel. *Pop.* 4,129.

Ar'enzville, in *Illinois*, a post-village of Cass co., about 48 m. W. of Springfield.

Are'ola, *n.; pl.* AREOLÆ. [Lat., a small open space or circle, diminutive of *area*.] (*Anat.* and *Physiol.*) A term applied to the small interstices of minute cellular or other tissues, through which the smallest vessels and nerves pass. It is also applied to the small red or brownish circle which surrounds the nipples of females, or the ring which surrounds the pustule of small- or cow-pox.

(*Bot.*) Space marked out on a surface.

Are'olar, *a.* Resembling or relating to an areola.

(*Physiol.*) Marked out into definite spaces.

Areola'tion, *n.* Any small space distinctly bounded by something different in color, texture, &c.

Areom'eter, *n.* A name of the instrument more commonly called HYDROMETER, *q. v.*

Areomet'ric, Areomet'rical, *a.* Relating to arcometry, or hydrometry.

Areom'etry, *n.* Same as HYDROMETRY, *q. v.*

Areop'agite, Areop'agist, *n.* A member of the Areopagus.

Areopagit'ic, *a.* Relating or pertaining to the Areopagus.

Areop'agus, *n.* [Gr. *Arēs*, Mars, and *pagos*, a hill.] (*Hist.*) The name of a hill or rocky eminence lying to the W. of the Acropolis at Athens, which was the meeting-place of the chief court of judicature of that city; hence called **the council of *A.*** It was of very high antiquity, and existed as a criminal tribunal long before the time of Solon. Solon enlarged its sphere of jurisdiction, and gave it extensive powers of a censorial and political nature. He caused it to consist of exarchons who had creditably passed the scrutiny to which they were subjected at the termination of their period of office. As a court of justice, it took cognizance of capital crimes, as murder, arson, &c.; and it also exercised a certain control over the ordinary courts. Its censorial duties were of a very extensive and inquisitorial nature, for the preservation of order and decency. Religion also came within its jurisdiction, which punished impiety in whatsoever form. Pericles succeeded in greatly diminishing the power of this council, and deprived it of many of its old prerogatives. It still, however, seems to have retained a great degree of power; but in later times, when corruption of manners prevailed among the people, it lost its moral influence and authority: yet it continued to exist down to a very late period. Some say that the apostle Paul was taken before this council; but the Scripture does not bear out this idea. It would seem, rather, that the Athenians had taken him to the hill in order to hear him expound his new doctrines.

Arequi'pa, a province and dep. of S. America, in the republic of Peru; Lat. 16° 30′ S.; Lon. 73° 11′ W. It contains a mountain, and also a city, of the same name, and lies between the western Cordillera of the Andes, and the Pacific ocean. It produces wheat, maize, sugar, gold, silver, copper, sulphur, nitrate of soda, and wine and brandy; all of which are exported via Islay, its trading-port. The mountain called *A.* is of volcanic formation, and reaches an altitude of 20,320 ft. The entire country around may be said to exist in a chronic state of subterraneous convulsion, having been frequently desolated by earthquakes. *Pop.* about 150,000, principally composed of Indians.

AREQUI'PA, cap. of the above dep., was, previous to 1868, one of the largest, and said to have been the most beautiful, city in Peru. It was solidly built of stone, had a fine cathedral, and many churches and convents; and carried on flourishing manufactures of gold and silver cloths, woollens, and cottons. It was originally founded by Pizarro, and had, until recently, about 50,000 inhabitants. On the 13th August, 1868, this city was almost utterly destroyed by a fearful earthquake, which desolated the entire sea-board of Peru. So complete and terrible were its results, that not a church was left standing, nor a house habitable. The massive construction of the buildings was, however, able to resist its earlier shocks, and accordingly permitted the inhabitants to escape into the open air; but this did not altogether suffice to counterbalance its continued violence, about 200 persons losing their lives eventually. After this catastrophe, with the aid tendered by the Chilians and other nations, the people of *A.* commenced a partial restoration of their city; but in Feb., 1869, it was again visited by shocks of earthquakes, by the last of which many persons were hurt, but, fortunately, none killed. Many citizens, in consequence, resolved to quit *A.* for ever. *Pop.* 30,000.

Aretæ'us, a Greek physician of the time of Vespasian. His works are held in great repute. An English translation was published in London, 1837.

Arethu'sa. (*Myth.*) One of the Hesperides. — A daughter of Nereus and Doris, first a nymph of Diana, then metamorphosed (see ALPHEUS) into a fountain situated in the city of Syracuse. As Theocritus composed his idyls on her banks, she is often made the muse of pastorals. This fountain, mentioned by Cicero (Verr. lib. iv. 537), Pliny (Hist. Nat. lib. ii. § 3) and many poets, is now degraded into a sort of public washing utensil for the poor Syracuseans.

(*Bot.*) A gen. of small plants, ord. *Orchidaceæ*. — DIAG. Perianth with its segments cohering at base; lips spurless; adnate to the column at base, deflected at the end, and bearded inside; pollen angular. — The *A. bulbosa* is found in wet meadows from Canada to Virginia. At the top is a single, large, fragrant flower, of a rich purple color.

Ar'etin, JOHANN CHRISTOPH FRIEDRICH, BARON VON, a celebrated German bibliographer; B. 1773. He was curator of the royal library at Munich, and member of the most important German academies. Among his many works are, a *History of the Jews in Bavaria*, sundry treatises on mnemonics, the divining-rod, &c., &c. D. 1824.

Areti'no, PIETRO, an Italian satirist of great eminence, was B. in Tuscany, 1492. Though of profligate life, and unprincipled in his writings, the caustic satire of his libellous verse gave him a high reputation, the patronage of sovereigns, and the friendship of his illustrious contemporaries, Michael Angelo, Titian, and Tasso. He notably made himself famous by his bitter satire upon the indecorous life of the nuns, and the profligacy of the cardinals and higher priesthood. He also satirized to such an extent the European sovereigns, that he acquired the title of the "*Scourge of Princes*." His poetical works include a tragedy, and five comedies full of wit and genuine comic humor. D. 1557.

ARETINO, or AREZZO GUILO. See GUIDO D'AREZZO.

Areva'lo, a town of Spain, in Old Castile, on the Adaja, 29 m. N.N.E. of Avila; *pop.* 5,162.

Arez'zo (anc. *Arretium*), a city of central Italy, in the rich plain of Chiana, 31 m. E. by N. of Sienna. Petrarch was born here in 1304, and the adjacent country gave birth to Vasari, Bacci, and Aretino. *A.* is very ancient, and was formerly one of the principal states of Etruria. It was famous for the terra-cotta vases it produced, which were ranked by Pliny with those of Samos, and Saguntum. *Pop.* of prov. 219,559; of city, 11,081.

Arf'vedsonite, *n.* (*Min.*) A mineral, probably monoclinic, having a vitreous lustre; pure black color; in thin scales, deep green, or brown. Streak grayish-green. Opaque except in very thin splinters. Fracture imperfectly conchoidal. — *Comp.* Silica, 50·5; sesquioxide of iron, 26·9; protoxide of iron, 12·1; soda, 10·5 = 100. It occurs in black hornblende-like crystals, in Greenland.

Ar'gaeus, Mount, the highest mountain of Asia Minor, in the pashalic of Karamania; height, 13,000 ft.

Ar'gal, or **Ar'gols,** *n.* (*Chem.*) The commercial name of impure cream of tartar, or acid tartrate of potash, as it is taken in the form of an incrustation from the interior of wine-casks. It has usually a red tinge, due to the coloring matter of the grape.

Ar'gali, *n.* (*Zoöl.*) A species of wild sheep, found on the mountains of Siberia and Kamtschatka. It so closely resembles the mouflon, as to be regarded by many naturalists as the same species. — See MOUFFLON.

Ar'gand, AIMÉ, a Genevese, who invented the lamp called by his name, which was first made in England in 1782. D. in England, 1803. The *A.* lamp has a circular wick to admit a double current of air, and has been for a long time in common use.

Ar'gaum, a town of Central India, 40 m. from Ellichpoor, where Wellington (then General Wellesley), in 1803, gained a decisive victory over a Nagpoor force.

Argelan'der, FRIEDRICH WILHELM AUGUST, B. at Memel, 1799. He studied at Königsberg, and becoming early attracted to the science of astronomy, was employed by Bessel to make observations, and in 1820 was appointed his assistant in the observatory. In 1823, he succeeded Walbeck as astronomer at Abo observatory, Finland. He commenced here a course of observations on those fixed stars possessing a perceptible *proper motion;* and, ultimately, published a catalogue of not less than 560 stars of this character. For his discoveries, he received the great Demidoff prize from the academy of St. Petersburg. After his removal to the university of Bonn in 1837, *A.* published the "*Uranometria Nova*" (Berlin, 1843): and in 1846, his *Astronomical Observations*, giving the positions of 22,000 stars of the northern heavens, from 45° to 80° declination. Of late years, *A.* had much studied the changes of light in variable stars. D. 1875.

Argem'one, *n.* [Gr. *argema*, a disease of the eye.] (*Bot.*) A gen. of herbs with yellow juice, ord. *Papaveraceæ*. The horn-poppy, *A. Mexicana*, found in all the States, has a stem 2–3 ft. high, branching, armed with prickly spines, and axillary and terminal yellow flowers on short peduncles. Its seeds are narcotic, purgative, and diuretic. The juice of the plant was formerly employed as a remedy for ophthalmia, whence its name.

Ar'gens, JEAN BAPTISTE DE BOYER, MARQUIS D', a French miscellaneous writer, B. 1704. Choosing the profession of arms, he served a campaign in Germany, and then retired to Holland, where he wrote the *Lettres Chinoises* and other works. Being invited by Frederick the Great to the Prussian court, he was appointed director of the academy at Berlin, and D. there in 1771.

Argen'son, RÉNÉ LOUIS VOYER D', a French statesman, was a friend of Voltaire. B. 1696; D. 1757.

Argen'son, MARC PIERRE, COUNT D', an eminent French statesman, B. 1696. After filling subordinate offices, he succeeded M. de Breteuil, as minister of war, in 1742. After the death of Cardinal Fleury, the war which was at that time raging threatened the very existence of the French power; but the vigorous administration of *A.*, and his singular capacity for selecting competent generals, speedily reversed the tide of events, and secured a succession of victories to the French arms, until peace was restored, in 1748, by the treaty of Aix-la-Chapelle. *A.* becoming obnoxious to Madame de Pompadour, the mistress of Louis XV., lost the royal favor, and was exiled; but after her demise he returned to Paris, where he D. 1764. *A.* was a patron of letters, and the friend of Voltaire; and to him was dedicated the great *Encyclopédie* of Diderot and D'Alembert.

Ar'gent, *n.* [Fr., from Lat. *argentum*, silver.] (*Her.*) A term borrowed from the French to express the metal silver when used in armorial bearings. It is generally left white in the fields and charges of all coats-of-arms, whether colored or engraved.

—*a.* Silvery; like silver.

Argen'ta, a town of Central Italy, 18 m. S.E. of Ferrara.

Ar'gental, *a.* Pertaining to silver.

Ar'gentan, a town of France, dep. of Orne, cap. of an arrond., and seated on a river of the same name, 22 m. W. by N. of Alençon. It is well built, has agreeable promenades, and possesses manufactures of linen, lace, (point d'Alençon), &c. *Pop.* 6,221.

Ar'gentane, GERMAN SILVER, PACK-FONG, or BRITISH PLATE, *n.* (*Chem.*) An alloy consisting of copper, nickel, and zinc, in various proportions, in imitation of the Chinese silver of pack-fong. The *maillechort* of Paris, with a sp. gr. of 7·18, consists of Cu 65, Ni 16·8, Zn 13, Fe 3·4. Each maker has his own receipt for imitating, or improving this preparation, extensively employed as a basis for plating with silver; forks and spoons, and articles of domestic use, being made of this material, and electro-plated. Before being dipped in the plating-trough, they are usually immersed in nitric acid.

Argenta'rium, *n.* [Lat.] (*Chem.*) An alloy consisting of equal parts of lead and tin.

Argenta'tion, *n.* [Fr.] A plating with silver.

Argen'teuil, a village of France, dep. of Seine-et-Oise, on the Seine, 13 m. N.W. of Paris, on the Cherbourg railway. Here was a convent of which the celebrated Heloise (see ABELARD) was prioress.

Argen'tic, *a.* Relating to silver, or obtained from it.

Argentif'erous, *a.* [From Fr. *argent*, and Lat. *argentum*, silver.] Containing silver; as, *argentiferous* lead-ores.

Argenti'na, *n.* (*Zoöl.*) The argentine, a gen. of malacopterygious fishes, belonging to the *Salmonidæ*. The *A. sphyroena*, caught in the Mediterranean, has an air-bladder, thick, and loaded with *nacre*, the substance used in making artificial pearls.

Ar'gentine, *n.* (*Min.*) The slate-spar, a variety of calcareous spar, with a pearly lustre, found in thin plates in Norway, &c.—The name is also applied to oxide of antimony.

Ar'gentine, *a.* [Fr. *argentin*, from Lat. *argentinus*, from *argentum*, silver.] Like silver; silvery; sounding like silver.

Ar'gentine Republic, erroneously called ARGENTINE CONFEDERATION, and formerly the CONFEDERATION OR REPUBLIC OF LA PLATA, in S. America; a republic of confederated States whose extent in latitude is greater than that of any other existing country, though it only slightly exceeds that of the comparatively narrow slip of land which forms the neighboring republic of Chili. It is bounded on the W. by Chili; on the S. by Chili and the Atlantic Ocean; on the E. by the Atlantic Ocean, Uruguay, Brazil and Paraguay, and on the N. by Bolivia. The boundary to the W. is formed by the mountain chain of the Andes. The southern limit was long a question of dispute with Chili, and was finally settled by a commission which gave Chili all territory and islands S. of the 52d parallel and west of 68° 30′ W. This gave *A.* a small eastern section of Terra del Fuego, and the Straits of Magellan were declared neutral. The *A. R.* is divided into 14 provinces and territories. The most remarkable feature of the country is its plains, which extend over more than three-fourths of it. The plains of Patagonia in the south, the Pampas across the extending central part of the country, and the Chaco in the north-east, have no definite natural boundaries. The two latter are, in fact, the same continuous formation, in which a slight undulation divides the streams of the Chaco, which join the Parana, from those of the Pampas, which either flow into the Atlantic south of the mouth of the latter river, or disappear by absorption into the soil, and evaporation as they spread over the plains. The best parts of these plains are covered with a rich alluvial soil from three to six feet in thickness, formed by the constant decaying of the luxuriant vegetation which grows upon it, and this soil rests upon a sedimentary deposit of earth, which appears to have been scoured away from the Andes and the high lands of the central part of the continent. A great part of Patagonia and the Western Pampas consists of gravel and coarse detritus from the Andes, and though apparently sterile, only requires irrigation to become productive. Other parts of the plains are dry, saline wastes or blackish marshes, which probably mark the former position of an inland sea. The true Pampas are situated between the Rio Negro and the Rio Salado; their principal vegetation consists of grasses, which serve as food for the numerous herds of cattle. Timber trees are not met with. Towards the N., the vegetation becomes extremely varied; along the rivers it becomes luxuriant; the trees, however, are not extraordinarily high.—*Rivers.* The great estuary of the Rio de la Plata (or River of the Plate) forms the watershed of a great fluvial system, second only, in S. America, to that of the Amazon. The principal rivers are the upper Paraná, and its twin, the Paraguay, which, after their confluence at Corrientes, form one noble stream, that, under the name of Paraná, flows down to the gulf of La Plata. The Paraná proper has for its chief tributary the Rio Grande, while the Paraguay receives as affluents the Pilcomayo, the Araguarmini, and the Vermejo. More to the S. the Rio Salado flows into the great river; and still further S. another Salado, after an E. course, enters the Atlantic at the mouth of La Plata. The Colorado, and the Rio Negro, are streams also embouching into the ocean; the latter forming the boundary of Patagonia. There is also an inland river, the Tucuman, which, after a course of 350 m. S.E. across the Pampas, loses itself in the salt lakes of Porongos.—*Lakes.* Owing to the uniformly even surface of this country, the lakes are in general the mere overflow of the large rivers. Of this description is the celebrated one of Xarayos, on the confines of Bolivia and Brazil, those of Aguascaty and Estero de Nembucu, and, in fact, all the lakes lying to the E. of the Paraguay. That of Ybera, between this river and the Paraná, is of great extent. In the S. parts of the republic, a chain of salt lakes reaches from the Andes to the waters of the Plate. One of these, 360 m. S.W. of Buenos Ayres, is about 18 m. in circumference, with its bottom so encrusted with hard salt, that even iron tools make but little impression upon it.—*Mount.* The N. and N.W. provinces are generally mountainous, having within their limits some of the loftiest outlying spurs of the Andes, as the Sierra Negros, in the parallel of 24° 40′ S.: and the Sierra Barbara, extending N.N.E. from the Rio Salado on the S., to the Vermejo on the N. On the E., the mountains of Brazil connect with the Andes on the W. and N.W., by the intermediate range of the Chiquitos. The road from Potosi to Buenos Ayres, 1,860 m., and that from Potosi to Lima, 1,402 more, or a total of 3,262 m., passes over the highest ridge of the Andes.—*Clim.* A country so extensive as the *A.* must necessarily possess a variety of climate. On the icy summits of the Andes an almost intolerable degree of cold prevails in summer; while in the plains the summer heats are absolutely oppressive. At Buenos Ayres, in S. Lat. 34° 36′ 28″, water freezes slightly at certain times during winter; but should this happen frequently, the winter is deemed severe. At the same place, the mean annual temperature is about 64° Fahr.; of summer, and winter, the mean is 72°, and 52°, respectively. Taken altogether, however, the salubrity of this climate is unsurpassed by any other; and even that humidity of atmosphere incidental to the marshy and periodically inundated districts, is not prejudicial to the public health generally. From this salubrious feature, Buenos Ayres ("good airs") derived its name.—*Soil and Prod.* In the elevated lands near the frontier of Bolivia, agriculture is little practised. Tucuman, more in the interior, has a rich soil, and warmer temperature, and produces grains and fruits. In Santiago del Estero, indigo was formerly raised in quantities. The cultivation of cotton occurs here and there in the provinces on the Paraná, but to no great extent; and it remains to be proved in how far the growth of this important staple will be adapted to the soil generally. Around Buenos Ayres, and in the Platine districts, the soil is fertile and prolific, requiring no manure, and yielding abundant crops of wheat, barley, and maize, besides nearly all the fruits of the temperate zone, and the more tropical varieties of oranges, lemons, and ananas. The vine is extensively cultivated, and furnishes the export of excellent wine and brandy. The soil of *A.* is, on the whole, admirably suited to the production of cereals; but this husbandry, owing to Spanish supineness, and the Indian aversion to labor, remained comparatively undeveloped until the European emigration of late years, which has opened the resources of the land, and promises for it a prosperous future.

(*Bot.*) As examples of the *flora* of *A.* may be mentioned, cinchona, or quinine, sarsaparilla, jalap, and other medicinal plants, as the sassafras, maguey, guayacan, zuma, coa, &c. Vanilla and cacao, of but indifferent quality, are also indigenous. In the forests grow cedars of a class well adapted for ship-building, the American pine, or *cury*, and the algaroba or carob-tree, whose fruit affords not only food, but a pleasant drink called *laaga*. Among the native fruits are the *jujud*, *quabyra*, *guimbi* (exuding a perfumed wax of which candles are made), the *tatay*, *turumay* (resembling an olive), and the *mani* (producing an oil superior to that of the olive).

(*Zoöl.*) The zoölogy of the *A.* much resembles that of Peru and Chili. The tapir is the principal graminivorous animal; and the hippopotami, the armadillo, guanaco, vicuna, and llama are also indigenous. Elks and deer are numerous. The zorrino, resembling a small rabbit, emits a fetid odor like that of the N. American skunk, and is avoided by all living creatures, animal as well as human. Of birds, the *nandu*, or ostrich, and the condor, tenant this country; serpents of large size, and locusts, abound. The numbers of horned cattle in a wild state on the great plains have been estimated at 12,000,000, and the horses at 3,000,000, besides vast numbers of sheep.—*Min.* The auriferous wealth of the mountains of S. Bolivia, is said to be illimitable, and no doubt gave rise to the appellation of "River of Silver" (Rio de la Plata) to that great stream whose head-waters are found in its region. The *A.* republic has not as yet shown much sign of mineral activity, but there can be no doubt that gold, as well as silver, exists in the Andine provinces. Silver mines are being worked at San Juan, and mining is every year growing into importance in the districts of San Luis, Cordova, and Catamarca. Iron is found in Santiago del Estero.—*Inhab.* The aboriginal race of Indians comprises to-day the various tribes of the Chiquitos, Guaranis, Puelches, Mojos, Manoas, Huilliches,

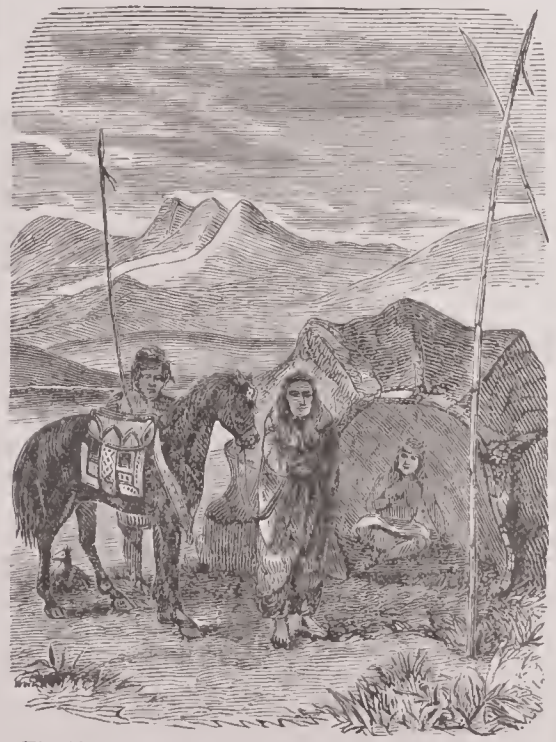


Fig. 184.—VIEW OF THE RANGE OF THE VENTANA, AND HUILLICHES INDIANS.

and many others. Of their numbers nothing authentic is known; but, on approximation, they may be estimated at from 1,000,000 to 1,200,000. The principal class of the inhabitants of the *A.* are the Creole descendants of the Spanish settlers, who, in mind, morals, and physique, differ little or nothing from the other Hispano-Americans. Though vicious and indolent, they possess good natural abilities, and occasionally exhibit a sort of spasmodic energy. The meaner degree of whites are divided into the two classes of agriculturists and herdsmen, in which latter capacity they are most numerous, but so deteriorated as to be hardly above par with the savages. They are famous horsemen, and perfect masters of the lasso. (See GAUCHOS.) Mestizos, Mulattoes, and Negroes, form the third grade in society.—*Religion.* The Catholic is the established religion, but other creeds are tolerated. The ecclesiastical power in the *A.* vies in splendor with that of the church in Europe. Large cathedrals, and monasteries, are found all over the country. *Education*, backward but with better prospects. *Gov.* The executive power centres in a president, elected for 6 years by representatives of all the prov. The legislative assembly is composed of a senate, and house of deputies. The president is commander-in-chief, and appoints to all civil, military, and judicial offices. The governors of provinces are elected by the people for a term of 3 years. The *pop.* of *A.* has increased within the last 25 years at a rate much greater than that of the United States during the same period. Gov't aid fosters immigration, which is chiefly from Italy. Companies for the export of frozen beef and mutton and Liebig extract of beef have been formed with large capital, chiefly English and German. Modern ideas and inventions are largely seized upon by the *A.* The *estancieros* may now be said to go to his ranch in a Pullman car, instead of a silver laden saddle. He talks over a telephone with his superintendent and slaughters his cattle by electric light. Beef hides and sheep skins are largely exported; also wool, tallow, wine and grain. All kinds of manuf. goods are imported, chiefly from Great Britain. *Imp.* (1891), total value, $142,241,000; *exports*, $100,819,000, chiefly through the port of Buenos Ayres. Of the imports, 39 per cent. was with Gt. Britain, 16 per cent. with France, 8 per cent. with U. S. Of the exports, 29 per cent. went to France, 17 to Belgium, 15 to Gt. Britain, 10 to Germany and 7 to U. S. The navigation of the Paraná has much developed during the last few years; a regular system of steam communication being carried on between Buenos Ayres and the interior.—*Railroads*, constructed mainly by the State, aggregated in June, 1891, open for traffic, 6,855 miles; lines in construction, 4,840 miles, including an international line from Buenos Ayres to Chili, 894 miles. The total of telegraph wires in 1890 was 12,000 miles of Government and 7,000 miles of private lines. The President of the Confederation has a salary of $20,000, and the Vice-President, $10,000.

(*Hist.*) In 1516, the estuary of La Plata was discovered by Juan Diaz de Solis, who, with his companions, were killed and devoured by the natives. In 1526, Sebastian Cabot visited the Plate, and one of his captains, ascending the Paraná, built a fort at the mouth of the Carcarana. The emperor Charles V. subsequently sent out an expedition under the command of Mendoza, who founded the city of Buenos Ayres, in 1535. The Spaniards, after the lapse of half a century, succeeded in establishing their power over the entire country, built cities, and founded Jesuit missions. In 1726, the Portuguese, jealous of the ascendency of Spain, founded the city of Monte Video in the Banda Oriental. In 1776, the Plate provinces were separated from the government of Lima, and formed into the viceroyalty of Buenos Ayres. In 1806, a British expedition was dispatched to the Rio de la Plata, and captured Buenos Ayres, which was ultimately retaken by the Spaniards. A second attack met with no better result. In 1808, the Spaniards revolted, deposed the viceroy, and declared a provisional government. After a protracted struggle with the mother-country, they accomplished their independence. Between 1810 and 1835, the *A.* prov. had no fewer than 36 changes of government. In the last-named year, General Rosas was elected president, with dictatorial powers. He ruled the country with an iron tyranny for 17 years, sought to bring the Banda Oriental, or Uruguay (as it is now termed), under his control, and also to exclude foreign commerce from the river Plata. Upon this, France and England blockaded Buenos Ayres, occupied Monte Video, and captured the Argentine fleet. In 1849, a peace was concluded. In 1851, Brazil and Paraguay, objecting to the control of Rosas over the navigation of the Paraná, declared war against the *A. R.* Their confederated forces, amounting to 18,000 men, utterly defeated Rosas in the battle of Caceres, or Pacheco, in Feb., 1852, and obliged him to seek refuge in England. The navigation of the Paraná was then declared open to the world; and in 1853, the present constitution was established. After the fall of Rosas, the government was successively assumed by Gen. Urquiza and others; and, in 1860, by Gen. Mitré. In 1862, Buenos Ayres was declared the capital of the *A. R.*, which it continued to be until 1868, when Rosario was made the seat of the federal government. When the ambitious designs of Lopez, the dictator of Paraguay, led to a war with Brazil, the *A. R.* took a neutral attitude, but upon the refusal of Mitré to allow the Paraguayan troops passage through his territory, Lopez crossed the Paraná, and invaded Corrientes, seizing two Argentine vessels, as well as the persons of Argentine subjects, upon whom he levied black-mail. These outrages obliged the *A. R.* to ally itself with Brazil, and Uruguay, against the common enemy. A long and sanguinary war followed, with varying success, until the fall of Angostura, the last stronghold of Lopez, which was taken by the allies on the 22d Dec., 1868, after a desperate resistance. The results of this great victory will be found under the head of Paraguay. After a wise and popular rule, Gen. Mitré was succeeded as president, 12th June, 1868, by Senhor Domingo Sarmiento. In 1874, an insurrection broke out in Buenos Ayres, which was suppressed in 1875, and

the president peacefully installed, Oct. 12, 1880, and his successor, Dr. Coleman, in 1886. In 1890 a revolution broke out in consequence of financial distress due to the improvidence of the administration. The president was victorious, but was forced by public opinion to resign. Señor Uriburu is now (Feb. 1897) president. *Pop.* (1895), 4,042,990.

Ar'gentine, in *Michigan*, a post-twp. of Genesee co.

Ar'gentite, *n.* (*Min.*) An isometric mineral, of metallic lustre; in streak and color a blackish lead-gray, with a shining streak; opaque, and yielding a small, uneven fracture of sub-conchoidal form. Perfectly sectile. — *Comp.* Sulphur, 12·9; silver, 87·1 = 100. This is an important silver ore, found in parts of Europe and Asia, and also occurring in the U. States, especially in Nevada; it is common among the ores of Reese river.

Argen'ton-sur-Creuse', a town of France, dep. of Indre, cap. of a canton, on the Creuse, 16 m. S.S.E. of Chateauroux; *pop.* 4,827.

Argen'tum De'i, *n.* [Lat., *God's penny*], was anciently the name given to earnest-money, or money tendered to bind a bargain. In some places of England it is called *arles* or *erles;* and by civilians and canonists, *arrhæ.*

Argen'tvive, *n.* [From Fr. *vif argent*, quicksilver.] The alchemical name of mercury.

Ar'gil, *n.* [Fr. *argile;* Lat. *argilla;* Gr. *argillos*, from *argos*, white, bright.] (*Min.*) The old name of alumina, or potter's clay. Its following derivatives are still in frequent use in geology.

Ar'gile Plas'tique, *n.* [Fr.] (*Geol.*) A series of beds at the base of the tertiary system in France, resting on a conglomerate, or breccia of rolled and angular chalk-flints. They consist of extensive deposits of sand, with occasional beds of plastic clays, used for pottery. Marls occur, enclosing, in some places, the fluviatile shells that are met with in the same position in the London basin; and in others, large numbers of a species of oyster. Beds of impure lignite also occur. The *A. P.* is the equivalent in the Paris basin of the Woolwich and Reading series, or lower eocene of the English geologists. — See *Eocene.*

Argilla'ceous, *a.* [See ARGIL.] Of the nature of clay; clayey.

A. Rocks. (*Geol.*) The name given to the rocks entirely, or mostly, composed of clay. They are generally distinguished by the peculiar *A.* odor which they give out when breathed upon. — See CLAY.

Argillif'erous, *a.* (*Min.*) Producing clay.

Argil'lo-arena'ceous, *a.* (*Min.*) Containing clay and sand.

Argil'lo-calca'reous, *a.* (*Min.*) Containing clay and lime.

Argil'lo-ferru'ginous, *a.* (*Min.*) Containing clay and iron.

Argil'lous, *a.* Clayey; argillaceous. (o.)

Ar'go, *n.* [Gr., from *argos*, swift.] (*Myth.*) The name of the ship which carried Jason and his companions, the Argonauts, to Colchis, when they resolved to recover the Golden Fleece. — See JASON.

(*Astron.*) *Argo navis,* or the ship *Argo,* a southern constellation, situated S.E. of Canis Major, and containing 64 stars, of which two are of first magnitude; *Canopus* and *Miaglacidus.* Most of these stars are too low down to be seen in the U. States. *A.* comes to the meridian on the 3d of March, about half an hour after Procyron.

Ar'go, an island in the Nile, 25 m. long and about 5 broad; Lat. between 19° 8′ and 19° 30′ N.

Ar'go, in *Illinois*, a post-village of Carroll co., 6 m. E. of the Mississippi river.

Ar'go, in *Iowa*, a hamlet of Lucas co.

Argo, in *Minnesota*, a village of Winona co.

Ar'go, in *Missouri*, a post-village of Crawford co.

Ar'gol, *n.* See AROAL.

Ar'golis, a peninsula of Greece, in Morea. It lies between the bays of Nauplia and Ægina, and now forms, with Corinth, a nomarchy or dep. *A.* was the eastern region of Peloponnesus. The Greeks inhabiting it were often called *Argives,* or *Argians.* Hills and mountains alternate with fruitful plains, and valleys. According to the monuments of Greek mythology, *A.* was peculiarly rich, and early cultivated. Inachus, about 1800, and Danaus, about 1500 years B. C., came hither with colonists from Egypt. Here reigned Pelops, an emigrant from Asia Minor, from whom the peninsula derives its name. It was afterward the seat of government of Atreus and Agamemnon, Adrastus, Eurystheus, and Diomedes. Here, Hercules was born. In the morass of *A.* he slew the Lernæan hydra, and in the cave of Nemea subdued the ferocious lion. In the earliest times it was divided into the small kingdoms of Argos, Mycenæ, Tirinthus, Trœzene, Hermione, and Epidaurus, which afterward formed free states. The chief city, Argos, has retained its name since 1800 B.C. Its inhabitants were renowned for their love of the fine arts, particularly of music. Some vestiges remain of its ancient splendor, and it has at present about 9,000 inhabitants. Here, and in Delphi, statues were erected to the brothers Biton and Cleobis, who fell victims to their filial piety. Near this city lies the capital of *A., Nauplia,* or *Napoli di Romania,* with an excellent harbor, and the most important fortress of the peninsula. On the site of the present village Castri, on the Ægean sea, formerly lay the city Hermione, with a grove dedicated to the Graces; opposite is the island of Hydra. Near the city of Epidaurus, the watering-place of ancient Greece, on the Ægean sea, Æsculapius had his temple. At Trœzene, now the village *Damala,* Theseus was born. *A.* forms one of the 13 prov. of Greece. *Area,* 1,442 sq. m., *pop.* abt. 144,850 (1897). Cap. Nauplia.

Ar'gonaut, and ARGONAUTA, *n.* [Gr. *Argonautēs,* a sailor in the ship Argo.] (*Zoöl.*) The Paper-nautilus, a gen. of *Cephalopodous mollusca,* the shell of which is peculiarly white and delicate, and into which the animal can withdraw itself entirely. It has 8 arms, 2 of which expand into wide membranous flaps; and as the animal floats on the surface of the sea, the expanded membranes are spread over the sides of the shell, where, meeting along its keel or edge, they are said to be held in close contact by a double row of suckers, and thus completely enclose it. Such being the structure and action of the *A.*, it is not surprising that it has had the reputation, from very early times, of using its arms as oars, and spreading these expanded membranes as sails, so as to be wafted along by the wind. The description, so long admitted, of the *A.* using its dilated tentacula as sails, the remainder as oars, and aids its movements by means of a kind of proboscis by way of a helm, are now considered a fable. While swimming, the *A.* sits in its shell, with its siphon turned toward the keel, and its dorsal, sail-shaped arms closely applied to the shell, and then swims by ejecting water from the funnel. The animal is not attached to the shell, but when under water, it adheres firmly to it by its sail-arms. The shell, which is remarkably brittle when exposed to the air, is quite pliable in water, and thus escapes the destruction to which so thin and tender a fabric would otherwise be liable. — See NAUTILUS.

Fig. 185.
ARGONAUT AND SHELL.

Argonau'tic, *a.* Relating to the Argonauts.

Ar'gonauts, (*Myth.*) Those heroes of ancient Greece who performed a hazardous voyage, through unexplored seas, to Colchis, in quest of the Golden Fleece, under the command of JASON, *q. v.*

Ar'gos, a city of Greece. See ARGOLIS.

Ar'gos, in *Indiana*, a thriving town of Marshall co., about 8 m. S. S. E. of Plymouth. *Pop.* (1890), 1,101.

Argos'toli, a seaport-town, and cap. of Cephalonia, one of the Ionian islands, on the W. coast of Greece, on the E. side of a gulf of the same name; Lat. 38° 10′ 40″ N.; Lon. 20° 29′ 15″ E.; *pop.* about 5,000.

Ar'gosville, in *New York.* See ARGUSVILLE.

Ar'gosy, or AR'OOSIE, *n.* (*Mar.*) A term given by old writers to a large ship of burden, whether for war or commerce. It is found in Shakspeare, Beaumont and Fletcher, and others, and was probably derived from the ship ARGO, *q. v.*

Ar'got, *n.* A term applied in France, and England, to a species of cant language, used among gipsies, thieves, &c. Examples of this slang mode of speech may be found in the works of George Borrow and W. Harrison Ainsworth, and in the *Mystères de Paris* of Eugene Sue.

Ar'guable, *a.* That may be argued.

Ar'gue, *v. n.* [Fr. *arguer*, from Lat. *arguo*, probably from Gr. *argos*, bright, clear, manifest.] To invent and offer reasons, in order to make something clear or manifest; to offer reasons; to dispute or debate; to reason.

—*v. a.* To make clear or manifest; to show; to show by inference; to show reasons for; to persuade by reasons or reasoning; to debate or discuss; to prove or evince.

Ar'guelles, AUGUSTINO, an eminent Spanish statesman, minister of the interior in 1820; he died in 1844, soon after being appointed guardian to the young queen Isabella. He was the most eloquent and the most popular liberal orator of Spain.

Ar'guer, *n.* One who argues; a reasoner.

Ar'guin, a small island in the gulf of the same name, on the W. coast of Africa, abt. 54 m. S.E. of Cape Blanco. It possesses abundant fresh water, and is supposed to be identical with the Island of Cerne, where Hanno settled a colony during his famous voyage of discovery. It is now uninhabited. The dangerous shoal of *A.* extends S.E. for a considerable distance from Cape Blanco. It has occasioned numerous shipwrecks; among others, that of the French frigate La Méduse.

Ar'guing, *p. a.* Offering reasons; disputing; discussing.

Ar'gument, *n.* [Fr. from Lat. *argumentum.*] The means by which an assertion or assumption may be rendered manifest, or shown to be true; reason offered or alleged; a proof; process of reasoning; a plea; subject of any discourse; summary of heads of contents; debate, discussion; controversy. Logicians have given distinct names to various kinds of *A.*, the principal being the *argumentum ad hominem,* which is no real proof, but only an appeal to the known prepossessions, or admissions of the persons addressed. In this style, when a man upholds one method of fraud, he may, by an appeal to his consistency, be driven to uphold another. The *argumentum ad ignorantiam,* or employment of some fallacy toward persons likely to be deceived by it; and the *argumentum ad verecundiam* (*A.* to modesty), drawn from the sentiments of some great or good man, whose authority is reverenced by the party addressed.

Argument'able, *a.* That may be argued. (R.)

Argument'al, *a.* Belonging to, or consisting in argument.

Argumenta'tion, *n.* Act, art, or process of arguing or reasoning; a using of arguments.

Argument'ative, *a.* Consisting of, or containing argument; containing a process of reasoning; addicted to argument.

Argument'atively, *adv.* In an argumentative manner.

Argument'ativeness, *n.* State of being argumentative.

Ar'gus, (*Myth.*) the son of Arestor, had eyes all over his body, or, according to Ovid, one hundred eyes. He was killed by Mercury, when appointed by Juno to guard Io; and tradition says that his eyes were transferred to the tail of a peacock. — See Io.

—*n.* A watchful person.

Ar'gus, in *Alabama*, a post-office of Montgomery co.

Ar'gus-pheasant, *A.* GIGANTEUS, *n.* (*Zoöl.*) A beautiful, but rare bird, native of many parts of the Indian Islands. The male measures five feet six or eight inches from the beak to the tip of the tail; and the whole of the plumage is remarkable for variety and elegance. The wings consist of very large feathers, nearly three feet long, the outer webs being adorned with a row of large eyes (*ocelli*) arranged parallel to the shaft; the tail is composed of twelve feathers, the two middle being about four feet in length, the next scarcely two, and gradually shortening to the outer ones. Its voice is rather plaintive, and not harsh, as in the peacock.

Fig. 186. — ARGUS-PHEASANT, (*A. giganteus.*)

Ar'gus-shell, *n.* See PECTEN.

Ar'gusville, in *New York*, a post-office of Schoharie co., 46 m. W. of Albany.

Argute'ness, *n.* Wit; acuteness. (o.)

Argyle', or **Argyll',** a maritime county of Scotland, consisting partly of mainland and partly of islands, the chief of which are Islay, Mull, and Jura. *Area,* 3,255 sq. m. Its shores are rocky and irregular, and present numerous bays and inlets. Its surface is very mountainous, interspersed with deep glens, moors, and lakes, the principal of the latter being Loch Awe. Ben Cruachan, the highest mountain, rises to 3,670 ft. above the level of the sea. On the coast are extensive herring-fisheries. The soil produces oats, barley, and potatoes, and *A.* is especially famous for its native breed of black cattle, which affords the very best beef that can be brought to table in Europe. Climate mild, but wet, changeable, and stormy. Woods and plantations cover nearly 45,000 acres, and lead, copper, iron, coal, marble, and slate are found in quantities. *Towns.* Oban, Inverary, Campbeltown. *Pop.* about 90,000.

Argyle', in Australia, a county of New South Wales; Lat. between 34° and 35° S., and Lon. 149° and 150°. Its rivers are tributaries of the Warragamba. *Pop.* abt. 5,300.

Argyle', in *Georgia*, a village of Ware co.

Argyle', in *Maine* a post-townsbip of Penobscot county.

Argyle', in *New York*, a post-village and township of Washingtou co., 45 m. N. of Albany.

Argyle', in *North Carolina*, a village of Cumberland county.

Argyle', in *Wisconsin*, a post-village of Lafayette co., on the Wassemon river.

Argyll', the title borne by the head of the great Scottish family of *Campbell*, known to the Highlanders as "*Mac Callum Mohr.*" The most eminent members of this race are the following: — 1. ARCHIBALD, EARL AND 1ST MARQUIS OF *A.*, B. 1598. He zealously espoused the cause of the Covenant, and played a conspicuous part in the troublous times of the great civil war. Possessing great duplicity of character, he, while ostensibly acting for Charles I. in Scotland, secretly intrigued against the royal authority. Such was the odium attaching to his name, that even to this day there lingers in Scotland a popular saying, "Fair and fause (false) as a Campbell." After acquiescing in the protectorate of Cromwell, he was, at the Restoration, tried for high treason, and beheaded at Edinburgh, in 1661. — 2. ARCHIBALD, MARQUIS OF *A.*, son of the above. He was a gallant supporter of the royal cause; but being ultimately condemned to death for high treason, he made his escape to Holland. From thence he attempted to invade Scotland, but was taken prisoner, and executed at Edinburgh, in 1685. — 3. JOHN, 1ST DUKE OF *A.*, grandson of the preceding, was a celebrated general and statesman, who fought under Marlborough, and in 1711 commanded the English troops in Spain. Later, he suppressed the insurrection in Scotland, and drove the Pretender out of that kingdom. He also took a prominent part in the Union of England and Scotland. D. 1743. — 4. GEORGE JOHN, DUKE OF *A.*, an English author and statesman, B. 1823. Author of many valuable historical and theological works, the latest of which are, *The Reign of Law,* and *Primeval Man,* published in 1868–1869, *Scotland as it was and is,* 1887. He is well known in the U. States by the active sympathy he exhibited for the preservation of the Union during the civil war. His eldest son, Marquis of Lorne, B. 1845, married the Princess Louise in 1871, daughter of Queen Victoria.

Ar'gyro-Cas'tro, a town of Turkey-in-Europe, on the Drino, the Roman *Justinianapolis; pop.* about 4,000.

A'ria, *n.* [It.] (*Mus.*) A song introduced in a cantata, oratorio, or opera, and intended for one voice supported by instruments; an AIR, *q. v.*

Ariad'ne. (*Myth.*) A daughter of Minos, king of Crete, who, having fallen in love with Theseus when he was engaged in an attempt to destroy the Minotaur, gave him, in token of her love, a clue of thread, which served to conduct him out of the labyrinth, after his defeat of the monster. Theseus, on leaving the island, took with him *A.*, but abandoned her on the island of Naxos, where she was found by Bacchus, who married her, and presented her with a crown of gold manufactured by Vulcan, which was afterward transformed into a constellation. *A.* had a son by Bacchus, called *Eumedon*, who was one of the Argonants.

(*Astron.*) One of the asteroids, a group of small planets revolving between Mars and Jupiter. It is the 43d in order of discovery, and was first noticed by Mr. Pogson, at Oxford, April 15, 1857. — See ASTEROIDS.

Aria'na, in *Illinois*, a flourishing township of Grundy county.

A'rianism, *n.* The doctrine of Arius. See ARIANS.

Aria'no, a town of S. Italy, prov. of Avellino, in the Apennines, 17 m. from Benevento; *pop.* 14,500.

A'rians, *n. pl.* (*Eccl. Hist.*) A name usually given to all who adhere to the opinions advanced by Arius respecting the relation of the Father and the Son in the Holy Trinity. It is alleged by Athanasius, in his 2d oration (§ 24), that Eusebius of Nicomedia, and Asterius, agreed with Arius in maintaining that God, being willing to create the universe, and seeing that it could not be subject to the working of his almighty hand, made first a single being, whom he called Son, or *Logos*, to be a link between God and the world, by whom the whole universe was created. In other words, the followers of Arius maintain that Christ, the Son of God, is the most exalted of all created things, but inferior to God the Father, and produced by his free will. The opinion itself was first ventilated about 318 A. D., and it was publicly condemned at the Council of Alexandria, held in 320 A. D., and in the Council of Nice, which was held 325 A. D. The orthodox Church maintained the perfect equality of essence of both Father and Son, and could only express their relation by terming it eternal generation. The articles of both the Nicene, and the Athanasian creeds, arose out of this great Arian controversy. Arius, and his partisans, were banished by the former council: but, as he had powerful adherents, he soon found means to return at the express command of the emperor Constantine. He was on his way to receive the oath of ministerial allegiance to the orthodox views of the Church at Constantinople, when he died very suddenly, as some say, by poison, in 336 A. D. His followers received great accessions after his death, and the emperor Constantine is said to have been baptized into the Arian communion a short time before his decease, in 337. Under Constantius, Arianism became the religion of the court; and it even penetrated as far as Rome, which was obliged to receive into its communion Felix, an Arian bishop. But the divisions which grew among the *A.* themselves, prepared for the Catholic Church an easy victory over them, and led to their final extinction. The first split in the Arian faith occurred in the western part of the Roman empire, where all opponents of the Athanasian doctrine that the Son was *homoousios*, or of the *same* essence with the Father, were called *A.*; but some of these opponents clung to the doctrine already taught in the school of Origen, that the Son was *homoiousios*, or of *similar* essence with the Father. These received the name of Semi-Arians; but the sect broke up into some 10 or 12 separate communions, before it finally disappeared from the history of the Church. The *A.*, however, made a bold struggle for existence. They ascended the throne with Valens, in 364 A. D.; but Theodosius hurled them down, and restored the dominion of the ancient Church. Their creed was altogether extinct in the Roman empire at the beginning of the 5th century. It continued to flourish among the Goths, the Suevi in Spain, the Burgundians, the Vandals, and the Lombards, among which latter people it survived down to 662 A. D. Since that time, pure Arianism has nowhere constituted a distinct sect. — See SOCINIANS and UNITARIANS.

Ari'ca, a seaport of Peru, on the Pacific, 40 m. N.W. of Potosi; Lat. 18° 26′ S.; Lon. 70° 13′ 30″ W. It was a flourishing city, with about 30,000 inhabitants, but, during the dreadful volcanic convulsion which occurred 13th Aug., 1868, *A.*, nearly destroyed by the earthquake, was obliterated by the sea, which, having retired to a great distance, returned, and fell with irresistible force on the ruins of the buildings, and completed the work of destruction. Another destructive earthquake occurred in May, 1877. *A.* was taken by the Chilians in 1880.

Arichat', a seaport of Cape Breton Island, province of Nova Scotia; Lat. 45° 28′ N.; Lon. 61° 3′ W.; *pop.* about 17,500.

Ari'cine, CUSCO CINCHONINE, *n.* (*Chem.*) An alkaloid obtained from arica bark, in the same way as cinchonine from Peruvian bark. It crystallizes in white brilliant translucent needles, with a slightly bitter taste. The salts of *A.* are very bitter.

Ar'id, *a.* [Fr. *aride*; Lat. *aridus*, from *areo*, to be dry.] Dry: parched; sterile; unproductive.

Arid'ity, Ar'idness, *n.* [Fr. *aridité*, from Lat. *ariditas.*] Dryness; a state of being without moisture.

Ari'ège, a dep. of France, bounded S. by the republic of Andorra and the Pyrenees; Lat. between 42° 33′ and 43° 19′ N.; Lon. between 0° 50′ and 2° 8′ E.; principally formed from part of the old county of Foix.—*Gen. Des.* Wooded and mountainous, with a mild climate generally; and with iron mines, marble quarries, and mineral waters. Its chief commerce is in grain, cheese, iron, and wood. Its manufactures consist of woollen, cottou, paper, and steel wares.—*Towns.* Foix, Pamiers, and St. Girons. *Pop.* (1891), 227,491; (1897), about 230,500.

ARIÈGE, a river which gives its name to the above dep. It rises in the Pyrenees, and falls into the Garonne, near Toulouse.

A'riel, in *Pennsylvania*, a post-office of Wayne co.

Ar'ies, *n.* [Lat.] (*Astron.*) The Ram; the first of the 12 signs of the zodiac, and a constellation giving its name to a space of 30° of the ecliptic, which the sun enters in March, measured from the vernal equinox. Owing to the constant change of the position of the vernal equinox, arising from the precession of the equinoxes, the sign *A.* no longer corresponds with the constellation of that name, but has moved about 30° to the westward of it.

(*Antiq.*) The battering-ram of the ancients, which was used to batter down the walls of besieged cities. It consisted of a large beam, made of the trunk of a tree, to one end of which was fastened a mast of bronze, resembling in its form the head of a ram. The use of this machine was further aided by placing the frame in which it was suspended upon wheels; and, also, by constructing over it a wooden roof, so as to form a *testudo*, which protected the besieging party from the defensive assaults of the besieged.

Arietta, *n.* [It.] (*Mus.*) A short melody, song, or air.

Arietta, in *New York*, a township of Hamilton county.

A'rigal, a mountain of Ireland, in the co. Donegal, 3 m. W. of the Derryveagh range; height, 2,462 ft.

Aright', *adv.* [A.S. *a* for *on*, and *riht*, right.] According to the right way, applied physically and morally; right; well; rightly; truly; correctly; properly; uprightly; unexceptionably.

> "Guardian of groves, and goddess of the night,
> Fair queen, he said, direct my dart *aright.*"—*Dryden.*

Arig'na, a district of Ireland, in the co. Roscommon, important for its mines of coal and iron.

Ar'il, ARIL'LUS, *n.* [Lat. *arillus.*] (*Bot.*) A term applied to an integument occasionally found covering, either wholly or partially, the *testa* or outer coat of a seed. The seed of the passion-flower exhibits this covering, which commences at the base, and proceeds toward the apex. In the nutmeg, the additional coat proceeds from above, downward, and constitutes the substance called mace, which is extensively employed as a spice.

Ar'illate, Ar'illated, *a.* (*Bot.*) Having the form of, or relating to an aril.

Arim'anes, AHRIMAN, *n.* The principle of evil in the Persian theology, which perpetually counteracts the designs of Ormuzd or Oromazdes, who denotes the principle of good.

Ari'nos, a river of Brazil, which, after a N.W. course of 700 m., enters the Tabajos, an affluent of the Amazons, in Lat. 9° 30′ S., Lon. 50° 20′ W.

Ariola'tion, *n.* [Lat. *ariolatio*, or *hariolatio.*] Soothsaying; vaticination; foretelling. (o.)

Ari'on, the inventor of dithyrambics; B. in Lesbos, flourished about B. C. 625. A hymn to Neptune, attributed to this poet, may be found in Brunck's *Analecta.*

Ar'iose, *a.* [It. *arioso.*] (*Mus.*) Characterized by melody, as distinguished from harmony; as, "*Ariose* beauty of Handel."

Ario'so, *a.* [It.] (*Mus.*) Applied to a passage in the style of the *aria*, often introduced into recitative.

Arios'to, LUDOVICO, one of the greatest Italian poets, B. at Reggio, in 1474. He early became engaged in literary pursuits, and settled at Ferrara, where he entered the service of Cardinal d'Este, who employed him in political negotiations. Amid the turmoil of official duties he composed his great epic, the *Orlando Furioso*, which was published in 1516. D. 1533. The "Orlando Furioso" commemorates the legendary exploits of Charlemagne and his paladins. It displays a splendid and inexhaustible richness of invention, and ever-changing variety of incidents, accompanied with the talent of lively narration. The activity of a youthful fancy animates the whole work. *A.* exhibits, also, a wonderful skill in interweaving the episodes with which he continually interrupts, and again takes up with an agreeable and often imperceptible art, and so entwines them with one another, that it is difficult to give a connected history of the contents of the poem, consisting of 46 cantos. These qualities place him among the great masters of poetry, and have gained for him, among his countrymen, the appellation of *Divine.* The *Orlando* has been translated into all the languages of Europe. *A.* is also the author of many fine satires and other poems.

Arise', *v. n.* [*i.* AROSE; *pp.* ARISING, ARISEN.] [A.S. *arisan.* See RISE.] To rise up; to mount up, or upward; to come into view, or notice; to emerge from the horizon.

> "He rose, and, looking up, beheld the skies
> With purple blushing, and the day *arise.*"—*Dryden.*

—To rise; to get up from sleep, from any state, or from a reclining posture.

> "When wilt thou *arise* out of thy sleep?"—*Prov.* vi. 9.

—To begin; to grow; to spring upward; to originate; to proceed from.

> "A mischief may *arise* hereafter from such an innovation."—*Dryden.*

—To revive from death.

> "Thy dead men shall live, together with my body shall they *arise.*"—*Isaiah* xxvi. 19.

—To begin to act; to move, or to exert power.

Aris'ing, *p. a.* Rising up; ascending; originating or proceeding from; getting up; springing up; appearing.

Aris'pe, a mining town of Mexico, cap. of Sonora, near the source of the river Yaqui; *pop.* about 5,000.

Aris'pe, in *Illinois*, a village of Bureau co., about 66 m. N. of Peoria.

Aris'ta, *n.* [Lat.] (*Bot.*) See AWN.

Aris'ta, DON MARIANO, formerly president of the Mexican republic, B. 1803. Of Spanish descent, he at an early age entered the army, in which he attained to the rank of major-general. He served with distinction in the war against the U. States, was in 1848 appointed minister of war, and, in 1850, president of the republic. In the latter capacity, he distinguished himself by the liberality of his political views, his leanings toward peace and progress, and his attention to the social and commercial development of the country. He was succeeded as president, in 1852, by Don Juan Cebellos. D. 1855.

Aristæ'us, (*Myth.*,) son of Apollo and Cyrene, was brought up by the Nymphs. The introduction of the use of bees is ascribed to him (hence he is called *Mellisæus*), and gained for him divine honors.

Ar'istarch, *n.* (See ARISTARCHUS.) A severe critic.

Aristar'chian, *a.* Severely critical.

Aristar'chus, a Greek grammarian, who criticised Homer's poems with the greatest severity, and established a new text; for which reason, severe and just critics are often called *Aristarchi.* He was born in the island of Samothrace, and lived at Alexandria, about 150 B. C. Ptolemy Philometor, who highly esteemed him, confided to him the education of his children. After having spent his life in criticising Pindar, and other poets, especially Homer, he died at Cyprus, aged 72.

Aristar'chus of Samos, born 267 B. C., was a famous astronomer, who first asserted the revolution of the earth about the sun. His work on the magnitude, and distance of the sun and moon, is still extant. He is also regarded as the inventor of the sun-dial.

Aris'tate, *a.* (*Bot.*) Furnished with aristas or awns.

Aris'tida, *n.* [Lat. *arista*, an awn.] (*Bot.*) A gen. of plants, ord. *Graminaceæ.* They are generally grasses of little value.

Aristi'des, a celebrated Athenian, surnamed the *Just*, was the son of Lysimachus. He was one of the ten generals of the Athenians when they fought with the Persians at Marathon. According to the usual arrangement, the command of the army was held by each of the generals, in rotation, for one day. But Aristides, perceiving the disadvantages of such a change of commanders, prevailed on his colleagues each to give up his day to Miltiades; and to this, in a great measure, must be ascribed the victory of the Greeks. The year ensuing, he was archon, and in this office enjoyed so universal a popularity that he thereby excited the jealousy of Themistocles. This ambitious man, not daring, openly, to attack his rival, contrived to spread a report that *A.* was aiming at a kind of sovereignty, and at last succeeded in procuring his banishment by ostracism. It is said that a rustic citizen, who happened to stand near *A.* in the public assembly which decreed his banishment, turned to him, without knowing who he was, and asked him to write the name of Aristides upon the shell with which he was going to vote. "Has Aristides injured thee?" inquired he. "No," answered the voter; "but I am tired of hearing him called *the Just.*" *A.* wrote his name, and returned the shell in silence to the voter. He left the city, with prayers for its welfare. Three years after, when Xerxes invaded Greece with a large army, the Athenians hastened to recall a citizen to whom they looked for aid in this emergency. Forgetting everything but the good of his country, upon receiving intelligence that the Greek fleet was surrounded at Salamis by the Persians, he hastened thither with all speed, to warn Themistocles of the danger which threatened him. Touched by his generosity, Themistocles admitted him at once to his confidence, telling him that the report had been purposely spread by himself, to prevent the separation of the Grecian fleet. In the battle of Platæa, *A.* commanded the Athenians, and had a great share in the merit of the victory. On one occasion, when Themistocles announced that he had formed a project of great importance to the state, but which he could not make known in a public assembly, the people appointed *A.* to confer with him on the subject. The project was to set fire to the combined fleet of the Greeks, which was then lying in a neighboring port, and thereby to secure to the Athenians the sovereignty of the sea. *A.* returned to the people, and told them that nothing could be more advantageous, but, at the same time, nothing more unjust, than the plan of Themistocles. The plan was at once rejected. The party of Themistocles at length prevailed, and *A.* was banished a second time. D. in poverty, about 467 B. C. — The Athenians bestowed on him a magnificent funeral, and gave an estate and pension to his son Lysimachus.

Aristip'pus, OF CYRENE, the disciple of Socrates, and founder of the Cyrenaic sect. His maxim was, that pleasure is the chief good of man, and thus differed widely from the doctrines of his master. He flourished about 400 B. C. — His daughter Arete was famous for her wisdom and beauty.

Aristobu'lus, an Alexandrian Jew, considered by the early fathers as the founder of the Jewish philosophy of Alexandria. He lived under Ptolemæus Philometor, about 175 B. C.

Aristoc'racy, *n.* [Fr. *aristocratie*, from Gr. *aristos*, best, noblest, and *kratos*, strength, power, sovereignty.] In its original acceptation, *A.* denotes that form of government in which the ruling power is vested in the best men, whether by birth, wealth, or personal distinction.

Lodovico Ariosto

1474–1533

Personal excellence, however, was usually regarded as a necessary element in the character of those constituting an aristocracy. It was opposed to *oligarchy*, which was looked upon as a perversion of aristocracy, and in which the dominant power was in the hands of a few, who ruled for their own advantage. In the idea of *A.*, therefore, was included that the administration of affairs should be for the general good, and not for any one class. In modern times, those governments have been usually deemed aristocratic, in which a small privileged class of noble or wealthy persons either governed absolutely, or shared the government in various proportions with the sovereign, or the people. In a more general sense, it is applied to any form of government, in which a minority of adult males constitute the ruling class, and is opposed to *democracy*, in which the ruling power is vested in a majority of adult males. Lord Brougham's definition is somewhat different. He says, "Where the supreme power in any state is in the hands of a portion of the community, and that portion is so constituted that the rest of the people cannot gain admittance, or can only gain admittance with the consent of the select body, the government is an *aristocracy;* where the people at large exercise the supreme power, it is a *democracy* Nor does it make any difference, in these forms of government, that the ruling body exercises its power by delegation to individuals, or to smaller bodies. Thus, a government would be aristocratic, in which the select body elected a chief, to whom a portion, or even the whole of its power should be entrusted."—Sometimes the word *A.* is applied, not to any form of government, but to a particular class of persons in a state. In this sense it was never used in ancient times, but it is common with modern writers. The former distinction is dropped, and an *A.* in this sense is not necessarily connected with the government, and may exist under any form of rule. It is in this way sometimes used as synonymous with nobility. In a wider sense, it is applied generally to the rich, as distinguished from the rest of the community.

Aris'tocrat, *n.* [Fr. *aristocrate.*] One who favors aristocracy.—A haughty, overbearing person.

Aristocrat'ic, Aristocrat'ical, *a.* Pertaining to aristocracy;—haughty; overbearing.

Aristocrat'ically, *adv.* In an aristocratical manner.

Aristocrat'icalness, *n.* The quality or state of being aristocratical.

Aristoc'ratize, *v. a.* To render aristocratic. (R.)

Aristogi'ton. See HARMODIUS AND ARISTOGITON.

Aristolo'chia, *n.* (*Bot.*) A gen. of plants, ord. *Aristolochiaceæ.* They are distinguished by a tubular oblique perianth, generally inflated at the base, the mouth dilated on one side, and by stamens adherent to the style. Several species have been employed for centuries in medicine on account of their supposed emmenagogue properties; and hence the name *birth-wood.* The roots of the *A. longa*, *A. rotunda*, and *A. clematitis* are most commonly used. They have all stimulant and tonic properties. The rhizome and root-fibres of *A. serpentaria*, or Virginian snake-root, found from Pennsylvania to Louisiana, are officinal. It is a valuable stimulant, tonic, and diaphoretic, and is specially useful in fevers of a low and typhoid character. Several species of this important gen. are cultivated in hot-houses as ornamental plants. The Dutchman's pipe, *A. sipho*, highly ornamental in cultivation for arbors, is a vigorous climber in mountainous woods, found in W. Pennsylvania, and the S. States. Its stem is woody, twining, and ascends trees for 30 or 40 ft.

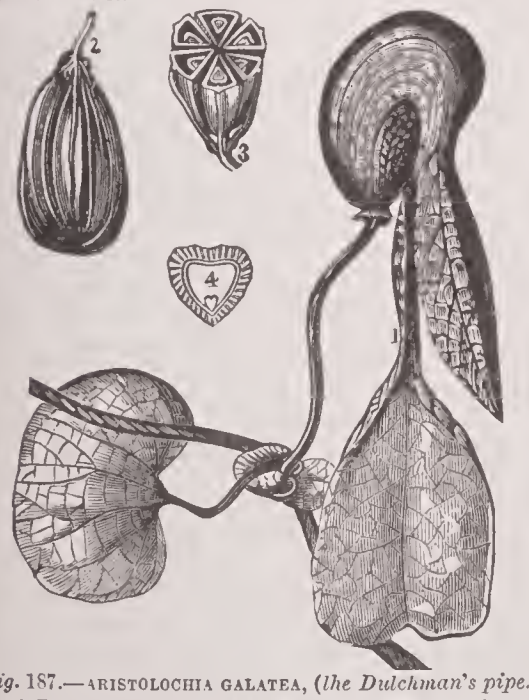


Fig. 187.—ARISTOLOCHIA GALATEA, (*the Dutchman's pipe.*)
2. Fruit of an *A.*; 3. Cross section of it; 4. Half its seed.

Aris'tolochia'ceæ, *n. pl.* [From Gr. *aristos*, excellent, and *locheos*, pertaining to parturition.] (*Bot.*) The birth-worts, an ord. of plants, alliance *Asarales.*—DIAG. 3–8-celled ovary, and no ovules. They are herbaceous plants or shrubs, the latter often climbing. Wood without concentric zones and inseparable wedges. Leaves alternate, simple, stalked. Hermaphrodite flowers, axillary, solitary, brown or some dull color. Calyx adherent, tubular, with the segments valvate or induplicate. Stamens 6–12, epigynous. Ovary inferior, 6-celled; style simple. Fruit dry or succulent, many-seeded. Seeds thin, angular, or round, with a very minute embryo. There are 9 genera, and 130 species: most abundant in the tropical countries of S. America, and thinly diffused throughout the N. hemisphere. *Aristolochia* is the typical genus.

Aristoph'anes, the only Grecian comic poet of whom any pieces have been preserved entire. He was an Athenian, and appeared, as a poet, in the 4th year of the Peloponnesian war, B. C. 427. He was distinguished, among the ancients, by the appellation of the *comedian*, as Homer was by that of the *poet.* Of 54 comedies which he composed, 11 only remain; and in these, without doubt, we possess the flower of the ancient comedy. But in order fully to enjoy them, and not to be offended by the extravagances and immoralities with which they abound, we must be intimately acquainted with ancient customs and opinions. His pure and elegant Attic dialect, the skill and care displayed in the plan and execution of his pieces, and their various other excellences, have gained for *A.* the fame of a master. His wit and humor are inexhaustible, and his boldness unrestrained. The Greeks were enchanted with the grace and refinement of his writings; and Plato said, the Graces would have chosen his soul for their habitation. "According to our ideas of decorum," says a late scholar "we should esteem the soul of *A.* a fitter residence for the licentious and malicious satyr, or, at least, we should call him, with Göthe, the *spoiled child of the Graces.* He made use of allegory in his attacks on the politicians of the day, as well as in scourging the vices and follies of his age. In a political and moral view, he is a strong advocate for ancient discipline, manners, doctrines, and art; hence his sallies against Socrates, in the Clouds, and against Euripides, in the Frogs, and other comedies. The freedom of ancient comedy allowed an unbounded degree of personal satire, and *A.* made so free use of it that nothing, divine or human, which offered a weak side, escaped his sarcasms. He feared the Athenian people so little, that he personated them, under a most miserable figure, in his old Demos. He incessantly reproached them for their fickleness, their levity, their love of flattery, their foolish credulity, and their readiness to entertain extravagant hopes. Instead of being irritated, the Athenians rewarded him with a crown from the sacred olive-tree, which was, at that time, considered an extraordinary mark of distinction. This excessive freedom characterized the ancient comedy, which was long considered as a support of democracy. After the Peloponnesian war, its licentiousness was much restrained; and, in the year 388 B. C., it was forbidden by law to name any person on the stage.

Aristophan'ic, *a.* Relating to Aristophanes.

Aristote'lian, *a.* Pertaining to Aristotle, or to his philosophy.

—*n.* A follower of Aristotle.

Aristote'lianism, or PERIPATETICISM, *n.* (*Philos.*) The doctrine of philosophy of Aristotle; one of those speculative systems which arose from the school of Socrates, and which, from the unity and grandeur of its founder's genius, took strong root in the Greek mind, and since the revival of letters, also in Western Europe. Aristotle attempted to steer a medium course between the ultra-idealism of his master Plato, and the low sensationalism of the physical school of Elea. His genius was as wide as nature. He studied all things, and seemed to know everything better than all others. His knowledge was something amazing, and he extended the boundaries of science to almost an encyclopedical extent. Science, whether as abstract or physical, he was at home in. Aristotle keenly combated the ideal theory of Plato, or that which expounded the Deity as holding in himself the archetypal ideas after which the world was fashioned, and which it was the business of reason and science to discover. But while denying these ideas of his master, he nevertheless agreed with him in the view that knowledge contains an element radically distinct from sensation. He also differed from the Eleatics and the Epicureans, inasmuch as he denied that sensation could account for the whole of knowledge; but maintained, with them, that without this sensation, knowledge would be impossible. The celebrated maxim that "*there is nothing in the intellect which was not previously in the sense*," if not Aristotle's, at least well expresses a side of his doctrine; but, when he insists upon the distinction between the *necessary* and the *contingent*, the *absolute* and the *relative*, he rises altogether above the sphere of sensation, and takes emphatically his place with reason. Thus he steered a middle course between what he considered to be the Scylla and Charybdis of speculation—*idealism*, and *sensationalism;* but in what precise line he moved is by no means clear. He in no place has expounded his doctrines, and he is very chary of definition; so that no two Aristotelians of today are agreed upon the details of his philosophy. Perhaps it may be best characterized when we say, that it was a system of empiricism, or one based upon experience, often very considerably modified by the rationalism of Plato. The language in which his philosophy is couched is brief, pregnant, and peculiar; and his system not only has afforded a test of the critical acumen of those who have taken to a study of his works, but it has afforded, besides, a nice test of advancement in the knowledge of the Greek language to read Aristotle with intelligence and promptitude. Philosophy, according to Aristotle, is properly science arising from the love of knowledge. There are two sorts of knowledge: mediate, and immediate. From immediate knowledge, which we gain through the experience of particulars, we derive mediate knowledge, by means of argumentation, whose theory it is the office of logic to properly expound. Logic is therefore the instrument of all science; but only *quoad formam*, for it is experience which supplies the *matter* to be worked upon. The *formal* part of reasoning he accordingly expounds better than any man either before or since his time. He, indeed, created logic, and this system stands erect through the changes of centuries like an Egyptian pyramid, which heat and moisture cannot wear away. He nowhere defines logic; but the book which contains it is ordinarily called the *Organon.* His successors have only damaged when they have tried to improve his system of argumentation; and down to the period of Sir William Hamilton, it remained nearly destitute of a single modification or addition. He most profoundly bases his logic upon the laws of contradiction, and he even recognizes that of sufficient reason as a regulative principle in the evolution of truth. After logic he took up all the sciences, rational, empirical, and mixed, except one alone, viz., history. He seems to have divided philosophy into logic, physics, and ethics, or into speculative and practical knowledge.—1. *Speculative philosophy* contemplates the real order of things, irrespective of human control; practical philosophy discusses affairs voluntary and accidental. Real substances are either invariable, or variable; while sublunary matters are variable, and perishable; the Deity alone is imperishable, and unchangeable. Do men pursue the real in an abstract way? Then, Metaphysics and Mathematics emerge. Do they pursue knowledge as to its objects? Then Physics, Cosmology, Psychology, Theology emerge.—2. *Practical philosophy* again comprehends Ethics, Politics, and Economy. A word or two on each of these heads; and first of Speculative Philosophy.—I. Physics, or Natural Philosophy. Nature is the sum of all existences, which are disclosed to us by our perceptive faculties. The knowledge of nature is properly the knowledge of the laws of bodies in motion. Nature, cause, accident, end, change, infinitude, space, time, and motion, are included in this science. The three elements of existence are matter, form, and privation; and change is possible as regards substance, quantity, quality, and place. Motion, like time, has neither beginning nor end; and the first thing to which motion was applied was the heavens. In his *Cosmology*, Aristotle discusses astronomy, using that term in its widest signification. It appears to us moderns obscure and inconsistent, and is by no means satisfactory. *Physiology* is indebted to Aristotle for its first essay. The soul is, according to him, the active principle of organized life. It is distinct from the body, yet, considered as its form or entelechy, it is inseparable from it. Its faculties are production, nutrition, sensation, thought, and will or impulse. His remarks on the principle of common sense, on consciousness, on imagination, on memory, and on recollection, nearly all of which he was the first to distinctly recognize, are very valuable, and will repay a careful perusal even at the present day. *Metaphysics*, or more properly the first philosophy, according to Aristotle, is his attempt to scienize being in the abstract. The leading characteristics of the latter existence he analyzes into the 10 categories of substance, quantity, quality, relation, time, place, situation, possession, action, passion. With this arrangement he connected the question of the First Being, whose felicity is alone complete, and whose existence is alone immutable.—II. The ruling idea of his *practical* philosophy was that of a sovereign good, and final end or aim of action. This final end he denominated happiness, which is the result of the perfect energies of the soul, and is the highest of which our nature is capable. It arises from the perfect exercise of reason, and is ordinarily called virtue. This he describes as the mean between two extremes, which is the character of nearly the whole of his philosophy. He distinguishes the moral virtues into the 7 cardinal ones, of which justice, in a sense, embraces all the rest. Under the head of right, he distinguishes that belonging to a family, from that belonging to a city. A perfect unity of plan prevails throughout his morals, politics, and economics. Both of the latter have for their object to show how this perfect virtue, already described, may be attained in the civil and domestic relationships, through a good constitution of the state and the household. The principle of the science of politics is expediency, and its perfection consists of suitableness of means to the end proposed. By this principle Aristotle proves the legality of slavery; and all education he refers to the ultimate end of political society.—Of Aristotle's successors, the only one deserving of mention is Theophrastus, author of the *Characteristics.* This system long maintained its ground as distinct from that of Plato. In the middle ages it became degraded into a noxious system of barren formularies, which were ultimately swept away by the revival of Platonism. All except his Logic, which will live forever, is now nearly forgotten, save by a few devoted students.

Aristotel'ic, *a.* Relating to Aristotle, or to his philosophy; Aristotelian.

Arist'otle, the head of the Peripatetic sect, was the son of Nicomachus, physician to Amyntas, grandfather of Alexander the Great. Losing his parents when young, it is said he led such a dissipated life, as to squander away his estate, although others assert that he became a pupil of Plato at the age of seventeen. On the death of that philosopher, under whom he studied with great diligence, but to whom, some assert, he was ungrateful, he went to the court of Hermias, at Atarna, in Mysia, and married that prince's sister. He was afterward sent for by Philip of Macedon to instruct Alexander, and gave such satisfaction to the king, that the latter erected statues to him, and rebuilt Stagira, his birthplace

On the accession of Alexander to the throne, Aristotle refused to accompany him in his expeditions, but recommended to him his kinsman Calisthenes, and he himself settled at Athens, where, in the Lyceum, he taught his philosophy to a great number of disciples. Here he composed his principal works. Being accused of impiety, he wrote an apology for himself, and addressed it to the magistrates. He soon, however, quitted this city, and spent the remainder of his days at Chalcis, a city in Eubœa. Some say that he poisoned himself; others, that he cast himself into the river Euripus; and some assert that he died a natural death, 322 B. C. B. at Stagira, 384 B. C. The works of Aristotle may be classed under the heads of rhetoric, poetry, politics, ethics, physics, mathematics, logic, and metaphysics; and they display an immense amount of genius.—See ARISTOTELIANISM.

Arith'metic, *n.* [Fr. *arithmétique;* Gr. *arithmetike.*] The science of numbers, or that portion of mathematics concerned with the properties of numbers. Every number is a ratio or relation; that is to say, every magnitude, compared with another magnitude, is either equal, or greater, or less, and, therefore, has a certain relation to that with which it is compared. *A.* is the art of combining these relations with one another, using for the purpose the signs themselves by which the numbers are distinguished; thus the four operations of addition, subtraction, multiplication, and division, include the entire science. For the facilitating of calculations, and for commercial purposes, other useful rules have been invented; such as *proportion, interest, discount, decimals, extraction of roots,* &c.; but they are but different applications of the four elementary rules. The origin of *A.* is extremely obscure. According to Plato and Diogenes Laertius, *A.* and geometry are of Egyptian origin; on the other hand, Josephus affirms that Abraham, during his stay in Egypt, taught the inhabitants the use of numbers. The precise epoch in which numerical signs and the first methods of computation and calculation were discovered, is enveloped in equal mystery. Arabian philosophers were of opinion that it was from the people of India, during the 9th or 10th century, that they borrowed the signs which we call Arabic, but which they call Indian numerals. The employment of these numerals, and the facilities afforded by algebra, have been the chief cause of the immense progress and development of modern mathematical calculations.

Arithmet'ical, *a.* Pertaining to arithmetic; according to the rules or method of arithmetic.—*A. progression* is a series of numbers increasing or diminishing by a common difference, so, 3, 6, 9, 12, 15, 18 form an *A.* progression, of which the difference is 3. — *A. mean,* of any number or quantities, is the quotient obtained by dividing their sum by the number of quantities.

Arithmet'ically, *adv.* By means of arithmetic; according to the rules, principles, or method of arithmetic.

Arithmeti'cian, *n.* One versed in arithmetic.

Ar'ius, the founder of the sect of the ARIANS, *q. v.*

Arizo'na Ter'ritory, one of the extreme southwestern political divisions of the United States, lying between 31° 20′ and 37° N. Lat., and between 109° and 115° W. Lon. It is bounded on the N. by Nevada, and Utah, on the E. by New Mexico, on the S. by Mexico, and on the W. by California and Nevada. Total *area,* 113,020 sq. m., of which 100 sq. m. are water.—*Desc.* Its surface consists of elevated table-lands, broken by mountain ranges, and interspersed with fertile valleys and sandy wastes. Its N. and N.E. portions are wild and sparsely settled, and contain several large Indian reservations. S. of the river Gila, and W. of the 112th meridian, the country is sandy, and not as a general rule arable, except along that river. In other portions there are many beautiful valleys, containing millions of acres of extraordinary fertility, producing wheat, barley, oats, tobacco, fruits, and vegetables. In the S., cotton and sugar crops are remunerative, and on the hills and mountain sides is found a rich and abundant pasturage.—Numerous short ranges of mountains exist, as the San Francisco mountains in the W. central portion, the Gila, Caliura, Santa Catalina and Sierra Tucson in the S.E., the Grande, Mohawk, &c., in the S.W.—The river system of *A.* presents points of great interest. The Colorado, with its affluents, the Gila, Bill Williams' Fork, and Flat river, or Colorado-Chiquito, drains an extensive region S. of the Great Salt Lake basin, and W. of the Sierra Madre. These various streams, with their affluents, rise among mountains covered with valuable timber. At the head of Bill Williams' Fork is the *Black Forest,* but little, if at all, inferior to the Schwarzwald of Baden, separating the basins of the Rhine and the Neckar. Pine and cedar forests of indefinite extent cover the Mogollon and Pinaleno mountains, and valuable timber is found at the heads of the Rio Verde, Salado, and Gila. The mesquite furnishes good fuel in all parts of the territory. In the valleys, the larch, ash, elm, walnut, oak, and sycamore are found in ample supply. The Colorado is navigable for many miles by boats of light draught. The San Pedro and Santa Cruz flow from the S.W. part of the territory into the Gila; the former, through a rich valley, 100 miles in length, expanding in places to a width of many miles. Its tributary valleys are of nearly equal extent. A beautiful, fertile, and well-wooded region lies along portions of this stream, extending to the Gila. Ruins of haciendas and ranches show an ancient attempt to introduce the institutions of civilization into these wilds. One of the finest portions of the territory is the country bordering on the Santa Cruz. Its valley, wider than the San Pedro, is equally rich and well timbered. A large quantity of land may be made productive without irrigation, especially the lands occupied by the Pinos Indians, who, being instructed in agriculture by the Jesuit fathers, have continued ever since to gather two crops per annum. The grazing lands are about three-fourths of the entire area, or 55 millions of acres.—*Irrigation.* As the Nile in Egypt, the Colorado, *q. v.,* is subject to annual overflow. Thus, the valleys of this river and its affluents are thoroughly fertilized, and, by a system of irrigating canals the water may easily be conducted to immense tracts unvisited by its annual overflow. The celebrated Colorado desert, generally below the bed of the river, and bordering it on both sides for 150 m., possesses a soil composed of alluvial earths, marl, and shells, needing only the stimulation of moisture to awaken its fertility. Other tracts along the course of the river are susceptible of similar improvement. Within recent years much has been done in the direction of irrigation, the area reclaimed embracing about 750,000 acres, while canals and storage reservoirs are being constructed which will reclaim 535,000 acres more, and works are contemplated which will add an additional 750,000 acres. These operations will bring more than 2,000,000 acres, recently arid, into a state of fertility.—*Minerals.* It was not until 1862, and 1863, that an attempt was made thoroughly to explore Central *A.* All along the Hassyampa, upon the Agua Frio, a parallel stream of considerable size, upon Lynx creek, Big Bug, Turkey creek, and [illegible], indeed, upon nearly all the streams, lodes of gold, silver, and copper, were found. The highly interesting report published by Mr. J. Ross Browne, in 1868, on the mineral resources of the states and territories west of the Rocky mountains, indicates the discovery and location of lodes of the precious metals in all parts of the territory, rather than their development. He attributes the want of success of the miners hitherto, not to any deficiency in the mines, but firstly to the comparative inaccessibility of the territory, which is off the great overland lines of travel, and without seaports; next, to the Indian troubles; and, finally, to the limited extent of the placer diggings, to the lack of water for their working, and to the refractory character of the ores of most of the lodes thus far opened. Since the date of this report mining operations have become active and extensive, and the output of metals is now large and valuable. In 1895 the gold product was valued at $4,260,000. The yield of silver was 1,750,000 ounces, and of copper 49,661,289 pounds. In addition there are found iron, nickel, platinum, quicksilver, gypsum, cinnabar, and coal. The Salt mountains near Callville, and a few miles from the Colorado, are among the most remarkable formations in *A.* The deposits of pure, transparent, and beautifully crystallized salt are very extensive, and no salt is superior for table, or general use.—*Climate.* In Southern *A.* and upon the Colorado, the temperature is rather warm. In Central *A.* the sun is seldom oppressive. The thermometer has been known to stand at 110° on the Colorado, when it rose but to 65° in and about Prescott. The nights in the mountains throughout the territory are cool at all seasons. Snow falls in Central *A.,* but, exceptiug on the higher mountains, it usually remains but a few hours. The rainy season generally lasts from June to December.—*Chief towns* are Tucson, Yuma (opposite Fort Yuma, Col.), Prescott, a thriving city, picturesquely situated in a valley of the Pine Mts., Phœnix, (the capital), Florence, and Tombstone. The white inhabitants are mostly employed in mining; nevertheless, the agricultural settlements are many in the south and along the Colorado. The agricultural production in 1895 embraced 132,730 bushels of corn, 250,654 of wheat, 249,150 of barley, 65,919 tons of hay, the total value being $1,279,973. The animals included 54,278 horses, 14,878 milch cows, 649,502 oxen and other cattle, 746,546 sheep and 20,904 swine, valued at $9,409,000. The Indian tribes along the Colorado river are generally friendly. The Pima and Maricopa Indians, at their villages on the Gila river, have a very prosperous community of about 12,000 souls, cultivating successfully wheat, corn, barley, cotton, beans, peas, and other vegetables.—*History.* The Colorado valley was an early seat of Spanish civilization, and missionary enterprise. The Santa Cruz, and its tributaries, teemed with an agricultural and mining population, early in the 18th century. The relics of this busy industry are still seen in the ruins of cities, cathedrals, and farms, scattered up and down the Colorado and its branches. But priest and layman, alike, fell beneath the tomahawks of the Apaches. The Santa Cruz region was occupied by Jesuit missionaries, as early as the year 1600. The modern history of *A.* is connected with that of New Mexico, from which it was separated in 1863. *Pop.* in 1890 was 59,620; in 1897 (est.) 88,500.

Arizo'na, in *Louisiana,* a post-office in Claiborne co.

Arizo'na, in *Nebraska,* a post-township of Burt co.

Arizo'na City, now YUMA, in *Arizona,* a town of Yuma co., on Colorado R. at mouth of the Yuma R. *Pop.* (1890) 1,773.

Ark, *n.* [Lat. *arca,* from *arcere,* to shut up; A. S. *erc* or *erk;* Fr. *arche.*] A chest or coffer for the safe-keeping of any valuable thing; a depository.—The large floating vessel in which Noah and his family were preserved during the deluge; (see DELUGE.)—Also, in the U. States, a kind of flat-boat, used on the Western rivers.

Ark of the Covenant, in the synagogue of the Jews, was the chest, or vessel, in which the tables of the law were preserved. This was a small chest or coffer, 3 feet 9 inches in length, 2 feet 3 inches in breadth, and the same in height, in which were contained the various sacred articles mentioned in the quotations. It was made of shittim-wood, and covered with the mercy-seat, called also the *propitiatory,* as the Septuagint expresses it, Ἱλαστήριον ἐπίθημα, that is, the lid or cover of propitiation; because, in the typical language of Scripture, those sins which are forgiven are said to be covered. This lid was made of pure gold; at either end was a cherub: these looked toward each other and embraced the whole circumference of the mercy-seat with their expanded wings (Ex. xxv. 17, 22, and xxxix. 1–9); between which the Shekinah, or symbol of the divine presence, manifested itself in the appearance of a cloud, hovering, as it were, over the mercy-seat (Lev. xvi. 2). From hence the divine oracles were given (2 Kings xix. 15; Isa. lxxx. 1). The high-priest, once every year, on the great day of expiation, appeared before the mercy-seat, to make atonement for the people (Heb. ix. 7). The ark was placed in the sanctuary of the temple of Solomon. Before his time, it was kept in the tabernacle, and was moved about as circumstances dictated. At the captivity, it appears to have been either lost or destroyed; for the Jews universally concur in stating that, among the things wanting in the second temple, one was the ark of the covenant.

Arka'da, in the State of *Washington,* a post-village of Mason co.

Arka'dia, a province of Greece. See ARCADIA.

Arkadel'phia, in *Arkansas,* a post-village, cap. of Clark co., abt. 75 m. S.W. of Little Rock.

Arkan'sas, a large river of the U. States. It rises in the Rocky Mountains, near the boundary between Utah and the Indian Territory; and, pursuing an E.S.E. direction, unites with the Mississippi in Lat. 33° 55′ N., Lon. 91° 10′ W. The river has a course, following its bends, of about 2,170 m. It has several important tributaries, of which the Great Canadian, falling into it on the right, is the principal. During the periodical swell, the *A.* is navigable to the Rocky Mountains; and at other times it may be navigated for about 600 m. from its confluence with the Mississippi. Its navigation is safe, being uninterrupted by rocks, shoals, or rapids. If the Missouri be reckoned the first in magnitude among the tributaries of the Mississippi, the second rank is due to the *A.,* it being longer, and draining more surface than the Ohio, Mississippi proper, or Platte.

Arkan'sas, in the U. States, a S.W. State, bounded N. by Missouri, E. by the Mississippi river, S. by Louisiana and Texas, and W. by Texas, and Indian Territory. Although usually classed among the Western States, *A.* presents features of soil, climate, and productions which naturally associate it with the Southern States. It lies between 33° and 36° 30′ N. Lat., and between 89° 45′ and 94° 40′ W. Lon. Its length from N. to S. is 242 m., its breadth varying from 170 to 229.—*Area,* 53,850 sq. m., or 34,464,000 acres—*Hist. A.* takes its name from the river Arkansas, *q. v.* It was discovered and settled by the French, under the Chevalier de Tonti, as early as 1685. In the various transfers of territory, it followed the fate of the other portions of Louisiana. It was erected into a separate territory in 1819, and into a State in 1836. It joined the Confederate States by an act of secession from the Union, passed May 6, 1861. In 1868, a new constitution was adopted, by a convention elected in pursuance of the acts of Congress on reconstruction, and in June of the same year, *A.* was re-admitted to representation in Congress. This constitution was revised in 1874. By act of legislature the name of *A.* is to be pronounced *Ark'ăn-saw. Desc.* The physical aspects of the country present a remarkable variety. The eastern portion, for a breadth of from 30 to 100 m. from the Mississippi, is a low marshy plain, abounding in lagoons, and subject, with exceptions, to the annual overflow of the Mississippi, and its tributaries. Toward the centre of the State, the land rises into hills, enlarging into the Ozark mountains, the highest elevation of which is not over 2,000 ft. This chain enters the State in the N.W., dividing it into two unequal portions, one of which, in its physical character, assimilates to the Northern, and the other to the Southern States. Besides the Arkansas river that passes wholly through the State from W. to E., and the Mississippi which receives all its waters, *A.* is drained in the N. E. by the White river, and the St. Francis, with their affluents; in the S.W. by Red river; and in the S. by the Washita, and its numerous tributaries. The internal improvements of *A.* are confined largely to levees, or embankments against the Mississippi. The extensive and widely diffused internal navigation of the State has supplied so well the limited wants of a hitherto sparse population, that railroads have not been completed to any great extent. The total number of miles of railroad, completed and in operation at the beginning of the year 1897, was a little under 3,000 miles, with some in construction and in contemplation. A singular phenomenon in Hot Springs county, 60 m. S.W. of Little Rock, has excited the marked attention of men of science as well as of the public generally. Overlooking Hot Springs creek is a ridge, 250 feet high, composed of beautiful novaculite, of chalcedonic whiteness, of the age of millstone grit, differing from the ordinary sandstone by being penetrated with heated alkaline siliciant water. From this ridge issue a number of springs, varying in temperature from cold spring-water to a heat of 160° Fahrenheit. These extremes of temperature are so near each other, that a person can place one hand in cold and the other in hot water at the same time. The temperature of Hot Springs creek has been elevated by the infusion of these waters to such an extent, that even in the coldest weather it furnishes a comfortable bath. Many chronic diseases have been cured by these springs, the virtues of which seem to result from varied temperature and chemical infusions. They are the resort of invalids from all parts of the country.—*Climate.* In the E. part of the State, and in the bottoms along the rivers, especially the Arkansas, the climate is moist and unhealthy; but in the middle and W. parts it is comparatively salubrious. The temperature of the northern and western

UTAH
NEVADA
LINCOLN
WASHINGTON
KANE
SAN JUAN
COL.
NEW MEXICO
CALIFORNIA
SAN BERNARDINO
SAN DIEGO
MEXICO
SONORA
GULF OF CALIFORNIA
St. George
Kanab
Bluff
MOHAVE
COCONINO
YAVAPAI
MARICOPA
YUMA
PIMA
PINAL
GILA
GRAHAM
COCHISE
APACHE
NAVAJO
NAVAJO IND. RES.
EXTENSION
MOQUI INDIAN RESERVATION
NAVAJO INDIAN RESERVATION
HUALAPAI INDIAN RESERVATION
WHITE MTN. INDIAN RESERVE
SALT RIVER IND. RES.
GILA RIVER IND. RES.
GILA BEND IND. RES.
PAPAGO IND. RES.
GRAND CANON
COLORADO CANON PLATEAU
KAIBAB PLATEAU
PARIA PLATEAU
SAN FRANCISCO MTS.
Mt. Bangs
Solitaire Butte
Mt. Logan
Mt. Emma
Lost Basin
Mt. Dellenbaugh
Tuba City
Lees Ferry
Keam's Canon
Fort Defiance
Canado
Peach Springs
Truxton
Hackberry
Hualpai
Mineral Park
Kingman
Mohave City
Drake
Yucca
East Bridge
Haviland
Franconia
Powell
Signal
Yampai
Aubrey
Chino
Crookton
Pineveta
Prescott Jc.
Mormon
Sullivan
Ash Fork
Fairview
Meath
Garland
Donaldson's
Juniper
Ross
Clearwater
Cedar Glade
Puntney
Verde Bridge
Simmons
Campbell
Windmill
Prescott
Walker
Howells
Antelope Valley
Walnut Grove
Bueno
Congress
Congress Jc
Stanton
Wickenburg
Vulture
Camp Verde
Cottonwood
Aultman
Cherry
Strawberry
Pine
Payson
Rye
Tonto
Stoddard
Cordes
Mayer
Big Bug
Cienega
Bumble Bee
Milton
Woodside
Flagstaff
Cosnino
Walnut
Angell
Canyon Diablo
Dennison
Winslow
Holbrook
Woodruff
Carrizo
Billings
Navajo Sprs. Sta.
Allantown
Sanders
Taylor
Snow Flake
Show Low
Erastus
St. John's
Springerville
Green's Peak
Nutrioso
Fort Apache
Armer
Catalpa
Globe
Silver King
McDowell
PHOENIX
Tempe
Mesa
Lehi
Zenos
Kyrene
Sacaton
Heaton
Maricopa
Montezuma
Riverside
Florence
Dudleyville
Mesaville
Sweet Water
Casa Grande
Toltec
Picacho
Wymola
Red Rock
San Carlos
Dripping Springs
Geronimo
Fort Thomas
Dunlap
Pima
Safford
Solomonsville
Cedar Springs
Fort Grant
Morenci
Clifton
North Siding
South Siding
Guthrie
Coronado
Yorks
Sheldon
Duncan
Mammoth
Oracle
Redington
American Flag
Naviskan
Rillito
Jaynes
Tucson
Wilmot
Papago
Vail
Pantano
Mescal
Total Wreck
Benson
Canisteo
Saint David
Ochoa
Dragoon Summit or Dragoon P. O.
Cochise
Railroad Pass
Wilcox
San Simon
Teviston P. O. or Bowie Sta.
Fort Bowie
Brannock
Aztec
Contention
Fairbank
Brookline
Huachuca
Charleston
Camp Huachuca
Tombstone
Bisbee
Elgin
Sonoita
Crittenden
Harshaw
Sanford's
Washington
Lochiel
Arivaca
Oro Blanco
Calabasas
Nogales
Quijotoa
Parker
Ehrenberg
Fort Yuma
Yuma
Gila City
Mohawk Summit
Texas Hill
Aztec
Sentinel
Painted Rock
Gila Bend
Bosque
Estrella
Hassayampa Cr.
Agua Fria Cr.
Salt River
Gila River
Colorado River
Virgin River
Little Colorado River
San Juan River
San Pedro River
Santa Cruz River
ATLANTIC & PACIFIC
SOUTHERN PACIFIC
GILA BEND
GLOBE
Scale of Statute Miles.
Longitude West from Greenwich.
Rand, McNally & Co.'s 11 x 14 Map of Arizona.
Copyright 1895, by Rand, McNally & Co.

ARIZONA

Laud area,
112,920 sq. m.
Water area,
100 sq. m.

Pop.	59,620
Male	36,571
Female	23,049
Native	40,825
Foreign	18,795
White	55,580
African	1,357
Chinese	1,170
Japanese	1
Indian	1,512

COUNTIES.

Apache	E	11
Cochise	L	11
Coconino	D	6
Gila	H	9
Graham	I	11
Maricopa	I	5
Mohave	D	3
Navajo	E	10
Pima	K	6
Pinal	J	8
Yavapai	F	6
Yuma	I	2

CHIEF CITIES.

Pop.—Thousands.

5	Tucson	K	9
3	Phoenix	I	6
2	Tombstone	L	11
2	Yuma	J	1
2	Prescott	F	6
2	Bisbee	M	11
1	Florence	I	8
1	Nogales	M	9
1	Flagstaff	E	7

Pop.—Hundreds.

9	Tempe	I	7
8	Globe	I	9
8	Morenci	I	12
6	Clifton	I	12
5	Fort Grant	J	11
5	St. Johns	G	12
5	Fairbank	L	10
4	Springerville	G	12
4	Fort Apache	H	11
4	Willcox	K	11
4	Winslow	E	9
3	Benson	L	10
3	Casa Grande	J	7
3	Snow Flake	G	11
3	Kingman	E	2
3	Fort Huachuea	M	10
3	Solomonsville	J	11
3	Lehi	I	7
3	Jerome	F	6
2	Congress	G	5
2	Arivaca	L	8
2	Mesa	I	7
2	Holbrook	F	10
2	Pima	J	11
1	Fort Thomas	I	10
1	Gila Bend	J	5
1	Crittenden	L	9
1	Show Low	G	10
1	Taylor	G	10
1	Peach Springs	D	3
1	Duncan	J	12
1	Safford	J	11
1	Williams	E	6
1	Woodruff	F	10
1	Hackberry	E	3
1	Dudleyville	J	9
1	Tonto	H	8
1	Maricopa	I	7
1	Vulture	H	5
1	Nutrioso	H	12
1	San Carlos	I	10
	Wickenburg	H	5
	Camp Verde	F	7
	Walnut Grove	G	5
	Mammoth	J	9
	Riverside	I	8
	Saeaton	I	7
	Signal	G	3
	Aguafria	G	6
	Mayer	G	6
	Ehrenberg	H	2
	Keams Canon	D	10
	St. David	L	10
	Big Bug	G	6
	Oro Blanco	M	8
	Houck	E	12
	San Simon	K	12
	Simmons	F	5
	Rye	G	8
	Pantano	L	9
	Payson	G	8
	Bellemont	E	7
	Fort Defiance	D	12
	Central	J	11
	Ganado	D	11
	Navajo	E	12
	Redington	K	9
	St. Joseph	E	10
	Lees Ferry	B	8

Sir Richard Arkwright

1732–1792

SCALES.
Statute Miles, 69.16 = 1 Degree.
Kilometres, 111.307 = 1 Degree.
Rand, McNally & Co.'s Ref. Map of Arkansas.
Copyright, 1893, by Rand, McNally & Co.

ARKANSAS

Land area, 53,045 sq. m.
Water area, 805 sq. m.
Pop.....1,128,179
Male.... 585,755
Female. 542,424
Native 1,113,915
Foreign..14,264
White...818,752
African 309,117
Chinese 92
Indian 218

COUNTIES.

Arkansas	H	5
Ashley	G	7
Baxter	F	1
Benton	B	1
Boone	D	1
Bradley	F	7
Calhoun	F	6
Carroll	C	1
Chicot	H	7
Clark	D	5
Clay	J	1
Cleburne	G	2
Cleveland	F	6
Columbia	D	7
Conway	E	3
Craighead	I	2
Crawford	B	2
Crittenden	J	3
Cross	I	3
Dallas	E	6
Desha	H	6
Drew	G	6
Faulkner	F	3
Franklin	C	2
Fulton	G	1
Garland	D	4
Grant	F	5
Greene	I	1
Hempstead	C	6
Hot Spring	E	5
Howard	C	5
Independence	H	2
Izard	G	1
Jackson	H	2
Jefferson	G	5
Johnson	D	2
Lafayette	C	7
Lawrence	H	1
Lee	I	4
Lincoln	G	5
Little River	B	6
Logan	C	3
Lonoke	G	4
Madison	C	1
Marion	E	1
Miller	C	7
Mississippi	J	2
Monroe	H	4
Montgomery	C	5
Nevada	D	6
Newton	D	2
Ouachita	E	6
Perry	E	4
Phillips	I	5
Pike	C	5
Poinsett	I	2
Polk	B	5
Pope	D	3
Prairie	H	4
Pulaski	F	4
Randolph	I	1
Saline	E	4
Scott	B	4
Searcy	E	2
Sebastian	B	3
Sevier	B	6
Sharp	H	1
St. Francis	I	3
Stone	F	2
Union	E	7
Van Buren	F	2
Washington	B	2
White	G	3
Woodruff	H	3
Yell	D	3

CHIEF CITIES.

Pop.—Thousands.			
26	Little Rock	F	4
11	Fort Smith	A	3
10	Pine Bluff	G	5
8	Hot Springs	E	4
5	Helena	J	4
4	Eureka Springs	C	1
4	Texarkana	C	7
3	Argenta	F	4
3	Fayetteville	B	1
3	Camden	E	6
2	Arkadelphia	D	5
2	Van Buren	B	3
2	Batesville	G	2
2	Jonesboro	I	2
2	Hope	D	6
2	Paragould	I	1
2	Morrillton	E	3
2	Bentonville	B	1
2	Newport	H	2
2	Malvern	E	5
2	Brinkley	H	4
1	Magnolia	D	7
1	Dardanelle	D	3
1	Harrison	D	1
1	Russellville	D	3
1	Prescott	D	6
1	Monticello	G	6
1	Rogers	B	1
1	Conway	F	3
1	Searcy	G	3
1	Stuttgart	H	5

Ark.—cont'd.

Pop.—Thousands.			
1	Marianna	I	4
1	Clarendon	H	4
1	Forest City	I	3
1	Fordyce	F	6

Pop.—Hundreds.			
9	Clarksville	D	2
9	Springdale	B	1
9	Huntington	B	3
9	Ozark	C	2
9	Lonoke	G	4
8	Arkansas City	H	6
8	Siloam Springs	A	1
8	Beebe	G	3
8	Nashville	C	6
8	Coal Hill	C	3
8	Gurdon	D	6
8	Marion	J	3
8	Mammoth Spring	G	1
8	Black Rock	I	1
7	Waldo	D	7
7	Atkins	E	3
7	Hamburg	G	7
6	Benton	F	4
6	Mineral Springs	C	6
6	Greenwood	B	3
6	Corning	I	1
6	Portla	I	1
6	Wynne	I	3
5	Berryville	D	1
5	Paris	C	3
5	Des Arc	H	4
5	Dover	D	3
5	Augusta	H	3
5	Washington	C	6
5	Altheimer	G	5
5	Appleton	E	3
5	Pocohontas	H	1
5	Mountain View	F	2
5	New Lewisville	C	7
5	Portland	H	7
5	Warren	F	6
5	Rector	J	1
5	Waldron	B	4
5	Alma	B	3
5	Harrisburg	I	2
5	Judsonia	G	3
5	Altus	C	3
5	Kingsland	F	6
5	Pendleton	H	6
5	Hackett	B	3
5	Hazen	G	4
5	Oseeola	K	2
5	Walnut Ridge	I	1
5	Eldorado	E	7
5	Lockesburg	B	6
5	Beirne	D	6
5	Garland	C	7
4	Cottou Plant	H	3
4	Jacksonport	H	2
4	St. Paul	C	2
4	Prairie Grove	B	2
4	Bear	D	4
4	Boonsboro	B	2
4	Thornton	F	6
4	Okolona	D	6
4	Redfield	F	5
4	Rose Bud	F	3
4	Sulphur Rock	H	2
4	Dallas	B	4
4	Devalls Bluff	H	4
4	Stephens	E	7
4	W. Memphis	J	3
4	Charleston	B	3
4	Huntsville	C	1
4	St. Francis	J	1
4	Holly Grove	H	4
4	Ash Flat	G	1
4	El Paso	F	3
3	Lead Hill	E	1
3	Halliday	J	1
3	Quitman	F	3
3	Heber	G	3
3	Mulberry	B	2
3	Gravelly Hill	C	4
3	Bald Knob	G	3
3	Buckner	D	7
3	Perryville	E	3
3	Carrollton	D	1
3	De View	H	3
3	Evansville	B	2
3	Danville	D	3
3	Jasper	D	1
3	Cleveland	E	3
3	Knoxville	D	3
3	Richmond	B	6
3	West Point	H	3
3	Collins	G	6
3	New Edinburg	F	6
3	New Gascony	G	5
3	Webb City	C	3
3	Wrightsville	F	4
3	McCrory	H	3
3	Center Point	C	5
3	McNeil	D	7
3	Vanndale	I	3
3	Evening Shade	G	1
3	Marshall	E	2
3	Wabbaseka	G	5
3	Yellville	E	1
3	Cherry Valley	I	3

Ark.—cont'd.

Pop.—Hundreds.			
3	Haynes	I	4
3	Lewisville	D	7
3	Bearden	F	6
3	Baxter	H	7
3	Barren Fork	G	2
3	Black Springs	C	5
3	Brownstown	C	6
3	Cherry Grove	F	5
3	Combs	C	2
3	Holly Springs	E	6
3	Mount Holly	E	7
3	Newark	H	2
3	Wheetley	I	4
3	West Fork	B	2
2	Belleville	D	3
2	De Witt	H	5
2	Mansfield	B	3
2	Mountain Home	F	1
2	Springfield	E	3
2	Rocky Comfort	B	6
2	Chester	B	2
2	Powhatan	H	1
2	Columbus	C	6
2	La Grange	I	4
2	Plummerville	F	3
2	Alicia	I	2
2	Amity	D	5
2	Saratoga	C	6

parts of the State is allied to that of the N.W. States; while that of the eastern and southern resembles Louisiana. The downfalls of rain are very copious.—*Minerals.* The minerals of *A.* are chiefly iron, coal, lead, zinc, manganese, gypsum, and salt. The coal embraces deposits of the anthracite, cannel, and bituminous varieties. Gold is said to have been found in White county. Near Hot Springs is a quarry of novaculite, or oil-stone, superior to any other on the globe, inexhaustible in quantity, and of great variety in fineness. There is manganese enough in the State to supply the world's demand. In zinc, *A.* ranks next to New Jersey. It has more gypsum than all the other States, and is equally well supplied with marble and salt. The lead ore is largely associated with silver. Lead mines were worked extensively during the civil war to answer military necessities. It possesses 4,650,000 acres of coal land; 7,124,000 acres containing ores of iron, manganese, zinc, copper, galena, antimony, silver and bauxite; 3,150,000 acres containing ochre, clay, kaolin, gypsum, marble, granite, onyx and slate; 12,000,000 acres containing sandstone, limestone, lithographic stone and novaculite, immense deposits of valuable aluminium clay, and apparently inexhaustible beds of clay and ochre. It has 18,000,000 acres of timber land, yielding $20,000,000 worth of lumber annually.—*Forests.* The principal forest-trees growing in the hilly regions of the State are the white oak, which is very abundant, and other species of oaks; the hickory, ash, black-walnut, gum, cherry, pine, red-cedar, dog-wood, cypress, maple, beech, cotton-wood, poplar, bois d'arc, sassafras, and black-locust. Pine is abundant from Arkansas river southward to Red river.—*Soil and Productions.* All descriptions of soil are met with. On the borders of the rivers it is exceedingly fertile, but as it recedes from them it becomes poorer, and in some of the more elevated parts is sterile. *A.* has nearly six million acres of improved land. The staple products are cotton, Indian corn and live stock.

Fig. 188.—COTTON-PLANT, (*Gossypium herbaceum.*)

The production of the leading cereals for the year 1895 was as follows: Indian corn, 50,359,558 bushels, grown on 2,342,305 acres, valued at $16,115,059; wheat, 1,452,300 bushels, on 154,500 acres, value $856,857; oats, 8,306,486 bushels, on 327,027 acres, value $2,658,076. The cotton crop for the same year was 875,000 bales, *A.* ranking fifth in the Union in the production of this staple, and having almost the highest average yield per acre. Its production of Indian corn has more than doubled since 1880, though this is not the case with its other crops. The cotton crop of 1880 was 608,256 bales. In 1890 the total number of farms was 124,760, embracing 5,475,043 acres improved and 9,416,313 of unimproved land; value of land, fences, and buildings $118,574,422, implements and machinery $5,672,400, live stock $30,772,880; estimated value of farm products, 1889, $53,000,000.—*Industry.* *A.* has not engaged largely in manufacturing enterprises, though its production in this direction was greatly stimulated during the civil war. There was considerable increase in the decade 1880–1890. In the former year there were 1,202 manufactories, with $2,953,130 capital; in the latter, 2,073 manufactories, with $14,971,614 capital. The principal productions were cotton-seed oil, flour and meal, lumber, leather, woolen and cotton goods, tobacco and cigars, and hones of novaculite. The State has a large trade with New Orleans, an internal navigation of over 1,000 miles bringing every part of the country in ready communication with the great streams of commerce. Active steps are being taken to improve the navigation of the Red river, by snagging and dredging operations and the protection of the banks by levees. The development of the back country will add very materially to the volume of this domestic trade. Immigration is proceeding at an enconraging rate, over 50,000 immigrants entering the State in 1894, while in three months of 1895 there were taken up 70,000 acres of public land. The increase of population from 1880 to 1890 was 40 per cent.; that of wealth 102 per cent.—*Counties and Towns.* The State is divided into 75 counties:

Arkansas,	Dallas,	Lee,	Pope,
Ashley,	Desha,	Lincoln,	Prairie,
Baxter,	Drew,	Little Riverton,	Pulaski,
Benton,	Faulkner,	Logan,	Randolph,
Boone,	Franklin,	Lonoke,	St. Francis,
Bradley,	Fulton,	Madison,	Saline,
Calhoun,	Garland,	Marion,	Scott,
Carroll,	Grant,	Miller,	Searcy,
Chicot,	Greene,	Mississippi,	Sebastian,
Clarke,	Hempstead,	Monroe,	Sevier,
Clay,	Hot Springs,	Montgomery,	Sharpe,
Cleburne,	Howard,	Nevada,	Stone,
Cleveland,	Independence,	Newton,	Union,
Columbia,	Izard,	Ouachita,	Van Buren,
Conway,	Jackson,	Perry,	Washington,
Craighead,	Jefferson,	Phillips,	White,
Crawford,	Johnson,	Pike,	Woodruff,
Crittenden,	Lafayette,	Poinsett,	Yell.
Cross,	Lawrence,	Polk,	

The principal towns are Little Rock, cap. of the State, Hot Springs, Helena, Pine Bluff, Fort Smith, &c.—*Government.* The governor, lieut-gov., and other State officers are elected for 2 years by the people. The judiciary consists of a supreme court of 5 judges, elected for 8 years; of 10 circuit courts, the judges of which are elected for 4 years.—*A.* sends 2 senators and 6 representatives to Congress. It is entitled to 8 electoral votes for President of the U. S.—*Debts.* The bonded debt, October, 1, 1894, was $4,823,022. This is exclusive of levee and railroad bonds and other debts which have been declared unconstitutional by the supreme court of the State, amounting in all to over $10,000,000. The United States acquired by purchase in 1838 $793,000 of Arkansas State bonds. These, with accrued interest, now amount to $2,671,952. For 20 years a pressure for their payment has been made, but the State brings counter claims against the National Government for nearly the same amount. The assessed valuation of taxable property in 1890 was $174,737,755, an increase of 100 per cent. since 1880. The State tax is 50 cents on $100.—*Education.* *A.* had in 1894, 285,159 pupils enrolled in the public schools, out of a school population of 433,100. The daily average attendance was 166,544; number of teachers, 6,286. There are normal schools at Helena and Pine Bluff. The State has 5 universities and colleges, including the Arkansas Industrial University. There is also a school of medicine. In 1892 there were 216 newspapers, of which 16 were dailies. A system of public libraries is also being developed. The Methodist and Baptist are the most numerous religious denominations, each having about 800 churches and 75,000 members. *Pop.* in 1880, 802,525; in 1890, 1,128,179, including 308,922 colored; in 1897 (est.) 1,400,000.

Arkan'sas, in *Arkansas* State, an E. S. E. county, bordering E. on White river, and intersected by Arkansas river. *Area,* 1,200 sq. m. The *Great Prairie* occupies one-third of the surface, and has a fertile soil; *pop.* (1890), 11,432. *Cap.,* De Witt; *pop.* (1890) about 500.

Arkan'sas Post, in *Arkansas,* a post-village in Arkansas co., on Arkansas river, 117 m. S.E. of Little Rock. Settled in 1685 by the French. It has a landing-place for steamboats.

Arkan'saw, in *Wisconsin,* a post-office of Pepin co.

Ark'dale, in *Wisconsin,* a post-office of Adams co.

Ark'low, a seaport and parish of Ireland, in the co. Wicklow, 40 m. S. by E. of Dublin; *pop.* 4,760.

Ark'port, in *New York,* a post-village of Steuben co., on the Canisteo river.

Ark'sutite, *n.* (*Min.*) A granular massive mineral of vitreous lustre; color white: translucent, brittle. *Comp.* aluminium 18·6, sodium 23·3, calcium 6·8, fluorine 51·3=100. Fuses at a red heat, and yields no water. Found in Greenland.

Ark'wright, SIR RICHARD, B. at Preston, England, in 1732. He devoted his mind to the invention of improved machinery for cotton-spinning, and at last succeeded in revolutionizing its entire mechanical system. He amassed a colossal fortune. D. 1792.

Ark'wright, in *New York,* a post-township of Chautauqua co.

Ar'land, in *Michigan,* a post-office of Jackson co.

Arles, (anc. *Arelas,* or *Arelate,*) a city of France, dep. Bouches-du-Rhone, on the Rhone, 44 m. W.N.W. of Marseilles. It is principally notable as having been an important town when Gaul was invaded by Cæsar. It afterward became a Roman colony, and was long a rich and prosperous city. The Roman amphitheatre, capable of accommodating 30,000 spectators, yet remains, noble in its ruins. The great obelisk, and innumerable artistic remains, attest the former magnificence of this city.—*Manf.* Silk, soap, glass, &c. The emperor Constantine embellished *A.*, and his son Constantine II. was born here. In 855 it became the capital of the kingdom of Arelate, which was, in 933, united to that of Burgundy. *Pop.* 21,876.

Ar'lington, HENRY BENNET, EARL OF, an English statesman in the reigns of Charles II. and James II. He was a member of the famous administration nicknamed the *Cabal,* from the initials of its leading members. B. 1618; D. 1685.

Ar'lington, in *Illinois,* a post-office of Bureau co.

Ar'lington, in *Iowa,* a village of Montgomery co., about 20 m. N. of Clarinda.

Ar'lington, in *Massachusetts,* a twp. of Middlesex co.

Ar'lington, in *Michigan,* a post-township of Van Buren co., about 25 m. W. of Kalamazoo.

Ar'lington, in *Minnesota,* a post-village and township of Sibley co., 62 m. W.S.W. of St. Paul

Ar'lington, in *Missouri,* a twp. of Phelps co.

Ar'lington, in *Ohio,* a post-village of Hancock co., about 11 m. S. of Findlay.

—A village of Montgomery county, about 15 m. N.W. of Dayton.

Ar'lington, in *Vermont,* a post-township of Bennington co., 106 m. S. W. of the city of Montpelier. Here are extensive marble and limestone quarries, and a mineral spring.

Ar'lington Heights, a range of hills in Fairfax co., Virginia, overhanging the Potomac, opposite to Washington. They were strongly fortified during the civil war. General Robert E. Lee had a residence here, the grounds surrounding which are used as a National Cemetery, containing (1897) nearly 17,000 soldiers' graves.

Ar'lon (anc. *Arolaunum*), a town of the kingdom of the Netherlands, in the duchy of Luxembourg, 16 m. W.N.W. of Luxembourg; *pop.* 5,917.

Arm, *n.* [A.S. *arm, earm;* Lat. *armus;* Gr. *harmos,* from *arō,* probably originally *harō,* to join to.] (*Anat.*) The limb of the human body from the shoulder to the wrist. It is divided into arm and fore-arm. In the skeleton of the arm, or *brachium,* properly so called, there is one bone, the *humerus;* in that of the fore-arm, or *anti-brachium,* two bones, the *radius* and *ulna.*—See MUSCLES, SKELETON.

—Anything extending from the main body, trunk, or stem, as an inlet of the sea, a branch of a tree, &c.

> "Full in the centre of the sacred wood,
> An *arm* ariseth of the Stygian flood."—*Dryden.*

> "The trees spread out their *arms* to shade her face,
> But she on elbow lean'd." —*Sidney.*

—Power; might. In this sense is used "the secular *arm,*" &c.

> "O God, thy *arm* was here!
> And not to us, but to thy *arm* alone
> Ascribe we all." —*Shaks.*

(*Mil.*) A branch or department. So, the infantry, the cavalry, the artillery, &c., are each called an *arm* of the service.—Also [from the Fr. *arme*], a weapon or instrument of warfare; but in this sense it is seldom used in the singular, except in the compound fire-*arm.* See ARMS.

(*Naut.*) The name given to each extremity of a bibb, or bracket, attached to the mast of a ship for supporting the trestle-trees.—Also a part of the anchor, *q. v.*

To make bare the arm (Is. lii. 10) refers to the position of an ancient warrior ready for battle, and prepared to use his strength to the best advantage.

Arm's end, a phrase taken from boxing, in which the weaker man may overcome the stronger, if he can keep him from closing.

> "Such a one as can keep him *at arm's end,* need never wish for a better companion."

Arm, *v. a.* [Fr. *armer.*] To furnish with armor of defence, or weapons of offence.

> "And when Abram heard that his brother was taken captive, he *armed* his trained servants."—*Gen.* xiv. 14.

—To prepare for resistance; to protect; to strengthen; to defend.—To fortify, (in a moral sense.)

—*v. n.* To provide one's self with arms, weapons, or means of attack or resistance; to take or put in arms.

Arma'da, *n.* [Sp. from Lat. *arma,* armor, implements of war.] A fleet of armed ships; a squadron;—particularly applied to that great naval armament, which was called the *Invincible Armada,* fitted out in 1588, by Philip II., against Queen Elizabeth. It consisted of 129 ships, carrying about 20,000 soldiers and 8,000 sailors. The loss of the marquis of Santa Cruz, their admiral, and a violent tempest, the day after they sailed, retarded for some time the operations of the Spaniards. They arrived on the coast of the Netherlands in July, were thrown into disorder by a stratagem of Lord Howard, and in this situation were attacked with such impetuosity, that it became necessary to attempt to return. Contrary winds obliged the Spanish admiral, the Duke of Medina Sidonia, to make the circuit of Great Britain with the wreck of this magnificent armament. In passing the Orkneys, it was attacked by a violent storm, and only a feeble remnant returned to Spain.

Arma'da, in *Michigan,* a post-township of Macomb co. 35 m. N. by E. from Detroit.

Armadil'lo, *n.* [Sp. from Lat. *arma,* armor.] (*Zoöl.*) The Tatou, a genus of mammiferous quadrupeds, belonging to the order *Edentata,* readily distinguished from all others by the singular covering with which nature has protected them. This is a complete suit of armor, consisting of a triangular or oval plate on the top of the head, a large buckler over the shoulders and the haunches; and between this, disposed in transverse bands, which allow of freedom of motion to the body, similar bands in most species protecting also the tail. All this armor is attached to the skin of the body. The *A.* has a pointed muzzle, slightly extensive tongue, and

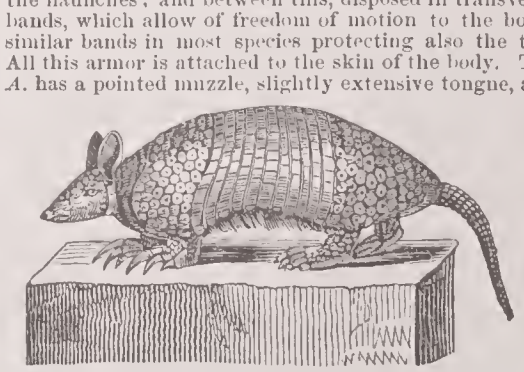


Fig. 189.—THE TATOU, (*Armadillo Cabassou.*)

powerful claws. All the species inhabit the warm and hot parts of America, dig burrows, and live upon vegetables, insects, and worms. The *A. Cabassou* is about 18

inches long to the tail, which is about 8 inches in length, has a flesh white, fat, tender, and very delicate. — The *Giant A.* of Cuvier is about 3 feet long. — See GLYPTODON.

—Also the name of a gen. of crustacea.

Armagh', a county of Ireland, in the prov. of Ulster, having Lough Neagh on its N. border. *Area*, 513 sq. m. Surface generally flat, and soil fertile. *A.* contains 8 baronies, and 28 parishes. *Pop.* (1891), 143,056.

Armagh', a city, and cap. of the above co., and the archepiscopal seat of the "Primate of all Ireland," 70 m. N. by W. of Dublin. Armagh is said to have been

Fig. 190.—VIEW OF ARMAGH, (*Ireland.*)

founded by St. Patrick, A.D. 450. It is a fine city, and is the centre of a great inland trade. *Pop.* 8,801.

Armagh', in *Pennsylvania*, a post-town of Indiana co., 52 m. E. of Pittsburg.

—A township of Mifflin co.

Armagnac, (*ar-man-yak'*,) a small territory in the ancient French province of Gascony, (now a part of the deps. of Hautes-Pyrenees and Gers,) from which the counts of *A.* took their title. The chief town was Lectoure.

ARMAGNAC, (*Counts of*,) a family descended from the ancient dukes of Aquitaine and Gascony, many of whose members were mixed up with the public affairs which agitated Europe between the beginning of the 14th, and the end of the 15th centuries.

Armagnac', *n.* A species of French brandy, distilled in the dep. of Gers, and second in quality only to Cognac.

Ar'mament, *n.* [Lat. *armamentum*.] A force equipped for war, either naval or military. — Also used to signify weapons employed for war, whether in sea or land service. — More particularly applied to the number and strength of the batteries carried by a vessel of war.

Ar'mature, *n.* [Fr. from Lat. *armatura*.] Armor: something to defend the body from hurt.

"Others should be armed with hard shells; others with prickles; the rest that have no such *armature*, should be endued with great swiftness and pernicity."—*Ray on the Creation.*

(*Phys.*) A piece of soft iron affixed to the poles or extremities of a magnet, in order that its magnetic power may be preserved. It is sometimes called a keeper. In dynamos a coil or series of coils of wires are used for the armature. In these, by revolution, an electric current is produced. See DYNAMO and ELECTRIC MOTOR.

Arm'-chair, Armed'-chair, *n.* An elbow-chair, or a chair with rests for the arms.

Armerolo'la Creek, in *Georgia*, enters the Etowa in the S.W. of Lumpkin co.

Armed, *p. a.* Furnished with arms, or weapons of offence or defence; furnished with the means of security. Fort Hall, (in a moral sense.)

(*Physics.*) Said of a magnet when furnished with an armature.

(*Bot.*) Furnished with prickles or thorns.

(*Her.*) Applied to the horns, hoofs, beak, or talons of any beast or bird of prey, when borne of a different color than the rest of their bodies.

Armenia, an extensive country of W. Asia, forming principally that table-land which lies between the Kur on the N. and the mountains of Kurdistan on the S., having the Euphrates on the W., and nearing the Caspian sea on the E. Lat. between 37° 50′ and 41° 40′ N.; Lon. 39° 20′ and 50° 40′ E. — *Area*, loosely estimated at 90,000 sq. m. Its principal mountain summit is Ararat (*q. v.*), and there are several other lofty chains. — *Rivers.* Some large rivers take rise in this country, as the Euphrates and Tigris, the Kur, the Araxes or Aras, and the Chorak. Its greatest lakes are those of Van, Urmiah, and Gonkcha or Sevan. The soil is generally very fertile: in the higher parts all kinds of cereals may be cultivated, and the valleys produce excellent cotton, grapes, tobacco, rice, hemp and flax. The minerals are iron, rock-salt, lead, arsenic, alum and great abundance of copper, indeed *A.* is exceedingly rich in mineral wealth. In ancient times the precious metals were also found. Many deserts exist, and the country is but thinly peopled. — *Climate.* Severe in winter, but in summer hot enough to ripen all manner of fruits. — *Inhabitants.* Mostly Turks, Persians, and Russians, with wandering hordes of Kurds and Turcomans. — *Prin. towns.* Erzeroum, Erivan, Van, Akhlat, &c. — *Pop.* 5,276,714, of whom the Christians number 1,385,627. — *History.* *A.*, now long since extinct as a nation, was governed for a long period by independent princes, or by satraps of the Assyrian and Persian monarchs. It was the theatre of long wars between the Romans and Persians, in the 13th century was overrun by the Moguls, and in the next ceased to be an independent country. The people have since become diffused over nearly the whole world. Until of late years, *A.* was divided between Persia and the Ottoman empire: but the latter ceded to Russia, by the treaty of Adrianople, a considerable portion of her *A.* territories, and, in 1827, Russia acquired the prov. of Erivan from Persia. Prior to the war in 1877, Turkish *A.* was subdivided into the pashalics of Erzeroum, Kars, and Van. The Armenians have always been noted for their eminent commercial capacity, and at the present time a large portion of the foreign and internal trade of Turkey, Persia, S. Russia, and India, is in their hands. They are particularly expert in banking operations, and though shrewd and exacting, are considered less prone to practise deceit than the Greeks. — *Religion, &c.* As early as the 2d century, Christianity is said to have been introduced into *A.*, but it was not firmly established there until the 4th century by the exertions of bishop Gregory; and in the 5th, the Bible was translated into the Armenian language by Miesrob. It differs but little from that of the Greek Church. Since 1441, the *A.* people have recognized as their spiritual head, called by them *catholikos*, the patriarch of Etschmiadzin, near Erivan. Their theology differs from that usually styled orthodox, in attributing only one nature to Christ, and holding that the Spirit proceeds from the Father alone. A considerable number, however, belong to the Holy See, who are called *United Armenians.* Among this people the patriarchal system of life and manners prevails in its highest integrity. — *Language.* The ancient Armenian is harsh and overcrowded with consonants; and, while having Indo-Teutonic roots, it bears also an affinity with the Finnish, and some languages of N. Asia. It is now a defunct language, only surviving in books. The modern tongue is a mere compound of Persic and Turkish, corrupted into various dialects. There are in Armenia 828,841 Armenian and 556,786 Greek and other Christians. (*Continued in* SECTION II.)

Armenia, in *Georgia*, a vill. of Scriven co.

Armenia, in *Ohio*, a village of Washington co.

Armenia, in *Pennsylvania*, a twp. of Bradford co.

Armenia, in *Wisconsin*, a post-twp. of Juneau co.

Armeniaca, *n.* (*Bot.*) See PRUNUS.

Armenian, *a.* Pertaining to Armenia.

—*n.* A native of Armenia; the language of the country. See ARMENIA.

Armentières (*ar-man'ti-air*), a frontier town of France, dep. du Nord, on the Lys, 13 m. N.W. of Lille. — *Manf.* Lineu fabrics, laces, beet root sugar &c. *Pop.* (1891), 27,628.

Armeria, *n.* (*Bot.*) A gen. of plants, ord. *Plumbaginaceæ.* — The Thrift, *A. vulgaris*, found in the Middle and Southern States, near the sea-coast, is a neat and elegant plant, bearing in June showy flowers, rose-colored. It is an active diuretic. From two drachms to an ounce of the flowers, freshly gathered and quickly dried, should be gently boiled, and the patient allowed to drink of the decoction *ad libitum.* Some aromatic substance is added to the decoction, as anise or cinnamon. The remedy appears to cause the excretion of urine in a direct manner.

Ar'met, *n.* [Fr.] A kind of helmet, used from the 14th to the 16th centuries. — An *A. grand*, was an *A.* worn with the beaver. The *A. petit*, was an *A.* without a beaver, and supplied with a triple-barred face-guard. — See ARMOR.

Arm'ful, *n.; pl.* ARMFULS. As much as the arms can hold.

Arm'hole, *n.* The armpit. — A hole for the arm in a garment.

Armida, an imaginary personage in Tasso's *Jerusalem Delivered.* She is represented as a very beautiful sorceress, employed by Satan to seduce Rinaldo and other crusaders. Rinaldo was conducted by *A.* to a remote island, where, in her splendid palace, surrounded by delightful gardens and pleasure-grounds, he utterly forgot his vows, and the great object to which he had devoted his life. To liberate him from his voluptuous bondage, two messengers from the Christian army — Carlo and Ubaldo — came to the island, bringing a talisman so powerful that the witchery of *A.* was thereby destroyed. Rinaldo escaped, but was followed by the sorceress, who, in battle, incited several warriors to attack the hero, and at last herself rushed into the fight. She was defeated by Rinaldo, who then confessed his love for her, persuaded her to become a Christian, and vowed to be her faithful knight. The story of *A.* has inspired Gluck with an admirable opera. Rossini has not been so successful: his opera on the same subject being far below his other compositions.

Armies'burgh, in *Indiana*, a post-office of Parke co.

Ar'miger, Armige'ro, *n.* [Lat. *arma*, arms, and *gerero*, to bear.] (*Her.*) Literally one who bears arms. The phrase was formerly applied to the attendant or esquire of a knight. It is a term of dignity now obsolete, entitling the bearer to hold rank above a simple gentleman, but below a knight.

"..... And a gentleman born, master parson, who writes himself '*Armigero*,' in any bill, quittance, or obligation, '*Armigero*.'" — *Shaks.*

See ESQUIRE.

Armig'erous, *a.* Bearing arms.

Armil'la, *n.* [Lat., from *armus*, the arm.] (*Antiq.*) An armlet, *q. v.*

(*Mech.*) An iron ring, hoop, or brace, in which the gudgeons of a wheel move.

(*Anat.*) The *A. membrosa* is that circular ligament which comprehends all the tendons of the whole hand, as if it were a circle.

Armil'lary, *a.* [Lat. *armilla*, a bracelet.] Consisting of rings or circles.

Armillary Sphere. (*Astron.*) An instrument which represents the great circles of the celestial sphere, the equator, ecliptic, tropics, equinoctial colure, &c. It is constructed of metal rings, representing these circles, fastened together in their relative positions, and movable on an axis passing through the poles; it is furnished with an horizon and meridian similar to those attached to the terrestrial, and the celestial globes. It was formerly much used by the early astronomers. It is now only used as an aid to instruction in astronomy, and is in this respect generally superseded by the celestial globe.

Ar'millated, *a.* Having bracelets.

Arm'ing, *n.* The act of taking arms.

(*Naut.*) A piece of tallow put in the cavity at the bottom of a lead, to bring up, in sounding, samples of the ground at the bottom of the sea.

Ar'mington, in *Illinois*, a post-village of Tazewell co., 45 m. N.N.E. of Springfield.

Armin'ian, *n.* One professing Arminianism.

—*a.* Relating to Arminius, or to his doctrines.

Armin'ianism, *n.* (*Eccl. Hist.*) The doctrine of Arminius, a Protestant divine, (*q. v.*,) who maintained that God had predestinated the salvation or condemnation of individuals only from having foreseen who would and who would not accept of offered mercy. His chief opponent was Gomar, who, with the Calvinists, asserted that God had from all eternity, of his free good pleasure, elected some to everlasting life, while he had left others to unbelief and consequent perdition. After the death of Arminius, in 1609, his followers rapidly increased, and were vehemently attacked by the Calvinists. In 1610, they addressed a petition to the States of Holland for protection, from which they got the name of *Remonstrants.* The Calvinists put forth a counter-remonstrance, and in 1614, the States issued an edict granting full toleration to both parties. This displeased the Calvinists, who continued their persecutions, and at length, in 1619, the doctrines of the *A.* were condemned by the synod of Dort, and their clergy were driven from their churches, and forbidden the exercise of their ministry in public. Owing to this step, many left the country, and found refuge in France, England, and other places. The views of the *A.* are summed up in the following five articles:—1. That God had, from all eternity, determined to save all who, he foresaw, would persevere in the faith; and to condemn all who should continue in unbelief. 2. That Christ died for all men; but that only those who believe are really saved by his death. 3. That man is of himself incapable of true faith, and must therefore be born again, of God, through Christ, by the Holy Spirit. 4. That all good works are to be attributed to the grace of the Holy Spirit, which, however, does not force a man against his own inclination. 5. That God gives to the truly faithful the power to resist sin. With respect to the possibility of a fall from the state of grace, Arminius and his immediate disciples were undecided; but his followers came afterwards to the belief that it was possible. After 1630, the *A.* were again tolerated in Holland; but from that time, their opinions underwent a considerable change. They have inclined more and more to freedom of thought, and the rejection of creeds and confessions. They chiefly build on the necessity of moral duties and good works, and allow each one to interpret the Holy Scriptures for himself. They reject many articles of faith, and do away almost entirely with the necessity of succor from the Holy Spirit. The *A.* have, however, dwindled down to a very small body; but their tenets, more especially regarding predestination, have been adopted by various other denominations, as the *Wesleyan Methodists*, as well as by numerous individual members of other churches.

Arminius, or HERMANN, who by his intrepidity and success acquired the title of "the Deliverer of Germany," was son of Segimer, a chief of the Cherusci. Having been sent to Rome as a hostage, he was there educated, served in the Roman army, and for his valor was raised to citizenship, and knighted. But his attachment to his native country induced him to revolt, and he became one of the most powerful leaders of the discontented German nations. He drew Varus, the Roman commander on the Rhine, into that ambuscade in which he and nearly all his troops were slain, and completely baffled Germanicus; but, after having for years withstood the vast power of Rome, Arminius was assassinated by one of his own countrymen, in the 37th year of his age, A.D. 19.

Arminius, JAMES, a Protestant divine, B. at Oudewater, Holland, 1560, founder of the sect of the Arminians. In his public and private life, *A.* has been admired for his moderation: and though many gross insinuations have been thrown against him, yet his memory has been fully vindicated by the ablest pens. A life of perpetual labor and vexation of mind, at last brought on a sickness, of which he died, 1609. His writings were all on controversial and theological subjects. — See ARMINIANISM.

Armip'otent, *a.* [From Lat. *arma*, arms, and *potens*, powerful.] Powerful in arms.

Armis'onous, *a.* [Lat. *armisonus*.] Resounding with arms. (R.)

Ar'mistice, *n.* [Fr., from Lat. *armo*, arms, and *sisto*, to stop.] The term given to a truce, or suspension of hostilities between two armies or nations at war, by mutual consent. It sometimes occurs owing to the exhaustion of both parties; at other times it is had recourse to with a view to arrange terms of peace. It may be either general or partial: the former, between two countries, the latter, limited to particular places, as between

NATIONAL COATS OF ARMS.

1 GERMANY.
2 BRAZIL.
3 RUSSIA.
4 ARGENTINE REPUBLIC.
5 ITALY.
6 AUSTRIA-HUNGARY.
7 SPAIN.
8 CHILE.
9 PORTUGAL.
10 UNITED STATES OF AMERICA.
11 BELGIUM.
12 GREECE.
13 SWEDEN.
14 NETHERLANDS.
15 DENMARK.
16 PERSIA.
17 FRENCH EMPIRE.
18 REPUBLIC OF FRANCE.
19 GREAT BRITAIN.

1

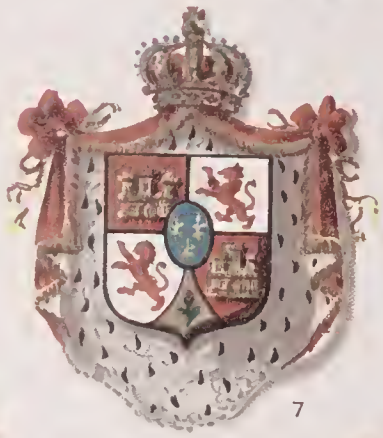
2

3

4

5

6



7

8

9

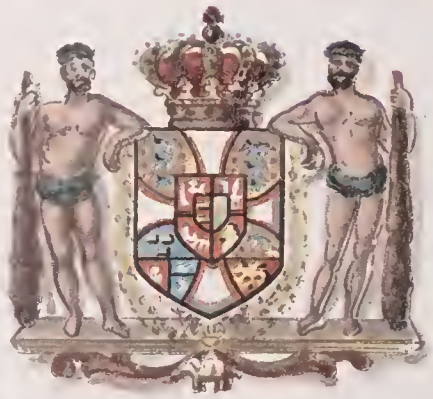
10

11

12

13

14



15

16

17

18

19

two armies, or between a besieged fortress and its assailants. The former ordinarily requires ratification, but the latter is in the power of the commanders of the respective troops.

Arm'less, *a.* Without armor or weapons; defenceless.

Arm'let, *n.* [Lat., from *armilla*, a bracelet or large ornamental ring worn by the ancients upon the wrist or arm.] This ornament was, with the Medes and Persians, worn by both sexes, but among the Greeks it appears to have been adopted by the women only. The wearing of the *armilla*, or *A.*, is of high antiquity; for we read in 2 Sam. i. 10, that the Amalekite who slew Saul "took the crown that was upon his head, and the bracelet that was upon his arm." With the Romans, the wearing of the *A.* was regarded as a sign of effeminacy; but it was, nevertheless, a custom of the Roman generals to bestow armillæ upon soldiers, as an acknowledgment of extraordinary valor. The materials out of which the *A.* were made were as various as the designs into which they were fashioned, a twisted serpent being one of the most popular forms. The Danes, Norsemen, and Anglo-Saxons also wore the *A.* Now, as in ancient times, they

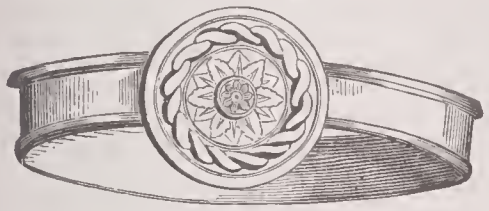


Fig. 191. — ASSYRIAN ARMLET.
From Nineveh Marbles, (British Museum.)

are sometimes made plain, sometimes enchased, sometimes with the ends not joined, and, sometimes, in a complete circle.

Armoire (*ärm-wâr'*), *n.* [A Fr. word.] A clothes-press; a closet; a buffet.

Armo'ni, son of Saul, by Rizpah. (2 Sam. xxi. 8.)

Ar'monk, in *New York*, a post-office of Westchester co.

Ar'mor, Ar'mour, *n.* [From Lat. *arma*, arms; Fr. *armure.*] Defensive arms; any habit worn to protect the body in battle.

(*Hist.*) From the earliest dawn of the historic era we find mention of this defensive covering. Leather, brass, iron, and even gold were employed for their fabrication. According to Homer, the golden *A.* of Glaucus was worth 100 oxen, and from the description in the Iliad we may learn how highly ornamented was the shield of Achilles. An ancient Greek soldier's heavy *A.* was composed of his greaves (or leg-guards), cuirass (or thorax) protecting his back and chest, sword, massive round shield, helmet, and finally his spear. (See *Fig.* 194.) Among the Egyptians, metal *A.* seems to have been worn only by the monarchs and nobility. With the Romans, the attire of a soldier was almost identical with

Fig. 192. — A KNIGHT OF THE 15TH CENTURY.
Armed at all points.

that of the Greek warrior already described. The ancient Britons, Germans, and Gauls, it is supposed, had no other defensive *A.* than a shield. The Anglo-Saxon *A.* consisted of shield, helmet, neck-guard, and breast-plate, all constructed of leather or tough hide, and pantaloons, which were strengthened by a net-work of perforated steel lozenges, called *mascles.* They also wore a conical skull-cap, probably of leather, and had battle-axes, swords, and spears. In the Middle Ages, a knight, when attiring himself in his suit of steel, called *A.* or *harness*, as represented in *Fig.* 192, commenced with his feet, and, proceeding upward, put on successively his *sabatynes*, or steel clogs; his *greaves*, or shin-pieces; his *cuisses*, or thigh-pieces; his *breech of mail;* his *tuillettes*, or envcloping-pieces below the waist; his *cuirass*, or breast-plate; his *vambraces*, or arm-coverings; his *rerebraces*, or shoulder-coverings; his *gauntlets;* next, he hung his dagger; put on his short sword; donned his cloak; cased his head in his *bassinet*, or *helmet;* fastened his long sword; took into his left hand his *pennoncel* or lance; and, finally, he took up his shield. He was then said to be "*Armed cap-à-pie*," "from head to foot," or "*at all points.*" — A suit of *A.* was generally made of chain-mail; but in the 14th century, plate-armor came into use, and reached its acmé of splendor in the reign of Richard III., when it was often damascened and inlaid with gold. In the beginning of the 17th century, *A.* fell into general disuse, though Charles I. endeavored to revive the fashion of wearing a complete suit. The helmet and cuirass are still retained in several *élite* corps of the European armies, as, for instance, the English Royal Horse-Guards and Life-Guards, the French Cent-Gardes, and the Imperial Guard of the Czar of Russia, the French heavy cavalry called cuirassiers, &c.

Ar'mor-bear'er, *n.* One who carries the armor of another; an esquire.

Ar'morer, or **Ar'mourer,** *n.* One who fabricates arms or any warlike weapon. The armor-smiths, or makers of armor, were among the most skilful workers in metal during the fendal times; but their trade afterward fell away, after the invention of gunpowder. In most European armies, an *A.* is a soldier whose duty it is to take charge of, and keep in good condition, the arms of the troop or company to which he belongs. In the British navy, the *A.* is a warrant-officer, assisted by a subordinate, who is called *armorer's mate;* on shipboard he has under his care all the small arms, cutlasses, boarding-pikes, &c.

Armo'rial, *a.* Belonging to armor, or to the arms or escutcheon of a family.

A. ensigns, or *A. bearings.* (*Her.*) A term applied, collectively, to the shield and its charges, and the crest, helmet, and motto, belonging to any gentleman entitled to bear arms. In England, the supporters are also included in this expression. It is, however, properly applicable to the devices on the shield only, which are also termed *arms.* The figure (193) represents the *A. ensigns* or arms of the kingdom of Spain, which is described as escarteled 1 and 4 gules with argent towers, which are for *Castile;* 2 and 3 argent with lions of gules crowned Or, which are for *Leon;* enté-in-pointe of argent with a pomegranate of gules, having leaves of sinople, for *Granada;* under all, azure with three fleurs-de-lis of Or, which is for *Bourbon* (France).

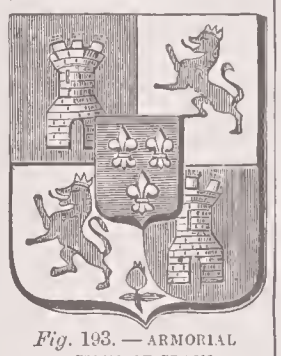


Fig. 193. — ARMORIAL ENSIGNS OF SPAIN.

Armor'ic, Armor'ican, *a.* Relating to Armorica.

Armor'ic, *n.* The language spoken in Armorica, which was one of the Celtic dialects.

Armor'ica. [Celt. *ar*, near, and *mor*, the sea.] The country of the Armorici; the name by which the people occupying the coast of Gaul between the Seine and the Loire were known to Cæsar. At a later period, the name *A.* was confined to the country afterward styled *Bretagne*, q. v.

Ar'mory, *n.* [From Lat. *armarium*, a place for arms.] A repository for arms and instruments of war; and also a manufactory of arms. — Armor or arms; warlike implements.—Armorial ensigns.

Ar'mour, *n.* See ARMOR.

Ar'moy, a parish of Ireland, in the co. of Antrim.

Arm'pit, *n.* The hollow place under the shoulder.

Arms, *n. pl.* [Lat. *pl. arma*; Fr. *pl. armes.*] In its general sense, this name, rarely used in the singular (see ARM), is applied to weapons of offence or defence; but it is more usually given to weapons of offence.

"*Arms* on armor clashing, brayed
Horrible discord."—*Milton.*

—War; hostility; warlike exploits.

"*Arms* and the man I sing."—*Dryden.*

(*Mil.*) The offensive weapons may be divided into two principal classes—those acting by explosion, and those that do not. The earliest offensive weapons (properly so called) were the club, and the bow and arrow. Afterward came into use the pike, lance, spear, dart, javelin, dagger, mace, battle-axe, chariot-scythe, dirk, bayonet, sword, &c. The balista, catapulta, and battering-ram, may be said to have been the precursors of the modern artillery. The invention of gunpowder led to the introduction of a great variety of offensive weapons, to be acted on by its agency. As all these *A.* will be described under their own headings, we will here but cursorily allude to their names, viz.: the hand-cannon, hand-gun, arquebus or harquebus, demi-haque, harquebut or haqbut, musket, wheel-lock, match-lock, caliver, carbine, escopette, fusil, blunderbuss, dragon, firelock, rifle, &c. — See also ARMOR, ARMY. ARTILLERY, &c.

To be in arms, to be in a state of hostility.—*To arms!* a summons to battle.—*To be under arms*, to be armed and ready for action.—*Stand of arms*, a complete set of arms for a single soldier, whether of infantry or cavalry; as rifle, bayonet, carbiue, sabro, belts, cartridge-box, &c.

(*Her.*) See ARMORIAL.

(*Mech.*) The two parts of a balance or other lever on opposite sides of the fulcrum.

(*Law.*) Anything that a man wears for his defence, or takes in his hands, or uses in his anger, to cast at or strike at another.

(*Zoöl.*) The natural weapons of beasts, as claws, teeth, beak, &c.

Arm's'-length, Arm's'-reach, *n.* The length or reach of the arm. See ARM.

Arms, Coats of, National. See ARMORIAL; also the accompanying plate.

Arms, Sergeant at. See SERJEANT-AT-ARMS.

Arm'strong, JOHN, a Scotch poet and physician. In 1744 he published the *Art of Preserving Health*, a didactic poem, which is his best work. D. 1779.

Arm'strong, an American general, who distinguished himself in the Indian wars. He defended Fort Moultrie, and was in the battle of Germantown. D. 1795.

A., JOHN, son of the preceding, B. 1758, was also a general, who at the age of 18 joined the Revolutionary army, contrary to the wishes of his parents; was aide-de-camp to Mercer at the battle of Princeton, received him into his arms when he fell, and afterward served as major under Gates. Just before the close of the war, he wrote a series of anonymous articles which are celebrated as the *Newburgh Letters*, the effect of which was so great, that Washington felt called upon to issue an address to counteract their influence. He was subsequently Secretary of State for Pennsylvania, a member of the first Congress, a United States Senator from New York, and Minister to France under Madison. He passed the latter part of his life in literary and agricultural pursuits. D. 1843.

Armstrong, LORD, (formerly Sir) WILLIAM GEORGE, a distinguished English mechanical engineer, was born at Newcastle-on-Tyne in 1810. After being educated at Bishop-Auckland School, Durham, he studied law and became partner of a solicitor in Newcastle, but soon gave his attention to scientific pursuits. In 1840 he investigated an incident which happened to a Newcastle workman, who received a strong electric shock from the steam coming from a high-pressure engine. As a result of this case he invented the hydro-electric machine, which yielded much more electricity than the machines previously in use. He was, in consequence, elected a fellow of the Society of Arts. Armstrong's next inventions were the hydraulic crane and the "accumulator," the latter of which furnished an artificial head of hydraulic power for working machines. The invention, however, for which he is particularly known, is the Armstrong Gun (*q. v.*), a piece of rifled ordnance which he produced in 1854 and which was adopted in the English service in 1858, Armstrong being knighted and made engineer of rifled ordnance. He made successive changes in this gun and applied the principle to all sizes, from the 6-pounder to the 600-pounder. Within three years he supplied the British service with 3000 of these guns. In 1863 he resigned his government position and rejoined the Elswick Company, which he had previously organized for the construction of hydraulic machinery. It has become one of the most important works in Europe for the construction of cannon and armored ships. In the same year, as President of the British Association, he called attention to the probable exhaustion of the coal of Great Britain within a brief period, and subsequently more fully investigated this subject as a member of a royal commission. In 1862 Cambridge conferred on him the honorary degree of LL. D., and in 1870, Oxford that of D. C. L. He was made a peer in 1887, under the title of Baron Armstrong. He is a Knight Commander of the Bath and belongs to various orders. He has strongly opposed the patent laws of Great Britain and has sought to have them repealed.

Arm'strong, in *Illinois*, a post-village of Vermilion co., 9 m. N. N. E. of Mount Carmel.

Arm'strong, in *Indiana*, a post-township of Vanderburgh co.

Arm'strong, in *Pennsylvania*, a W. county, organized in 1800, and named in honor of General Armstrong. *Area*, about 750 sq. m. The surface is hilly, and in many places unfit for cultivation, but the county is very rich in iron, stone coal, limestone, and salt. — *Rivers.* Allegheny and Kiskiminetas rivers; Red Bank, Mahoning, Cowanshannock, and Crooked creeks. *Cap.* Kittanning. *Pop.* in 1890, 46,340.

—a township of Indiana co.

—a township of Lycoming co.

Arm'strong Gun, *n.* (*Mil.*) A piece of ordnance possessing great power and precision, invented by Sir William Armstrong, and first used by the English in China, in 1860, with remarkable effect. The following were its leading characteristics and qualities:—1. Its lightness as compared with the guns previously in use, the weight being reduced more than half.—2. The economy in the consumption of powder, only half the quantity formerly used for guns of equal calibre being needed.—3. Its great range, this being more than 5 miles.—4. Its resistance to injury from repeated firing.—5. The great accuracy of aim possible with it.—7. The peculiar construction of its elongated shells. The breech-loading principle was at first adopted, but was afterward abandoned. The strength, lightness, and durability of this gun were due to its mode of construction, it being made of pieces of the best wrought iron,

which were put together in a manner similar to that used in making gun-barrels out of nails, horse-shoes and pieces of rod-iron, which were twisted round a steel bar and hammered together. The bore of the gun was rifled by machinery, it having a large number of small grooves close together. These formed a complete twist around the bore in a distance of 10 feet, and there were as many as 40 in a gun of 2½ inches bore. In this respect it differed from ordinary rifled guns, which had only from 2 to 4 grooves. The shot and shell used for the Armstrong gun were elongated, the length being about 3 times the diameter. Bands of thin lead were attached to them, that they might take the form of the rifled interior of the bore and acquire a rotatory motion before leaving the muzzle. Many men-of-war and shore batteries have been furnished with guns of this make of large calibre, some of them being adapted to balls of very great weight, while the lightness of the 9 and 12-pounders made them well suited for field-batteries. The invention of the Armstrong gun has led to the development of other improved guns, and to a great advance in the range and power of artillery. Large numbers of Armstrong guns were used during the American civil war by both belligerents. This weapon is now practically superseded by the later forms of breech-loading rifled guns of still greater power and range.

Arm'strong, formerly ARMSTRONG'S CORNERS, in *Wisconsin*, a post-office of Foud du Lac co.

Arm'strong, formerly ARMSTRONG'S GROVE, in *Iowa*, a post-office of Emmett co.

Arm'strong's Mills, in *Ohio*, a post-office of Belmont co.

Armu'chee, in *Georgia*, a post-office of Floyd co.

Ar'my, *n.* [Fr. *armée*, from Lat. *armo* or *arma*.] In a general sense, an army is the whole armed force raised for the defence of a country by land. In a limited sense, it denotes a large body of soldiers, consisting of horse and foot, completely armed, and provided with artillery, ammunition, provisions, &c., under a commander-in-chief, having lieutenant-generals, major-generals, brigadiers, and other officers under him. An *A.* is generally divided into a certain number of corps, each consisting of brigades, regiments, battalions, and squadrons; when in the field, it is formed into lines. The first line is called the vanguard, the second the main body, the third the rearguard, or corps of reserve. The middle of each line is occupied by infantry; the cavalry forms the right and the left wing of each line, and sometimes squadrons of horse are placed in the spaces between the battalions. —The *materiel* of an army, as the French term it, consists of the horses, stores, provisions, and everything necessary for service. — *Armies* are, moreover, distinguished accordiug to their manner of service, as *blockading A.*, *A. of observation*, *A. of reserve*, &c.

(*Hist.*) The earliest trained *A.* of which we have any account was that of Sesostris, king of Egypt, about 1600 B. C. It was organized for the purpose of conquering the world, and consisted, according to Diodorus Siculus, of 600,000 infantry, 24,000 cavalry, and 27,000 war-chariots. In the reign of David, the Jews acquired considerable military skill. Solomon introduced cavalry, and also chariots into his *A.* Subsequently, the Persians came to be distinguished for their military achievements. The strength of their army, however, consisted in its cavalry. Their infantry seems to have been little better than an armed mob, and hence the repeated defeats that they sustained from comparatively small bodies of Greeks. The *A.* of Xerxes for the invasion of Greece is said, inclusive of the sea forces, to have amounted to upward

Fig. 194. — HEAVY-ARMED GREEK WARRIOR.
(From Hope's *Costumes of the Ancients.*)

of 2,500,000 fighting-men. Arrian says that Darius brought into the field against Alexander, 1,000,000 infantry, 40,000 cavalry, 200 chariots armed with scythes, and many elephants. In Greece, the people were early inured to arms, and among them the Spartans were pre-eminently distinguished for their perfect discipline, and high military training. They first introduced the *phalanx*, a particular mode of arranging the infantry, (see PHALANX.) As regards the Athenian military strength, we are told that they had 10,000 heavy-armed troops at Marathon. The Macedonian *A.* of Philip was the first standing *A.* in Greece, and in its train we find artillery in the form of basiltæ and catapultæ. In Alexander's reign, the strength of this *A.* was much increased, for we find that at Arbela they mustered 32,000 heavy infantry, 16,000 light infantry, and 4,000 cavalry, besides several thousand auxiliaries; making an *A.* altogether of probably 60,000 men. The Carthagimans under Hannibal may be estimated at, at least, 100,000. The Roman *A.*, in its best days surpassed, in organization and discipline, all preceding armies. Its basis was the *legion*, comprising both infantry and cavalry to the extent of from about 5,000 to 6,000 men, (see LEGION.) Their cavalry had nearly the same armor as the heavy-armed infantry. The total number of Roman legions under Augustus was 25; under Alexander Severus, 32; but in the latter, and corrupt days of the empire, their military power declined and degenerated into a feeble militia, which was easily overthrown by the Northern barbarians. After the subversion of the Roman empire, the feudal system which was introduced, was hostile to the establishment of large armies. Military service was the tenure by which occupiers held their lands; and while the barons enjoyed unlimited authority over their vassals, and were frequently at war with their neighbors, there were no great armies. In the 11th century the Crusades aroused men's minds, and called forth the whole energies of Europe. Mighty armies were marched into Asia to deliver the Holy Land from the domination of the Infidels. Charles VII., of France, was the first to introduce standing armies in Europe, after the fall of the Roman empire. — The history of modern armies may, properly, date from the invention of gunpowder, and is divided into 7 periods: — 1. From the first employment of cannon to the campaign of Charles VIII. in Italy. 2. From the end of the 15th to the middle of the 16th century: it comprises the wars of the French, Germans, and Spaniards in Italy. 3. The war of the *Independence of the Netherlands*, from 1568 to 1609. This war led to great improvements in the organization and tactics of armies. By skill and discipline, a people, mostly merchants and manufacturers, nerved by oppression, coped with and ignominiously expelled from their country, the forces of the then greatest European military power. 4. The period of the *Thirty Years' War* in Germany, extending from 1618 to 1648. In this war Gustavus Adolphus greatly changed the character and tactics of armies. He abandoned the dense formation of his predecessors, introduced lighter weapons, and made many improvements in artillery. 5. Comprehends the wars of the French in Italy, Germany, and the Netherlands, as well as the Northern and Turkish wars, and embraces a period of 90 years, from 1648 to 1738. In the wars of Louis XIV., during this period, great improvements were introduced in the art of carrying on military operations, under such generals as Turenne, Luxembourg, and Condé; while opposed to them were Marlborough, Eugene of Savoy, and other commanders. Standing armies now attained an extent hitherto unexampled. Instead of the 14,000 men maintained by Henry IV., Louis XIV., after the peace of Nimeguen, had an *A.* of 138,000 men. To this period, too, belong the wars of Charles XII., under whom the Swedish infantry reached a high degree of perfection. 6. This period includes the three Silesian wars, and extends from 1745 to the breaking out of the French revolution in 1792. The Prussians had been for some time increasing their standing army and improving their military discipline, so that when Frederick the Great ascended the throne, in 1740, he found himself at the head of an efficient *A.* of about 80,000 men. This *A.* he greatly increased and improved, until Prussian tactics became a pattern for all other European states. The 7th, and last period, extends from the first French revolution down to the present time. The standing armies and the military science of this period far outnumber and surpass those of any one preceding. — Under the names of the principal modern nations will be given the latest information on their respective armies.

Ar'nauld, a Spanish churchman, who lived in the 13th century. — See AMALRIC.

Ar'nauld, an ancient French family of Auvergne, which distinguished itself both in civil and military affairs, and from which are here selected:

A., ANTOINE, an advocate at Paris, B. 1560, distinguished for his powerful and successful defence of the university of Paris against the Jesuits, in 1594. By this he drew on himself the hatred of the Jesuits, but remained, till his death, in 1618, in possession of his honors, and was esteemed the greatest lawyer of his time. His twenty children formed the rallying point of the sect of Jansenists (see JANSENIUS) in France; the daughters and grand-daughters as nuns, in Port Royal, the sons as members of the learned society, who shut themselves up in this monastery, and are known under the name of *Messieurs du Port Royal.* A son of his eldest daughter, Isaac le Maître de Sacy, also united himself to this society, and, as translator of the Bible that appeared at Mous, played an important part in the history of Jansenism.

A., ROBERT D'ANDILLY, eldest son of Antoine, born at Port Royal, in 1588, died in 1674, made himself known as a very correct French writer, by his religious poems and tracts, and his translations of Josephus's History of the Jews, and of Davila's works. He was far surpassed in intellect by his youngest brother.

A., ANTOINE, known as *the Great A.*, was the youngest child of the lawyer Antoine, B. 1612. Under the guidance of the abbot of St. Cyr, John du Vergier de Hauranne, first head of the Jansenists in France, he devoted himself to theology, and was received, in 1643, among the doctors of the Sorbonne. In the same year, he attacked the Jesuits in two works, *De la fréquente Communion*, and *La Théologie Morale des Jesuites*, the first of which occasioned much controversy, because it applied the principles of the Jansenists to the receiving of the sacrament. He excited similar controversies by his work, *De l'Autorité de St. Pierre et de St. Paul residente dans le Pape*, 1645, by the opinion therein maintained, that the two apostles should be regarded as of equal rank, and as founders of the Roman Catholic Church. After 1650, when Jansenism had become an object of public odium, and the watchword of an important party in the state, Arnauld engaged in all the quarrels of the French Jansenists with the Jesuits, the clergy, and the government, was their chief writer, and was considered their head. The intrigues of the court occasioned his exclusion from the Sorbonne, 1656, and the persecutions which compelled him to conceal himself. After the reconciliation between Pope Clement IX. and the Jansenists, 1668, he appeared in public, and enjoyed the homage which even the court did not refuse to his merits and talents. To satisfy his love of controversy, he attacked the Calvinists in many controversial tracts, and, with his friend Nicole, composed the great work, *La Perpétuite de la Foi de l'Église Cathol. touchant l'Eucharistie*, in opposition to them. On account of the new persecutions of the court, or rather of the Jesuits, he fled, in 1679, to the Netherlands, employed himself, in his exile, in controversial writings against the Calvinists and the Jesuits, and died, in want, at a village near Liege, 1694. He was a man of a vigorous and consistent mind, full of solid knowledge and great thoughts; in his writings, bold and violent to bitterness; undaunted in danger, and of irreproachable morals. He is acknowledged to have done much for the improvement of morality in the Catholic Church; yet would his genius have been far more useful to the Church and to literature, had not his situation and character involved him in a multitude of controversies, which rendered his literary activity, for the most part, fruitless to posterity.

A., ANGÉLIQUE, daughter of Robert, B. 1624, abbess at Port Royal des Champs, where she had been educated by her aunt, Marie Jaqueline Angelique *A.*, sister of the great *A.* She was a determined Jansenist, as were all the family of the *A.* Mother Angélique de Saint Jean, which was her conventual name, had much to endure, but she met misfortunes with intrepidity; D. 1684. She was learned without being pedantic, pious without bigotry, and gentle to others in proportion as she was severe to herself. — See PORT ROYAL.

Arnauld'ville, in *Louisiana*, a post-office of St. Landry parish.

Ar'nauts, or AR'NAOUTS, the name given by the Turks to the inhabitants of ALBANIA, *q. v.*

Ar'nay-le-Duc, a small town of France, dep. of Côte d'Or, 29 m. S.W. of Dijon, near which, in 1550, the great Huguenot chief, admiral Coligny, defeated the royal army commanded by the Marshal de Cossé.

Arndt', ERNST MORITZ, a distinguished German patriot and poet, B. in Rügen, 1769. He was educated at Greifswalde and Jena, and while at the first-named university he published his *History of Serfdom in Pomerania and Rügen* — a work which highly excited against him the animosity of the German nobility. In 1807 appeared the first volume of his *Geist der Zeit* ("Spirit of the Time"), which contained such bitter attacks on Napoleon, that *A.* was forced, after the battle of Jena, to seek refuge in Stockholm, where he remained until 1809. On the outbreak of the war in 1812, he withdrew to Russia. During this, and the years immediately following, appeared those national tracts and poems from his pen, which evoked the patriotic enthusiasm of the German people, and largely contributed to the expulsion of the French from their country. His finest poem (a martial hymn), *Was ist des Deutschen Vaterland?* (What is the German's Fatherland?) has since become almost the national anthem of Germany. Subsequently, his liberal political opinions involved him in comparative disgrace with the Prussian government. In 1848, Professor *A.* was a deputy from Rheinish Prussia to the German National Assembly at Frankfort, which he quitted on 21st May, 1849, along with the rest of the Gagern or constitutional party. The last occasion upon which he used his pen was during the Schleswig-Holstein war, when, in what he termed *The Last Words of E. M. Arndt of Rügen*, he made a spirited and vigorous appeal to the country, in his old style of patriotic fervor. A new selection from his poems was published at Leipzig, in 1850; D. 1860.

Arndt', JOHANN, a famous German theologian, and one of the most popular religious writers of the Lutheran Church; B. at Ballenstadt, in 1535. In 1557, he studied at Wittenberg, whence he proceeded to Strasbourg, and afterward to Basle. In 1611, he was called to be general superintendent at Zelle, where he died on the 11th May, 1621. His most famous work is his *Vom wahren Christenthum*, or "True Christianity." It produced a powerful reaction in Germany, and has been translated into all the European tongues, and even into some of the Oriental languages. The so-called pietism of *A.* and his followers has had an immense theological influence on the continent of Europe. An excellent edition of his principal works was published by Krummacher, in 1852.

Arne', THOMAS AUGUSTINE, a famous English musical composer, B. in London, 12th March, 1710. He from an early age became a devoted enthusiast in the musical art, and indulged his passion by the production of operas

ctorios, &c., some of which, as his *Rosamond*, *Zara*, *Judith*, and *Artaxerxes*, established his reputation, during that epoch, as a musical composer of the highest class. He also wrote the music for the revival of Milton's *Masque of Comus;* in which first appeared the song of *Rule Britannia*, since acknowledged as the national air of England. D. 1778.—His son Michael, also a composer, is principally known for his opera of *Cymon*, produced in 1767.

Arnee', *n.* (*Zoöl.*) The common name of the *Bos arde*, an inhabitant of the highlands of Hindostan, where it is known under the name of *arria*. It is closely allied to the common wild buffalo, and is remarkable for strength and courage, qualities admirably seconded by a pair of horns measuring from 4 to 6 feet in length, and arching in the form of a bold crescent.

Arnee', two towns of Hindostan, in the British presidency of Madras.

Ar'nettsville, in *West Va.*, a post-office of Monongalia co.

Ar'ney, in *Indiana*, a post-office of Owen co.

Ar'neytown, in *New Jersey*, a post-village of Hanover township, Burlington co., 15 m. S.E. of Trenton.

Arn'heim, a fortified city of Holland, cap. of Gnelderland, on the Rhine, about 50 m. from Amsterdam. It stands on the right bank of the Rhine, which is here crossed by a bridge of boats. It is well-built, and possesses fortifications which, in 1702, were much improved by the famous engineer Cohorn. *Manuf.* Cottons, woollens, tobacco, and paper. *Pop.* 32,479. *A.* was taken from the Spaniards in 1585, and by the Prussians from the French in 1813.

Arn'heim, in *Ohio*, a post-village of Brown co., 100 m. S.S.W. of Columbus.

Arn'hem Bay, in *Australia*, a spacious inlet in Arnhem Land, at the N.W. extremity of the Gulf of Carpentaria; Lat. 12° 11′ S.; Lon. 136° 3′ E.

Arn'hem Land, on the N. coast of Australia, is a tract of country discovered by the Dutch in 1618. It comprises all the territory between the Gulf of Carpentaria and Anson's Bay, stretching in E. Lon. from about 129° to about 137°: and in Lat. extending indefinitely southward from about 12° S.

Ar'nica, *n.* [Perhaps from Gr. *ptairo*, to sneeze.] (*Bot.*) A gen. of plants, ord. *Asteraceæ*. The most important species is *A. montana*, known by the names of mountain-tobacco, and German leopard-bane. It is a perennial, herbaceous plant, found growing in the meadows of the cooler parts of Europe, and also of the Western States of N. America. The florets are of a yellow color, tinged with brown. The whole plant, when fresh, possesses a strong and disagreeable odor, and an acrid, bitter taste. All parts of the plant have striking medicinal properties, but the flowers constitute the part generally preferred. The preparation known as *tincture of A.*, which is obtained by macerating the flowers with alcohol, is now largely employed by the public as an external application for bruises and internally as a stimulant in typhoid and other low fevers, and also in cases of palsy. Its action is to promote perspiration. The use of *A.* in medicine, however, is limited, and its utility is much questioned. The dose of the tincture varies from two to forty drops. The flowers, though not much used internally, have been occasionally employed as a substitute for Peruvian bark, and are said to have proved beneficial in cases of amaurosis and chronic rheumatism. Preparations of *A.* are much used by the homœopathists. The species *A. mollis* is found in ravines on the White Mountains.

Fig. 195.—ARNICA MONTANA.

Ar'nica, Oil of. (*Chem.*) Both the roots and the flowers of *A. montana* contain volatile oil. The oil obtained from the flowers has a yellow or brownish-green color, dissolves in 10 to 60 pts. of absolute alcohol, and forms a solid resin when treated with nitric acid.

Ar'nica, Tincture of. See ARNICA.

Ar'nicine, *n.* (*Chem.*) A bitter principle in the flowers of the *A. montana*.

Ar'nim, Elizabeth von, more usually styled Bettina Brentano, b. at Frankfort-on-the-Maine, in 1785. She spent part of her youth in a cloister, and while extremely young, conceived an ardent passion for the poet Gœthe, at that time nearly 60. She possessed considerable literary ability, as is testified by her letters written to Gœthe. In later years she published several works on social reform. D. 1859.

Ar'nim, or **Arn'heim**, Johann Georg, Baron von, commander-in-chief of the Saxon army during a part of the Thirty Years' War, b. in the Mark of Brandenburg, 1586. He was first employed by Gustavus Adolphus, whom he left, in 1626, to take a command under Wallenstein. He entered the service of the Elector of Saxony in 1630; and in the year following commanded the Saxon troops in the great battle of Leipzig. On the 3d May, 1634, he defeated the Imperialists at Liegnitz, but after the treaty of Prague, in 1635, he retired from public life. D. 1641.

Ar'nim, Ludwig Achim von, a distinguished German romancist; b. in 1781, at Berlin. His fictions are too fantastic and bizarre; but he possesses deep feeling, considerable humor, and great powers of observation. His *Complete Works* were published at Berlin, in 1839–1846, in 19 vols. D. 1831.

Ar'nis, an island of Denmark, containing a small fishing town of the same name, on the Schlei.

Ar'no, a large and famous river of Italy, in Tuscany, rising in the Apennines, at Monte Falterona, and pursuing generally a W. course, by Florence and Pisa, enters the Mediterranean sea 5 miles below the latter city. Its entire length is estimated at about 175 miles. This river has an uncertain navigability, dependent upon the influences of the seasons, and is so liable to floods at times, that it has been embanked for a great distance from its mouth. *A.* is the *Arnus* of the Romans. The *Val d'Arno* ("Valley of Arno"), between Florence and Pisa, is one of the richest and loveliest vales in Italy.

Ar'no, in *Illinois*, a village of Coles co., about 6 m. N.E. of Mattoon.

Ar'no, in *Missouri*, a post-office of Douglas co.

Ar'nold, Benedict, an American general, was b. at Norwich, Connecticut, in 1740. He was settled in extensive business at New Haven when the war of Independence broke out. After the news of the battle of Lexington, he raised a body of volunteers, and received a colonel's commission. After commanding, for a short time, a small fleet upon Lake Champlain, he was, along with General Montgomery, charged with the difficult duty of leading a force of 1,100 men across the wilds of the country to Quebec, to stir up rebellion there, and displace the British garrison. In this unsuccessful attempt, Montgomery was killed, and *A.* severely wounded. After this, we find him in various important commands, but as often involved in quarrels with Congress and his fellow-officers. It would be of little interest now to enter into a detail of his grievances. He seems to have been a singularly brave, but reckless and unprincipled man. Washington valued him for his acts of daring, and would gladly have overlooked his faults; but Congress and his brother-officers regarded him with dislike, and sought every possible means to humble and annoy him. After many disputes about the honor that was due to him for his services, he was invested with the government of Philadelphia. There his imprudence was most marked; indeed, it would be difficult to clear him from the charge of actual dishonesty. He was brought before a court-martial: four charges were urged against him; two of these were found proven, and he was sentenced to be reprimanded by the commander-in-chief. *A.* could not bear the affront, nor longer endure the difficulties into which he had brought himself. He, accordingly, formed the disgraceful design of deserting to the ranks of the enemy, and put himself in communication with Sir Henry Clinton, the British commander. Major André was sent by Sir Henry to negotiate with *A.*, and they had an interview near West Point, which fortress *A.* had offered to surrender to the enemy. On his way to the British camp, however, the young officer fell into the hands of the Americans, and the whole plot was of course discovered. The news of André's capture reached *A.* just in time to enable him to make his escape, and reach the British camp in safety. There he retained his rank of brigadier-general, and fought with as much daring against the cause of American independence, as he had before fought against the royal forces. He took command in an expedition against Virginia, and again in an incursion into his native State. Afterward he served in Nova Scotia and the West Indies, and at last settled in England, where he D. in 1801.

Ar'nold, Thomas, D.D. One of the most distinguished English divines and historians of the present century; b. at Cowes, 1795. He entered Oxford university in 1811, and was elected a Fellow of Oriel Coll. in 1815. While in this position, he was the friend and coutemporary of the poet Keble, of Copleston, and of Archbishop Whately. In 1828, *A.* was elected to the head-mastership of Rugby School, which office he held until his death, and raised it, by the enlightened system of education he inaugurated, to the highest rank among the great public schools of England. Under his auspices, the antiquated scholastic system became revolutionized. In politics he was an advanced liberal, so much so, indeed, that he was at one time denounced by some of the clergy for what they termed the Jacobinism of his views. In 1841 he was appointed Regius Professor of Modern History at Oxford, and D. 12th June, 1842. As a writer, *A.*'s works consisted mainly of a *History of Rome*, completed to the end of the Punic war; a *Commentary on the New Testament*, and a *Treatise on Church and State*. Fearless, disinterested, transparently truthful, religious without cant, and zealous without rancor, *A.* produced through life the impression on his warmest opponents of a man whom it was impossible not to respect. Few men in modern times have so well realized and represented the ideal of the old knightly character as the Rugby schoolmaster. Like Bayard, he was pre-eminently *sans peur et sans reproche*. His life has been written by Dean Stanley, one of his old pupils.

Ar'nold of Brescia, one of the reformers prior to the Reformation, a disciple of Abelard of Paris, and of Berengarius. As early as the middle of the 12th century, his bold spirit, his scriptural knowledge, and his eloquence, had succeeded in arousing France and Italy against the abuses of the Roman Church. Driven by the clergy from Italy, he sought refuge in Zurich, where he made many converts. At length, through the instigation of St. Bernard of Clairvaux, he was charged with heresy, and excommunicated by Pope Innocent II. At this juncture, serious popular tumults occurred at Rome, and *A.*, hastening thither, was received with great cordiality, and soon vested with supreme power. In 1155, however, Adrian IV. interdicted and expelled him the city. For a time he sheltered in Campagna, but was seized, and taken back to Rome, where he was executed, and his ashes were thrown into the Tiber. *A.* was a man of great eloquence and sanctity. He taught that Christ's kingdom was not of this world; that temporal dignities and large independent revenues ought not to be held by the clergy; and that nothing should be left to them but spiritual authority, and a moderate subsistence. He is also reckoned by Dr. Wall among those who denied the scriptural authority of infant baptism. His followers were called *Arnoldists*, and held the same opinions as the Waldenses.

Ar'nold, Matthew, an eminent English poet, critic, and essayist, son of Dr. A., of Rugby, b. 1822, educated at Winchester and Rugby. In 1844 he obtained the Newdegate prize-poem at Oxford, in which university he was elected Convocation Professor of Poetry in 1866. *Balder*, his most considerable poem, is derived from the Norse mythology. As a poet, he has little in common with the prevailing tastes of the age. His verse is always calm, chaste, and noble; and there is throughout his style of thought a certain antique grandeur, strikingly in contrast with most modern poems. He is the author of *Essays on Criticism, Culture, and Anarchy; Literature and Dogma*, an essay toward a better appreciation of the Bible; *God and the Bible; St. Paul and Protestantism; Isaiah of Jerusalem*, &c. In 1883 he visited the U. S. D. 1888.

Ar'nold of Winkelried, a Swiss hero, who, at the battle of Sempach in 1386, sacrificed himself to insure victory to his countrymen. The Austrian knights, dismounted, had formed themselves into a phalanx which the Swiss vainly strove to pierce; when *A.*, rushing on the spear points of the enemy, and burying several in his breast, thus opened a gap in the fence of steel. The Swiss rushed in through the opening, and routed the Austrians with great slaughter.

Ar'nold, in *Ind.*, a v. of Rush co.

Ar'noldists, *n. pl.* See Arnold of Brescia.

Ar'nold's, in *Md.*, a p.-o., of Anne Arundel co.

Ar'noldsburgh, in *W. Va.*, a p.-o. of Calhoun co.

Ar'nold's Creek, in *Indiana*, flowing into the Ohio river 2 m. from Rising Sun.

Ar'nold's Mills, in *S. C.*, a village of Pickens co.

Ar'noldsville, in *Mo.*, a village of Buchanan co.

Arnold'ton, in *Virginia*, a village of Campbell co., 110 m. W. S. W. of Richmond.

Arnol'fi di Cam'bio, or di La'po, one of the most eminent architects and sculptors of Italy, was b. at Florence in 1232. The most celebrated of his architectural works are, the churches of Santa Croce, the Cathedral, and Or San Michele, at Florence, in which the gradual transition from the Gothic severity to the Italian elegance is markedly represented. This structure was completed after the death of *A.* by Brunelleschi, between 1430 and 1444. D. 1300.

Ar'non, in *Illinois*, a village of Will co., about 36 m. S. from Chicago.

Ar'not, in *Pennsylvania*, a post-office of Tioga co.

Ar'not, or **Ar'nut**, *n.* [Ger. *erdnuss.*] The earth-nut or pig-nut; the root of the *Bunium bulbocastanum*.

Ar'nott, Neil, M.D., an eminent Scottish physicist; b. at Aberdeen, in 1788. In 1811, he settled in medical practice in London, and in 1827 published his great work, *Elements of Physics, or Natural Philosophy, General and Med.* He is also known as the inventor of the "*A.* stove" the "*A.* ventilator," and the "water-bed." D. 1874.

Arnot'to, *n.* See Annotto.

Ar'nould, *Madeleine Sophie*, a celebrated French actress, b. at Paris, 1744; D. 1803. Though famous as a comedienne and a singer, Sophie made herself still more illustrious by her wit, which was satirical and caustic. Many of her sayings are recorded in *Arnouldiana, ou Sophie Arnould et ses Contemporains*, and still retain currency as *bons mots*. When the priest of St. Germain l'Auxerrois gave her the extreme unction, she suddenly said to him, "*Je suis comme Magdeleine, beaucoup de péchés me seront remis, car j'ai beaucoup aimé.*"

Arns'berg, a town of Prussia, in Westphalia, *cap.* of a circle of the same name, on the Ruhr, 57 m. N.E. of Cologne. Here the manufacture of potash is largely entered into, and there are numerous distilleries. *Pop.* 6,348.

Arn'stadt, a town of Prussia, on the Gera, 12 m. S. of Erfurt. It is one of the oldest Thuringian cities, and has now a considerable trade. *Pop.* (1891) 12,450.

Arns'walde, a town of Prussia, prov. of Bradenburg, 19 m. S. E. of Stargard; *pop.* in 1897 (est.) 7,500.

Arn'ulf, grandson of Louis le Debonnaire, who after the deposition of Charles le Gros, was elected, in 887, king of Germany. Proceeding to Italy to be crowned, he was there opposed by Agelrude, duchess of Spoleto, mother of Lambert, his competitor: and although consecrated emperor by the Pope in 896, continued to meet

with determined opposition. He died three years afterwards by poison, administered, it was supposed, by the Duchess, and was succeeded by his son, Louis IV., the last of the Carlovingian race in Germany.

Arokszal'las, a village of Jazygia in Hungary, 44 m. E.N.E. of Pesth. It forms the entrepôt of trade between that city and Upper Hungary. *Pop.* 9,176.

Arol'sen, a town in N. Germany, cap. of the principality of Waldeck, on the Aar, 21 m. N.N.W. of Cassel. It is the residence of the prince. *Pop.* about 2,060.

Aro'ma, *n.* [Gr., from *ari,* intensive, and *ozo,* I smell; perhaps related to Sansc. *ghrâ,* to smell; Fr. *arôme.*] The principle in plants, or other substances, which constitutes their fragrance. In some plants this resides in a volatile oil; but in others the portion containing this substance cannot be detected. It is of an extremely subtile nature, filling the air of rooms, or even the whole atmosphere around gardens; and, although constantly being imparted for years,—as it may be, for instance, in the case of musk, so as perpetually to fill the air of a well-ventilated room,—yet never causes the substance from which it emanates to diminish in weight. The *A.* of plants is imparted to oils and spirits by maceration.

Aro'ma, in *Illinois,* a post-village of Kankakee co., on the Kankakee river, 40 m. S.S.E. of Joliet, in a township of same name, which has a *pop.* of 1,150.

Aromat'ic, Aromat'ical, *a.* Having an aroma; strong-scented; fragrant; spicy; having an agreeable odor.

Aromat'ic, *n.* A substance, as plant, drug, and medicines, which emits agreeable odors. They are usually characterized by a warm pungent taste. Of such are the spices, ginger, pepper, cinnamon, balsams, frankincense, &c. They usually contain a peculiar volatile oil, mixed with resinous substances. The animal kingdom furnishes some *A.*, as ambergris, musk, civet, &c. They are chiefly employed in the manufacture of perfumery, and in medicine as anti-spasmodics, &c.

Aromat'ic Vinegar, the name of a very agreeable perfume, the base of which is acetic acid. One of the most popular recipes for its composition is the following: Dried leaves of rosemary, rue, wormwood, sage, mint, and lavender-flowers, each ½ oz.; bruised nutmeg, cloves, angelica-root, and camphor, each ¼ oz.; rectified alcohol, 4 oz.; concentrated acetic acid, 16 oz. The materials should be macerated for a day in the spirit; the acid then to be added, allowing the whole to digest for a week.

Aromatiza'tion, *n.* The mingling of aromatic spices with any medicine. (o.)

Aro'matize, *v. a.* To impregnate with aroma or fragrant odors; to perfume.

Aro'matizer, *n.* That which aromatizes.

Aro'matous, *a.* Containing aroma; aromatic.

Aro'na, a town of N. Italy, on the Lago Maggiore. St. Charles Borromeo was born here. *Pop.* 4,127.

Aro'nia, *n.* (*Bot.*) A name of the gen. *Pyrus,* q. v.

Aroos'took, a river of the U. States, which rises in the N. of Maine, Piscataquis co., and after a N.E. course of 120 m., empties into the St. John's river in New Brunswick.

Aroos'took, in *Maine,* a N.E. county, organized in 1839. *Area,* 4,950 sq. m. It is bounded N. by St. John's river, and drained by numerous streams, the principal of which are the Aroostook and the Matawamkeag. The surface is hilly, with some mountain-peaks, as Chase's Mount and Mars Hill. The soil is fertile, but a large part of the county is still unsettled, and thickly wooded. *Cap.* Houlton.

—A post-office in the above county.

Arose', The past or preterit tense of the verb *to arise.*

Around', *prep.* About; on all sides of; encircling; encompassing.

—*adv.* In a circle; on every side.

Arouse', *v. a.* [*a* and *rouse,* from the root of *raise.*] To raise; to rouse; to awaken; to stir up; to excite; to call forth; to animate.

"Fantastick woes *arous'd* rage in each thought."—*Thomson.*

Arow', *adv.* In a row; in order. (o.)

Aroynt', *interj.* [A word of very old use; etymology uncertain.] Begone! away! (o.)

"Saint Withold footed thrice the wold,
He met the night-mare, and her name told,
Bid her alight, and her troth plight,
And *aroynt* thee, witch *aroynt* thee right."—*Shaks.*

Ar'pad, the conqueror of Hungary, and founder of the *A.* dynasty, which reigned till 1301, was B. in the 2d half of the 9th century. He was the son of Almus, whom the 7 Magyar clans dwelling in the steppes N.E. of the Caspian Sea had elected their hereditary chief about 889. Thus united into one nation, the Magyars, mustering about 25,000 warriors, crossed the Carpathians, and conquered Hungary, when *A.* was elected their prince. *A.* was unable completely to transform their nomadic hordes into an agricultural nation. He D. 907.

Arpeg'gio, *n.* [It., from *arpeggiare,* to play on the harp.] (*Mus.*) A rapid production of the several notes which compose any chord, in succession, and not simultaneously. The violoncello, viola, violin, and all instruments played upon with a bow, are capable of performing an *A.*, but it is to the harmonium and pianoforte that its execution more particularly appertains.

Ar'pent, *n.* [Fr.] An ancient French land-measure, the value of which was different in every province. The *A.* of Paris was somewhat equivalent to five-sixths of the English acre. It is now practically used only in Switzerland, where it represents ⅝ of an acre.

Arpenta'tor, *n.* (*Law.*) A measurer or surveyor of land.

Arpi'no, a town of S. Italy, prov. of Caserta, 6 m. S.S.E. of Sora. It is the ancient *Arpinum,* birthplace of Caius Marius, Agrippa, and Cicero. *Pop.* 12,276.

Ar'qua, a town of N. Italy, 12 m. S.W. of Padua, in which prov. it is situated. It is famous for having been the residence of Petrarch during the greater part of his life, and the place where he died in 1374. His sarcophagus is still to be seen. Lord Byron, in the 4th canto of "Childe Harold," says:

"They keep his dust in *Arqua,* where he died;
The mountain-village where his latter days
Went down the vale of years; and 'tis their pride —
An honest pride — and let it be their praise,
To offer to the passing stranger's gaze
His mansion and his sepulchre; both plain
And venerably simple, such as raise
A feeling more accordant with his strain,
Than if a pyramid form'd his monumental fane."

Ar'quated, *a.* [Lat. *arquatus.*] Shaped like a bow; arcuate.

Arquebusade', *n.* [Fr., the shot of an arquebuse.] (*Med.*) The name of a spirituous water, distilled from a farrago of aromatic plants, originally used for wounds inflicted by an arquebuse; afterward applied to sprains and bruises; now out of use.

Ar'quebuse, AR'QUEBUS, or HARQUEBUS, *n.* [Fr. *arquebuse.*] (*Mil.*) A kind of hand-gun used before the invention of the musket. The earliest hand-guns were fired by applying a match with the hand to the touch-hole. Afterward a contrivance, suggested by the trigger of the cross-bow, was introduced, by means of which the burning match could be applied instantaneously. This was called an *A.*, and is first mentioned by Philip de Comines, in his account of the battle of Morat, in 1476. On the formation of the Yeomen of the Guard in England, in 1485, many of them were armed with the *A.* Its use was discontinued in England about the reign of Henry VIII., and in France during that of Henry IV.

Fig. 196.
ENGLISH ARQUEBUSIER.
(*15th century.*)

Arquebu'sier, *n.* [Fr.] A soldier armed with an arquebuse.

Ar'querite, *n.* (*Min.*) A mineral of isometric form. It occurs in regular octohedrons; also in grains, small masses, and dendrites. It resembles silver in lustre, color, and ductility, but is softer.—*Comp.* Silver 86·5, mercury 13·5 = 100. *A.* is the principal ore of the mines of Arqueros, near Coquimbo, in Chili.

Ar'ques, a small, decayed town of France, dep. Seine-Inférieure, 3 m. from Dieppe. Its castle, in former ages, formed the principal bulwark of Normandy on the N., and withstood many sieges. In the neighborhood of *A.*, in 1589, Henri IV., of France, defeated the Leaguers under the Duc de Mayenne.

Arraca'cha, *n.* (*Bot.*) See OXALIS.

Arrack', RACK, RAKI, *n.* [Hind.] A strong spirituous liquor, largely used in the E. Indies and S. America, prepared in many ways, often from rice, sometimes from sugar fermented with the juice of cocoa-nuts, and from other substances. In Java, it is prepared in the following way: After all the sugar has been obtained from the cane, the common and impure molasses that drains off is fermented with a small quantity of rice; palm-wine is then added, and from this mixture is distilled the *A.*, which consequently differs but little from rum. It is considered, and no doubt rightly, to be the most destructive drink that can be placed in the human body in these hot regions. Large quantities are shipped to the cold countries of Sweden and Norway.

Ar'ragon, *n.* (*Geog.*) See ARAGON.

Ar'ragonite, *n.* (*Min.*) See ARAGONITE.

Ar'rah, a town of Hindostan, and cap. of the district of Shadabad, in the British presidency of Bengal, 36 m. from Patna. During the Indian mutiny of 1857, *A.* was heroically defended by 20 British civilians and 50 Sikh troops, against a force of 3,000 Sepoy mutineers. *Pop.* about 15,000.

Arraign (*ar-rān'*), *v. a.* [O. Fr. *arraigner,* from Lat. *ad,* and *ratio, rationis,* account.] To call to account; to call for a defence or justification; to indict; to accuse; to charge; to censure.

(*Crim. Law.*) To call a prisoner to the bar of the court, to answer the matter charged in the indictment.

Arraign'ment, *n.* Act of arraigning; accusation; a calling in question.

(*Crim. Law.*) The *A.* of a prisoner consists of three parts:—1. Calling him to the bar, and commanding him to hold up his hand, making it appear that he is the party indicted. 2. Reading the indictment to him distinctly, that he may fully understand the charge. 3. Demanding whether he be guilty or not guilty. The pleas upon *A.* are either the general issue, *i. e.* not guilty, or a plea in abatement or in bar; or the prisoner may demur to the indictment, or he may confess the fact, upon which the court proceeds immediately to judgment. But if the prisoner "will not answer directly to the indictment or information, it shall be lawful for the court to order the proper officer to enter a plea of *not guilty* on behalf of such person; and the plea so entered shall have the same force and effect as if the person had so pleaded the same."

Ar'rau, an island of Scotland, in Buteshire, separated from the Mull of Kintyre, by Kilbrannan Sound, and from the Ayrshire coast by the Frith of Clyde. It is 41 m. from the Isle of Bute, is about 17 m. long by 11 broad, and contains about 100,000 acres. It is very rugged and mountainous; Goatfell, the highest elevation, being 2,874 feet above the sea. The shores are generally steep and rocky. It has three deep bays, Ransa, Brodick, and Lamlash; the latter is one of the best harbors of refuge in the Frith of Clyde. The geology of *A.* is remarkable. The S.E. half of the island consists of Devonian sandstone, and of trap rocks and carboniferous

Fig. 197.—MOUNTAINS OF MICA—SLATE AND GRANITE.

strata, which occupy the middle and western portions. The N.W. half consists of a central granite nucleus, including Goatfell, bordered on the W. by a tract of mica-slate, and on the N.E. and W. by lower Silurian rocks, which again have a run of Devonian sandstone on the E. and S. Lias and oölite lie on the mica-slate. *Pop.* 5,991.

Ar'ran (NORTH ISLAND OF). The largest of a group of islands called the *Rosses,* on the N.W. coast of Ireland.

Ar'ran (SOUTH ISLES OF). Three islands on the N.W. coast of Ireland, at the mouth of Galway bay. Their names are Arranmore, Inismaine, and Innishere. The *A.* contain about 11,288 acres, and yield a rental of $9,000. The inhabitants subsist on fishing, for which purpose they use a boat made of wicker-work covered with tarred cloth, closely resembling the *coracle* of the ancient Britons. The principal village is Killany, on the island of S. Arranmore, the largest of the group. Lat. 53° 7′ 38″ N.; Lon. 9° 42′ 22″ W.

Ar'ran-Fow'ddy, and **Arren'ig,** two mountains of Wales, in the co. of Merioneth, a few miles from Bala. Height, about 3,000 feet each.

Arrange', *v. a.* [Fr. *arranger*—*ad,* and *ranger,* from *rang,* a rank or row.] To range or set in ranks; to place in a row or line.

"I chanced this day
To see two knights in travel on my way,
(O sorry sight!) *arrang'd* in battle new."—*Faërie Queene*

—To put in proper order; to dispose in an orderly manner; to adjust; to settle; to classify.

Arrange'ment, *n.* Act of arranging; orderly disposition; adjustment; settlement; classification.

(*Mus.*) The adaptation of a piece of music so as to be performed on an instrument, or instruments, different from those for which it was originally composed: as when orchestral or vocal compositions are set for the pianoforte, or the reverse.

—The piece so adapted; as, a violin *arrangement* of *Norma.*

Arrang'er, *n.* One who arranges.

Arran'more (North), an island on the N.N.W. coast of Ireland, co. Donegal. *Area,* 4,335 acres, of which only about 600 are under cultivation. Kelp is manufactured here, and ironstone found.

Ar'rant, *a.* [Lat. *errans,* from *erro,* to wander.] Infamous; shameless; vile; downright; thorough; mere.

"And let him every deity adore,
If his new bride prove not an *arrant* . . . . ."—*Dryden.*

Ar'rantly, *adv.* Corruptly; shamefully.

Ar'ras, a city of France, cap. of the dep. of Pas-de-Calais, 60 m. S.E. of Calais, and 100 N.N.E. of Paris, on the Brussels railway. This is a very ancient city, replete with fine old architectural remains, and also possessing a large commerce in cotton and stuffs, hosiery, lace, pottery, &c. *A.* has been the theatre of many memorable historical events, and was fortified by Vauban, in the reign of Louis XIV. Robespierre was born here, as was also Damiens, the assassin of Louis XV. *Pop.* 26,295. During the middle ages, *A.* was famed for its *tapestry,* richly figured hangings that adorned the halls of the kings and the nobles. They were known under the name of *A.*; but have been for a long time superseded by the tapestry of the *Gobelins,* q. v.

Ar'ras-wise, *adv.* (*Her.*) Applied when anything of a square form is placed with one corner in front, showing the top and two of the sides, in the same way as lozenges are set.

Array', *n.* [Norm. *araie,* from *ray,* a robe; O. Fr. *arroy;* It. *arredo,* household furniture; Sw. *reda,* to prepare, Scot. *rede,* to put in order, to dress.] Preparation; equipment; dress; ornaments.

"In this remembrance, Emily ere day
Arose, and dressed herself in rich *array.*"—*Dryden*

—Regular disposition of any objects for show or exhibition; as, "an *array* of flowers."

—Order; order of battle; disposition of an army in regular lines.

"A great gen'ral sets his army in *array*
In vain, unless he fight and win the day."—*Denham.*

—Posture of defence.

(Law.) The whole body of jurors summoned to attend a court, as they are *arrayed* or arranged on the panel.—*Bouvier.*

Array', *v. a.* [Norm. *arraer;* O. Fr. *arroyer;* It. *arridare.*] To prepare; to get ready; to deck, or dress; to adorn.

"Deck thyself now with majesty and excellency, and *array* thyself *with* glory and beauty."—*Job* xi. 10.

—To envelop; to draw up.—To arrange; to equip;—to set or dispose in order, as the names of the jurors in the panel, or an army for battle.

Array'er, *n.* One who arrays.

(Mil.) An officer who anciently had the care of seeing the soldiers duly appointed in their armor.

Arrear', *n.* [From Fr. *arrière*, behind.] That which is to the rear or back; that which remains behind unpaid, although due.—Generally in the plural.

Arrear'age, *n.* [Fr. *arrerage.*] That part of a sum which remains behind, though due; arrears.

Ar'reboe, ANDRES, a Danish theologian and poet, B. at Æroe in 1589; D. 1637.

Arrect', Arrect'ed, *a.* Erected; erect; raised or lifted up. (R.)

Arrest', *v. a.* [Fr. *arrêter*, for *arrester;* from Lat. *ad*, and *resto*—*re*, and *sto*, to stand back, to stay behind, to stop.] To stop, stay, or obstruct; to check; to hinder; to restrain; to seize; to apprehend.

(Law.) To take, seize, or apprehend a person by virtue of lawful authority.

Arrest', *n.* A stoppage; obstruction; stop; hindrance; delay; restraint.

(Law.) The apprehending or restraining one's person, which, in civil cases, can take place legally only by process in execution of the command of some court or officers of justice; but, in criminal cases, any man may arrest without warrant or precept.—Although ordinarily applied to any legal seizure of a person, *A.* is more properly used in civil cases, and *apprehension* in criminal.—*A. of judgment.* The act of a court by which the judges refuse to give judgment, because upon the face of the record it appears that the plaintiff is not entitled to it.

(Far.) A scurfiness seated between the ham and the pastern of the hind legs of a horse.

Arresta'tion, *n.* [Fr.] The act of arresting; arrest or apprehension. (R.)

Arrest'er, Arrest'or, *n.* One who arrests.

Arrest'ment, *n.* *(Scottish Law.)* The securing a criminal's person until trial, or that of a debtor until he gives security.—Also, the order of a judge, by which he who is debtor in a movable obligation to the arrestor's debtor, is prohibited to make payment or delivery till the debt due to the arrestor is paid or secured.

Arret', *n.* [Fr. *arrêt.*] A judgment, sentence, or decree of a court. This term, derived from the French, is used in Louisiana and Canada.—*Saisie arrêt* is an attachment of property in the hands of a third person.

Arrhenathe'rum, *n.* *(Bot.)* See AVENA.

Arrhidæ'us, one of the generals of Alexander the Great, was employed to convey the body of that king from Babylon to Egypt. In 321 B. C., after the death of Perdiccas, he was proclaimed, along with Pithon, regent of Macedonia, which office Eurydice compelled him to resign. He was afterward assigned the government of a part of Phrygia.

Ar'rhythmy, *n.* [Gr. *arrythmia*, from *a*, priv., and *rythmos*, rhythm.] A want or deficiency of rhythm.

Ar'ria, a celebrated Roman matron, wife of Cæcinua Pætus, consul during the reign of Claudius, about A. D. 41. Pætus having raised an unsuccessful revolt against Claudius in Illyria, was condemned to die. He was, however, allowed the option of ending his life by suicide, which the Romans did not deem a crime. Pætus hesitated: *A.* seized the dagger, plunged it into her bosom, and then presenting it to her husband, said, "It is not painful, Pætus." This, with other instances of her conjugal devotion, has immortalized her.

Arria'nus, FLAVIUS, a philosophical and historical writer, and a native of Nicomedia, in Asia Minor, who, in the reign of Antoninus Pius, was raised to the consulship. *A.* was a pupil of the famous Stoic Epictetus, and tried to do for his master what Xenophon did for Socrates. He published Epictetus' lectures in 8 books, 4 of which have come down to us. It was he who compiled the world-renowned *Manual of Epictetus*, the best compendium of the Stoic philosophy. He also wrote, besides other works, the *Anabasis of Alexander the Great*, a work much inferior to that of Quintus Curtius in power of description, but far more accurate in details, and more trustworthy in its authorities.

Arria'za, JUAN BATTISTA, a Spanish poet, who ranks among the best contemporary authors of his country. His effusions largely inclined to favor monarchy and legitimacy. B. at Madrid, 1770; D. 1837.

Arriere', *n.* [Fr. *arrière*, behind.] *(Mil.)* A term formerly applied to the last body of an army; the rear.

Arriere'-ban, *n.* [Fr. *arrière*, behind, *ban*, proclamation.] *(Feudal Law.)* A general proclamation of the French kings, by which not only their immediate feudatories, but their vassals, were summoned to take the field in war.—*A. fee*, or *fief*, a fee dependent on a superior one, or a fee held of a feudatory.—*A. vassal*, the vassal of a superior vassal.

Arri'ghi, GIOVANNI TOUSSAINT, *Duke of Padua*, a Corsican, who became a general in the French service. He was B. in 1778, and served Napoleon I. to the last with bravery and fidelity. He was banished in 1815, but recalled in 1820. D. 1853.

Ar'rington, in *Virginia*, a post-village of Nelson co., 24 m. N. by E. of Lynchburg.

Ar'ris, *n.* [Fr. *arête*, from Lat. *arista*, the bone of a fish.] *(Arch.)* The intersection or line on which two surfaces of a body, forming an interior angle, meet each other. Though, in common language, the edge of a body implies the same as arris, yet, in building, the word *edge* is restrained to those two surfaces of a rectangular parallelopipedal body of which the length and thickness may be measured, as in boards, planks, doors, and other framed joinery.—*A. fillet*, a slight piece of timber of a triangular section, used in raising the slates against chimney shafts, or against a wall that cuts obliquely across the roof. When the *A.* fillet is used to raise the slates at the eaves of a building, it is then called the *eaves-board*, *eaves-lath*, or *eaves-catch.*—*A. gutter*, a wooden gutter of the V form, fixed to the eaves of a building.

Arri'val, *n.* [From *arrive.*] Act of arriving, or coming to any place.

"She, like the sun, does still the same appear,
Bright as she was at her *arrival* here."—*Waller.*

—A coming, reaching, or gaining; attainment of anything by effort, study, or practice; as, "his *arrival* to the perfection of art."—Persons or things arriving; as, "the last *arrivals* from California."

Arrive', *v. n.* [Fr. *arriver;* It. *arrivare*, from Lat. *ad*, and *ripa*, bank of a river, a shore.] To come to the shore, or bank; to come to; to reach any place.

"At length *arriving* on the banks of the Nile."—*Dryden.*

—To reach any point;—with *at.*

"The bounds of all body we have no difficulty to *arrive at;* but when the mind is there, it finds nothing to hinder its progress."—*Locke.*

—To gain any thing by progressive approach.

"It is the highest wisdom by despising the world to *arrive* at heaven."—*Taylor.*

—To happen; to befall. (O.)

Arro'ba, *n.* [Sp.] *(Com.)* A measure of weight or quantity, employed in various countries. In Buenos Ayres, and throughout the Argentine provinces, it is equal to 25·35 lbs. avoirdupois; and in Brazil, to 32·38 lbs. av. In Chili, the *A.* of 25 lbs. weight is equivalent to 25·36 lbs. av.; the *A.* of wines or spirits, to 6.70 imp. gallons. In Mexico, an *A.* of wine is = 3½, and of oil, = 2¾ imp. gall. In Paraguay, Peru, and Uruguay, an *A.* of weight amounts to 25·35 lbs. av.; and Peru has also an *A.* for measuring wines or spirits, of 6·70 imp. gallons. In Spain, the *A.* of wine is 3½, and of oil, 2¾ imp. gallons.

Ar'rogance, Ar'rogancy, *n.* [Fr.; Lat. *arrogantia*, from *arrogans*, from *arrogo.*—See ARROGATE.] Such a habit of mind and manner as seems to abuse the deference of others by claiming more than one's due; assumption; haughtiness; presumption; pride; insolent bearing.

Ar'rogant, *a.* [Fr., from Lat. *arrogans.*] Claiming too much; assuming; presuming; haughty; supercilious; overbearing.

Ar'rogantly, *adv.* In an arrogant manner.

Ar'rogantness, *n.* Arrogance. (R.)

Ar'rogate, *v. a.* [Fr. *arroger*, from Lat. *arrogo—ad* and *rogo, rogatus*, to ask, to claim.] To lay claim to more than is proper; to make undue claims; to demand; to assume from pride or vanity.

Arroga'tion, *n.* Act of arrogating; proud and unjust assumption.—*(Roman Law.)* The adoption of a person of full age; while adoption, properly so called, was of a person under full age.

Ar'rogative, *a.* Making undue claims; assuming.

Arroud'issement. [Fr.] A term employed in France to distinguish any portion of land held under the control of civil or military authority; as, the *A.* of the justice of peace, the maritime *A.*, &c. Paris is divided into 18 *A.*, or *mairies.*—The Department, *q. v.*, is subdivided into arrondissements.

Arro'quhar, or ARRO'CHAR, a parish and village of Scotland, 4 m. from Ben Lomond, on the lake of that name. It is a great place of resort for tourists.

Ar'row, *n.* [A.S. *arewa;* Goth. *arf;* etymology uncertain.] The name given to the shaft which is discharged from a bow. It has three principal parts: the *stele* or wooden portion, the head or *pile*, and the feather. The wood best adapted for the shaft of an *A.* is ash. An *A.* is furnished with 3 feathers, one of which, of different color from the others, is placed uppermost on the string, and is called the cock-feather. The piles, or heads, are made either blunt or sharp, the advantage of the former kind being that they are more easily extracted than the latter. The weight of the arrow should be proportioned to the strength of the bow. For bows of 5 feet, arrows of 24 inches are commonly used, and for those of 5 feet 9 inches, arrows of 28 or 29 inches. The nock of the arrow is usually cased with horn, and should be made so as to exactly fit the string. The distance to which an *A.* can be sent by a good archer is generally from 200 to 250 yards. The *A.* of the English archers, so famous in days of yore, was usually the length of a cloth-yard; hence the designation "cloth-yard shaft."—See ARCHERY, BOW, &c.

Ar'row (LOUGH), a lake of Ireland, in the co. Sligo. It is 5 m. in length, and covers 5,100 acres. This lake, with its numerous islands, is most picturesque.—A river of the same name; flows N.N.W. to its confluence with the Owenbeg.

Ar'row-grass, *n.* *(Bot.)* See JUNCAGINACEÆ.

Ar'row-head, *n.* The head of an arrow.

(Bot.) See SAGITTARIA.

Ar'rowhead'ed Char'acters. See CUNEIFORM INSCRIPTIONS.

Ar'row Rock, in *Missouri* a post-village of Saline county, on the Missouri river. Near this place a battle was fought, Oct. 12th, 1863, between the Confederates, numbering about 2,500 men, under Shelby, and the Union troops, commanded by Gen. E. B. Brown, which lasted until dusk, and on the following morning was resumed; then lasting about 5 hours, at the end of which the Confederates were defeated with a loss of about 300 men, and all their artillery, excepting one gun.

Ar'row-root, *n.* The starch of the *Maranta arundinacea* (see MARANTA), cultivated both in the E. and W. Indies. According to Benzon, the root contains: starch, 26·00; woody fibre, 6·00; albumen, 1·43; chloride of calcium, 0·26; water 56·60=100. In the island of St. Vincent, the skinned tubers are washed and ground in a mill, and the pulp is washed in cylinders of tinned copper with perforated bottoms. To obtain the fecula free from impurity, great care must be used in every step of the process.—The term *A.* is applied generally to indicate a starch or fecula; thus, Portland *A.* is obtained from *Arum maculatum;* Tahiti *A.*, from *Tacca oceanica;* English *A.*, from the potato, &c. The cheaper fecules are sometimes substituted for genuine *A.*; but they are readily detected by the microscope. The true *A.* is one of the most palatable and digestible of the starches. The expressed juice of the plant has been used as an antidote to poisons, and to the bites and stings of venomous insects. *A.* is frequently adulterated with potato-starch and refined sago-flour, sometimes with rice-starch, and

Fig. 198.—ARROW-ROOT, (*Maranta arundinacea.*)
1. Tubers. 2. Leaf and flowers.

the starch of common wheaten flour. The granules of these inferior starches can readily be distinguished under the microscope by their different sizes and forms.—See STARCH.

Arrow'sic, in *Maine*, a township of Sagadahoc county.

Ar'rowsmith, AARON, an English geographer, B. at Durham, 1750. His maps of the World, and of N. America and Scotland, though, of course, inferior to those of the present day, were a striking improvement on all preceding ones. D. 1823.

Ar'rowsmith (Mount), in Tasmania (or Van Diemen's Land); Lat. 42° S.; Lon. 146° E. Height about 4,000 feet above sea-level.

Ar'rowy, *a.* Consisting of, or formed like arrows.

"The lambent homage of his *arrowy* tongue."—*Cowper.*

Arro'yo. [Sp.] *(Geog.)* A term given in Spanish-speaking countries to a small stream or rivulet.

Arro'yo, in *Pennsylvania*, a post-office of Elk co.

Arro'yo del Puer'co, a town of Spain, in Estremadura, 10 m. W. of Caceres; *pop.* 8,096.

Arro'yo Moli'nos, a town of Spain, in Estremadura, 27 m. S.S.E. of Caceres; *pop.* 3,515.—Here, on the 28th of Oct., 1811, a body of the French, sent out by Soult on a foraging expedition, was surprised by a much larger English force under Lord Hill. An engagement took place, the result of which is differently appreciated by the historians of the two nations. The English took 1,300 prisoners, but the French retreated in good order.

Ar'ru or **Ar'oo Islands.** See ARU.

Arru'ra, *n.* See ARURA.

Ar'saces, founder of the Parthian monarchy. He induced his countrymen to rise against the Macedonian yoke, 250 B. C., on which they raised him to the throne. *A.* was slain in battle, after a reign of 38 years. *A.* was the first of a long line of monarchs of the same name, the last of whom was put to death about 226 A. D.

ARSA'CES TIRA'NUS, king of Armenia, who, being taken prisoner by Sapor, king of Persia, was cast into prison at Ecbatana, where he died 362 B. C. His country then became a Persian province.—There were many other Armenian kings of this name, but they are not easily distinguishable from each other, and are generally of small historical importance.

Arsa'cides, in the S. Pacific ocean. See SOLOMON ISLANDS.

Ar'senal, *n.* [Lat. *arx, arcis,* a citadel.] A term generally applied to any place where naval or military stores are kept, more particularly to a large public establishment where the munitions of war are manufactured and stored.

Ar'senal, in *Pennsylvania,* a village of Alleghany co.

Arse'niate, AR'SENATE, *n.* (*Chem.*) A salt resulting from the union of arsenic acid with a base. The *A.* are generally insoluble in water, but very soluble in an excess of arsenic acid, which solubility is a useful criterion of the acid. They are decomposed at a red heat by charcoal, and yield the characteristic garlicky smell of the metallic vapor. They are generally unimportant in the arts.

Ar'senic, *n.* [Fr.: Gr. *arsenikon,* from *arsen.* male, masculine, *i. e.* the substance which kills with masculine force.] (*Chem.* and *Min.*) A very soft, brittle, and eminently poisonous metal, of a steel-gray color. Symbol As. It is scattered in great abundance over the mineral kingdom, and is sometimes found in the free state, but more frequently combined, chiefly with iron, nickel, cobalt, and sulphur. It is also contained in very small quantities in many mineral springs. In order to separate *A.* from any of the metallic ores in which it occurs, the ore is roasted, or exposed to a current of heated air in a reverberatory furnace. *A.* was known in different combinations by the ancients, but has only latterly been known to be of metallic origin. It is, however, so unlike metal in many of its properties that, even now, certain French chemists consider it as belonging to the non-metallic elements; indeed, it may be considered the connecting link between these two divisions of the elements: antimony and bismuth being closely connected with it on the one hand, and phosphorus and nitrogen on the other. *A.* combines with the atmospheric oxygen, forming *arsenic* and *arsenious oxide.* Metallic *A.* may be formed from arsenious oxide by mixing it with charcoal and sodium carbonate, and heating in a closed crucible, the upper part of which is kept cool; *A.* condenses in the cool part of this apparatus as a solid, with a brilliant grayish lustre. It tarnishes in the air from oxidation; it has a sp. gr. of 5·7 to 5·9, and when heated to 500° Fahren., it volatilizes as a colorless vapor without undergoing fusion, and this vapor possesses a remarkable garlic-like smell. *A.*, when heated in the air, takes fire, and burns with a bluish flame, forming arsenious oxide, As_2O_3; when thrown into chlorine it instantly takes fire, forming *A.* trichloride, $AsCl_3$. Metallic *A.* may be reduced to powder in a mortar, and is not considered poisonous; but when introduced into the animal system, it is in part oxidized, thus acquiring poisonous properties. A minute quantity of *A.* is added to lead, to diminish its cohesion, during the manufacture of shot. It is the only use to which the metal *A.* is applied in the arts. Its only important combinations are: *arsenic* and *arsenious acids,* q.v.; the disulphide, or *realgar* (q. v.), which is used in pyrotechny; and the trisulphide, or *orpiment* (q. v.), which is the king's yellow of the artist. *A.* also forms a trihydride with hydrogen, analogous to the ammonia-like compounds formed by antimony and phosphorus.

—*Poisoning.* The symptoms produced by a dangerous dose of arsenic, or of one of its compounds, begin to appear in a quarter of an hour, or not much longer, after it is taken. First, sickness and great distress at the stomach, soon followed by thirst, and burning heat in the stomach. Then come on violent vomiting, and severe colic pains, and excessive and painful purging. This brings on faintings, with cold sweats, and other signs of great debility. To this succeed painful cramps, and contractions of the legs and thighs, weakness, and death. No entirely effective chemical antidote has yet been discovered. At the first symptom of poisoning, freshly-precipitated hydrated sesquioxide of iron, or calcined magnesia, should be at once administered. Too often *A.*, principally *arsenious acid,* has been used as a means of destroying animal life, but, happily, the process for the detection of the poison in the animal tissues, or organic mixtures, has been brought to such a degree of perfection, that, even after months or years, the minutest quantity of poison is detected with an unquestionable certainty. For the isolation and recognition of *A.* in organic mixtures, such as the contents of a stomach, the method generally pursued is called Reinsch's process, from the name of its discoverer; but the most perfect, since it detects *A.* in a liquor containing but a millionth of it, is the process recommended by Marsh (*Fig.* 199), in which the material is treated with dilute sulphuric acid, and metallic zinc, in a gas-generating apparatus, when the *A.*, combining with hydrogen, forms arseniureted hydrogen, AsH_3, from which, when lighted, the metallic *A.* is condensed in brownish-black spots on a china plate.—It has been confidently stated and generally believed that the metallic bismuth of commerce almost always contains *A.*, a fact which may explain many obscure affections of the skin, mucous membranes, &c., in persons who make free use of cosmetic powders containing bismuth. See DIALYSIS.

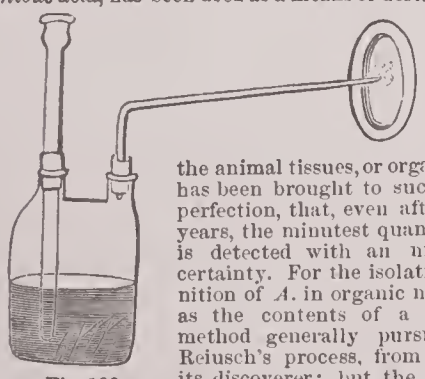


Fig. 199.
MARSH'S PROCESS.

(*Bot.*) An obsolete name of the water-pepper, *Persicaria punctatum.*

Arsen'ic Acid, ARSENIC OXIDE. (*Chem.*) This acid, discovered by Scheele, is obtained by acting upon the trioxide (*arsenious acid*) with nitric acid, evaporating to dryness, and heating to a temperature of 270°. It forms a non-crystalline white powder, which, when strongly heated, decomposes into As_2O_3 and O_2. This powder is readily dissolved by water, and the solution yields crystals of *A.* acid, or trihydric arsenate, H_3AsO_4.—Arsenic acid is a more violent poison than even the arsenious. It is used in taxidermy, and in making aniline colors.

Arsen'ical, *a.* Consisting of, or containing arsenic.

Arsen'icate, *v. a.* To combine with arsenic.

Ar'senide, Arseni'uret, *n.* (*Chem.*) A compound of arsenic with an elementary substance. The *Arseniureted hydrogen* is formed by decomposing an alloy of arsenic and zinc with sulphuric acid. It is a colorless gas, possessing a fetid odor of garlic; it acts as a most deadly poison, a single bubble of the pure gas having been known to act fatally; when cooled to —40°, it condenses to a colorless liquid. Arseniureted hydrogen burns with a bluish flame, and deposits arsenic upon a cold body held in the flame; below a red heat, it is decomposed into arsenic and hydrogen. Density 39; *form.* AsH_3.

Arseniosid'erite, *n.* (*Min.*) A mineral having fibrous concretions of a yellowish-brown color, approaching to golden, resembling cacoxenite; the fibres large and easily separable between the fingers. Lustre silky; powder yellowish-brown, rather deeper than yellow-ochre in color. *Comp.* Arsenic pentoxide, 37·8; iron sesquioxide, 42.1; calcium oxide, 18·3; water, 8·9. It occurs associated with manganese in France, and with erythrite at Schneeburg in Saxony.

Arse'nious Acid, ARSENIOUS TRIOXIDE. WHITE ARSENIC. (*Chem.*) A white substance known in commerce by the name of *white arsenic,* which is one of the most virulent poisons of the mineral kingdom. It frequently occurs in a native state, if not very abundantly; and it is obtained in roasting several ores, particularly those of cobalt. In the chimneys of the furnaces where this operation is conducted, it generally condenses in thick semi-transparent masses; though sometimes it assumes the form of a powder, or of little needles, in which state it was formerly called *flowers of arsenic.* The *A. A.* reddens the most sensible blue vegetable colors, though it turns the syrup of violets green. On exposure to the air, it becomes opaque, and covered with a slight efflorescence. Thrown on incandescent coals, it evaporates in white fumes, with a strong smell of garlic. In close vessels it is volatilized; and, if the heat be strong, vitrified. The result of this vitrification is a transparent glass, capable of crystallizing in reg. octohedra, the angles of which are truncated. It is easily altered by hydrogen and carbon, which deprive it of its oxygen at a red heat, and reduce the metal, the one forming water, the other carbonic acid, with the oxygen taken from it. It is feebly soluble in water; it dissolves more readily in hydrochloric acid, and is feebly soluble in solutions of the alkalies. Density (of vapor) 99; sp. gr. 3·6; *form* AsO_3. As ordinarily sold in quantities under 10 lbs. in weight, the *A. A.* is required by law, in Europe, to be colored with $\frac{1}{32}$ of its weight of indigo, or $\frac{1}{16}$ of its weight of soot; the object of the admixture being to render any liquid to which the *A. A.* might be added with a murderous intent, of a black or bluish-black hue, and thus indicate the presence of something unusual. The solution of *A. A.* in water is recognized by three tests: 1. Hydrosulphuric acid in acid solutions produces a *yellow* precipitate of sulphuride of arsenic, As_2S_2, soluble in ammonia. 2. Ammonio-sulphate of copper, an *apple-green* precipitate of arsenic of copper, $CuAs_2O_5$. 3. Ammonio-nitrate of silver, a *yellow* precipitate of arsenite of silver, $Ag_4As_2O_5$. The quantity necessary to destroy life, of course, varies, but it is stated that 2 or 3 grains may prove fatal. Death may occur in a few hours, or after the lapse of days. *A. A.* has been used frequently as a slow poison, the symptoms being attributed to inflammation of the bowels from natural causes, but its detection is now easy. (See ARSENIC.)—*A. A.* has long been used as a medicine. When taken into the stomach, it is soon absorbed into the blood, and circulates with that fluid, exhibiting great power over certain diseases, especially skin diseases, as psoriasis, lepra, eczema, &c. It is also classed among the tonic minerals, and given for nervous disorders, especially those that are periodic. It has been much recommended for rheumatism; and considered as holding the foremost place among the remedies for cholera. In ague, also, and remittent fever, as well as in other disorders originating from the same source, *A.* and quinine are our chief remedies. They are considered to act as alteratives of the blood. The usual method of administering *A.* is in small doses (from three to five drops) of the *liquor arsenicalis,* largely diluted with water, twice or thrice in a day. The influence of a minute quantity of *A. A.* on the human frame is a very curious question. Though strange it may seem, it is asserted that in Styria it is a common thing for the peasants to take 12 to 13 grains per day of white arsenic, to improve their wind. It appears to do them no harm, as long as they relinquish the use of it gradually when they reach 50 or 60 years of age. They begin by taking a single grain per day, increasing the dose until they arrive at their maximum. If the doses are discontinued suddenly, death, with all the symptoms of arsenical poisoning, is the result.

Ar'senite, *n.* [Fr. *arsenite.*] A salt resulting of the union of arsenious oxide with a base. The general formula of the arsenites is $MAsO_2$. The alkaline *A.* are soluble in water; those of the metals of the alkaline earths, and heavy metals, are insoluble in water. Some of them are employed in the arts and in manufacturing; as, for example, *A. of copper,* or Scheele's green, and the *Schweinfurth green,* which is a double arsenite and arsenate of copper, both of which are largely used as pigments. All the soluble *A.* are deadly poisonous substances, which ought to be prohibited. Wherefore, it seems proved that rooms coated with Scheele's green are detrimental to the health of human beings residing therein, from the readiness with which minute particles of the poisonous pigment are detached from the walls by the slightest friction, are diffused through the room, and ultimately pass into the animal system.

Arseni'uret, *n.* See ARSENIDE.

Arseni'ureted, *a.* Combined with arsenic. See ARSENIDE.

Arsen'olite, *n.* (*Min.*) An isometric mineral; octohedroual; of vitreous or silky lustre; color white with an occasional yellowish or reddish tinge. Streak white, pale yellowish. Transparent, opaque; astringent, sweetish taste. *Comp.* Oxygen 24·24, arsenic 75·76=100. It accompanies silver and lead ores, arsenical iron, cobalt, antimony, nickel, &c., as a result of the decomposition of arsenical ores; and is found in Nevada and California.

Arseno'pyrite, or MISPICKEL. *n.* (*Min.*) An orthorhombic mineral. Lustre metallic; silver-white, approaching to steel-gray, in color; dark grayish-black streak; uneven in fracture, and brittle. *Comp.* Arsenic 46·0, sulphur 19·6, iron 34·4=100. Part of the iron is sometimes replaced by cobalt. It is principally found in crystalline rocks, and is generally associated with silver, lead, and tin ores, and tin pyrite, chalcopyrite, and blende. It is also found in serpentine. It occurs in many parts of the U. States and S. America.

Arse'smart, *n.* (*Bot.*) A vulgar name of the knotgrass. See POLYGONUM.

Arsi'noë, the sister and wife of Ptolemy Philadelphus, worshipped, after her death, under the name of *Venus Zephyritis.*—Also the name of several other Egyptian queens and princesses.

Ar'sis, *n.* [From Gr. *airo,* to raise.] (*Pros.*) That part of a poetical foot on which the stress of the voice falls, the rest of the foot being called the *thesis.*

(*Mus.*) The raising of the hand, as applied to the beating of time, the falling of the hand in the beats being called *thesis.*

Ar'son, *n.* [O. Fr., from Lat. *ardeo, arsum,* to burn.] (*Law.*) The malicious setting on fire of the house or building of another. It is a felony at common law, and originally punishable with death. If homicide result, the act is murder.

Art, [A.S. *eart.*] The second person, singular, indicative mood, present tense, of the substantive verb, *am.*

Art, *n.* [Fr., from Lat. *ars, artis;* from Greek *aretē,* excellence, virtue, power, skill.] The power of doing something not taught by nature or instinct; as, to *walk* is natural, to *dance* is an *art*;—power or skill in the use of knowledge; the practical application of the rules, or principles of science.—A system of rules to facilitate the performance of certain actions; contrivance; dexterity; address; adroitness.

> "The *art* of our necessities is strange,
> That can make vile things precious."—*Shaks.*

—Cunning; artifice; deceit.

> "More matter with less *art*."—*Shaks.*

—Profession, business, or trade.

(*Æsthetics.*) Art, as distinguished from science, consists of the truths disclosed by that species of knowledge disposed in the most convenient order for practice, instead of the best order for thought. Art proposes to itself a given end, and, after defining it, hands it over to science. Science, after investigating the causes and conditions of this end, returns it to art, with a theorem of the combination of circumstances under which the desired end may be effected. After receiving them, art inquires whether any or all of those scientific combinations are within the compass of human power and human means, and pronounces the end inquired after attainable or not. It will be observed here, that all that art supplies is the major premise, or the assertion that the given aim is the one to be desired. The grounds of every rule of art are to be found in the theorems of science. An art can then only consist of rules, together with as much of the speculative propositions (which lose all their speculative look as soon as they come into the artist's hands) as comprises the justification of those rules. Though art must assume the same general laws as science does, yet it follows them only into such of their detailed consequences as have led to certain practical rules, and pries into every secret corner, as well as into the open stores of the household of science, bent on finding out the necessities of which she is in search, and which the exigencies of human life demand. Hence, as Edmund Burke wisely remarks, in his Treatise on the *Sublime and Beautiful,* "Art can never give the rules that make an art." It must always owe them to science. Whatever speaks in precepts or rules, as contrasted with assertions regarding facts, is *art;* and hence it always adopts the imperative mood, whereas, *science* almost invariably adopts the indicative. *Science* is wholly occupied with declarations, while *art* is wholly engaged with injunctions that something should be done. Thus, the builder's art desires to have houses, the architect's art desires to have them beautiful; and the medical art desires to cure diseases of the human body.—See FINE ARTS.

Art and part. (*Law.*) A phrase used in Scotland: when any one is charged with a crime, they say he is *art and part* in committing the same, that is, he was concerned both in the contrivance and execution of it. The derivation of these words from the Latin *artifex et particeps,*

"contriver and partaker," seems evident; it is nevertheless much contested.

Ar'ta, a town of Spain, in the island of Majorca; *pop.* 4,996.

Ar'ta, the ancient. AMBRACIA, capital of nome of same name in Greece, about 7 m. above the gulf of *A.*; estimated *pop.* (1897) 5,000.

Ar'ta, (GULF OF,) a deep inlet of the Ionian sea, between Albania and the N.W. part of Greece. At its entrance it is only 700 yards across. The fort of La Punta is there built on a long tongue of land called the promontory of Actium. — See ACTIUM.

Artaba'nus IV., the last of the Parthian monarchs, who, in A.D. 217, escaping with great difficulty from a perfidious massacre commenced by the Romans under Caracalla, mustered an army, and engaged his foes in a battle which lasted for two days; but as the armies were preparing to renew the combat, *A.* was informed of Caracalla's death. Peace was then made on honorable terms. *A.* afterward incited his subjects to revolt, and in a battle, in 226, was taken and put to death. Thus ended, in the 3d century, the Parthian empire.

Artasi'res, the last Arsacid king of Armenia. He was placed on the throne by Bahram V. of Persia, who afterward deposed him and annexed his dominions to Persia, under the name of Persarmenia, 248 A.C.

Arta'ta. (*Com.*) In Persia, a measure of quantity, equivalent to 1,809 imp. bushels.

Artavas'des I., a king of Armenia, who succeeded his father Tigranes. He joined the Roman forces commanded by Crassus, but deserted to the enemy, causing the defeat of the Romans, and the death of Crassus. He similarly betrayed Mark Antony when engaged against the Medes; but afterward falling into Antony's power, *A.* was taken with his wife and children to Alexandria, where they were dragged at the victor's chariot-wheels in golden chains. After the battle of Actium, Cleopatra caused his head to be struck off and sent to the king of Media. Reigned in the 1st century B. C.

Artaxer'xes I., surnamed LONGIMANUS, was the third son of Xerxes, king of Persia, and, having murdered his brother Darius, ascended the throne 465 B. C. He D. 424 B. C., and was succeeded by his only son Xerxes. This prince is generally supposed to have been the *Ahasuerus* of Scripture, who married Esther, and by whose permission Ezra restored the Jewish religion at Jerusalem. Some modern authors, nevertheless, identify Ahasuerus with Xerxes.

ARTAXER'XES II., surnamed MNEMON, was the eldest son of Darius Nothus, and began his reign 405 B. C. His brother Cyrus formed a conspiracy against him, for which he was sentenced to death; but at the intercession of his mother Parysatis, the sentence was commuted to banishment to Asia Minor. Cyrus repaid this act of clemency by mustering a large army of Asiatics, and some Greek troops under Clearchus, with whom he marched to Babylon; but being encountered by *A.*, he was defeated and slain. The Greeks, however, escaped, and reached their own country, under Xenophon. *A.* died at the age of 94, after reigning 62 years.

ARTAXER'XES III., succeeded *A.* II., his father, 359 B. C. To pave his way to the succession, he murdered two of his brothers, and afterward put to death all the remaining branches of the family. He suppressed several insurrections which were raised against him, and in Egypt slew the sacred bull Apis, and gave the flesh to his soldiers. For this, his eunuch, Bagras, an Egyptian, caused him to be poisoned, and after giving his carcass to cats, made knife-handles of his bones, 339 B. C.

ARTAXER'XES BEBEGAN, or ARDSHIR, the first king of Persia of the race of Sassanides, was a shepherd's son; but his grandfather, by the mother's side, being governor of a province, he was sent to the court of king Ardavan. On his grandfather's death, *A.* being refused an appointment, retired to Persia proper, where, exciting the people to revolt, he defeated and slew Ardavan and his son, on which he assumed the title of *king of kings.* He made vast conquests, and wisely administered the affairs of his kingdom. D. B. C. 240.

Arte'mis. (*Myth.*) A name of the goddess Diana.

Artemi'sia I., daughter of Lygdamis, and queen of Caria, who assisted Xerxes in person against the Greeks, and behaved with such valor that the Athenians offered a reward for her capture, and the Spartans erected a statue to her. Lived in the 5th century B. C.

ARTEMI'SIA II., queen of Caria, who erected so magnificent a monument to the memory of her husband Mausolus, that every splendid structure of this kind has been since styled a *mausoleum.* Lived in the 4th century B. C.

Artemi'sia, *n.* [From *artemis.*] (*Bot.*) A gen. of plants, ord. *Asteraceæ*, and comprehending several valuable and interesting species. The aromatic and medicinal properties of *A. absinthium*, the common wormwood, have been described under the names ABSINTHUM, ABSENTHINE, and ABSINTHE. Its flowers are arranged in globular heads, and are of a buff or yellowish color, blossoming in August. *A. abrotanum* is the southernwood, a fragrant plant employed in Europe for making beer. The Persian species, *A. acetica*, is said to have the odor of strong vinegar; hence its name. The species *A. alba*, and others, are said to serve as nutriment to the herds of the Kirghis and Kalmucks. The anthelmintic known by the names *Semonseriphii* and *Barbotine*, consists of the flower-heads of *A. cærulescens*, a Mediterranean plant. *A. chinensis*, and other species, are stated by Lindley to yield the moxa of China. It is prepared from the cottony or woolly covering of the leaves, and used as a cautery by burning it upon parts affected with gout and rheumatism. (See MOXA.) *A. dracunculus* is the tarragon, the leaves of which are used for flavoring vinegar in pickles and salads. *A. gallica*, termed in France *sanguerie* or *sanguerite*, possesses similar properties to the species *Cærulescens*. *A. indica* and *madraspatana*, both Indian species, are much used by the native doctors. The substance sold as wormseed, and known under the names of semen-contra, semen-cinæ, and semen-santonicum, consists of the broken flower-stalks, involucres, and flower-buds of *A. contra*, *pauciflora*, *lerchcana*, *sieberi*, and *valiana*. It is employed as a vermifuge.

Fig. 200. — ARTEMISIA ABSINTHIUM, (Wormwood.)

Arte'riac, *a.* [See ARTERY.] Same as ARTERIAL. —*n.* A medicine for diseases of the windpipe.

Arte'rial, *a.* Pertaining to, or contained in, an artery or the arteries.—The name of *arterial navigation* is sometimes figuratively given to navigation by means of a stream having numerous inland connections.

Arterializa'tion, *n.* (*Physiol.*) The blood is the principal agent of nutrition. In its circulation through the body, it communicates to the organs, and loses consequently its nourishing properties. It reaches them of a bright vermilion color; when it leaves them it is dark and sombre-colored, and has lost its qualities of maintaining life. But the blood so altered has its vital properties restored by being exposed to the atmosphere. This important function is called respiration. The blood which has been exposed to the air is called *arterial*; that which has already acted on the organs is called *venous*; and the transformation of the venous into arterial blood is called arterialization. — See CIRCULATION, and RESPIRATION.

Arte'rialize, *v. a.* To make arterial; to communicate to venous blood the qualities of arterial blood.

Arteriog'raphy, *n.* [Gr. *arteria*, an artery, and *grapho*, to describe.] A treatise or discourse on the arteries.

Arteriol'ogy, *n.* [Gr. *arteria*, and *logos*, a discourse.] Same as ARTERIOGRAPHY.

Arteriot'omy, *n.* [Gr. *arteria*, and *tomē*, a cutting.] (*Surg.*) The opening of an artery for the purpose of drawing blood; distinguished from phlebotomy, or venesection, which is the opening of a vein. In ordinary cases the latter is always preferable to the former; but sometimes, when it is necessary to take a large quantity of blood from the system very rapidly, as in apoplexy, *A.* is adopted, and then it is generally the temporal artery that is selected.

Ar'tery, *n.* [Fr. *artère;* Gr. *artēria*, from *aer*, air, and *tēreō*, to preserve or contain: so called because the ancients believed that the arteries contained air only.] (*Anat.*) A membranous pulsating canal, that arises from the heart and gradually becomes less as it proceeds from it. *A.* are composed of three tissues: the inner, continuous with the inner membrane of the heart, resembles the serous membranes; the middle tissue is fibrous and elastic; the outer tissue, cellular and also elastic. The fibres of the middle tissue are disposed circularly. They are only two in number, the pulmonary *A.*, and the aorta, and these originate from the heart; the pulmonary *A.* from the right ventricle, and the aorta, conveying the blood from the left to all parts of the body (Fig. 201). The other arteries are all branches of the aorta. Fig. 120 explains perfectly the course of this great *A.*, from its commencement in the heart to its termination; also of all the great branches which arise from it. Their termination is either in the veins, or in capillary exhaling vessels, or they anastomose with one another. It is by their means that the blood is carried from the heart to every part of the body, for nutrition, preservation of life, generation of heat, and the secretion of the different fluids. The action, called the pulse, corresponds with that of the heart, and is effected by the contraction of their muscular, and great elasticity of their outermost coat. (See CIRCULATION, and HEART.) — The pulmonary *A.*, after emerging from the right ventricle of the heart, soon divides into a right and left branch, which are distributed by innumerable ramifications through the lungs. — The branches arising from the aorta have received different names. We have pointed out the principal of them in *Fig.* 120; the others will be found under their respective names.

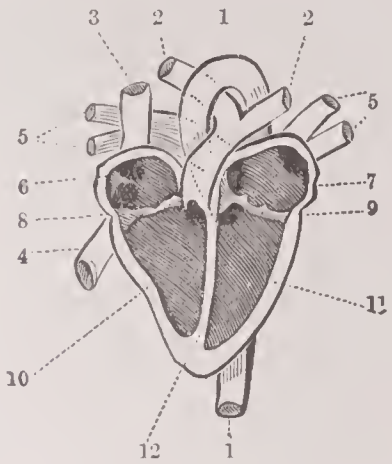


Fig. 201. — THEORETICAL SECTION OF THE HEART.

1. Aorta.	7. Left auricle.
2. Pulmonary artery.	8. Tricuspid valve.
3. Vena cava sup.	9. Mitral valve.
4. " inf.	10. Right ventricle.
5. Pulmonary veins.	11. Left ventricle.
6. Right auricle.	12. Septum.

Arte'sia, in *Mississippi*, a post-office of Lowndes co., 219 m. N. by W. from Mobile.

Arte'sian Well, *n.* [Fr. *artesien*, from the province *Artois*, where *A. W.* were first made.] A well from which water is obtained at a very great depth below the surface of the ground, by boring through strata of various kinds through which water cannot pass, such as clay, to others of a light and porous character, which are charged with water. The flow of water is obtained by hydrostatic pressure. The principles of an *A.*, and the way by which the water is obtained may be better understood by reference to *Fig.* 202, from which it will be presently seen that it would be useless to attempt to bore an *A. W.* on hills or elevated ground; but that they can only be made with satisfactory results, in basin-shaped hollows of considerable extent, the porous strata of which, that contain the water, crop out or come to the surface of the land above the level to which the water is required to rise. Let *Fig.* 202 represent the section of a basin-shaped tract of country, in which a peculiar stratum *a a*, suppose it to be chalk, sand, or any porous matter, rests upon a bed of clay, or upon rocks, *c c*, which will not admit of the escape of the water accumulated from the

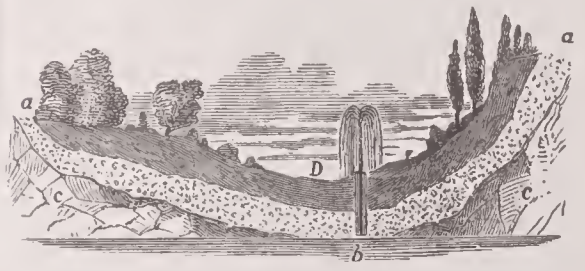


Fig. 202. — ARTESIAN WELL.

deposit of atmospheric moisture, in the form of rain or dew, along the hills. This stratum of chalk or sand is also covered with a tenacious mass of clay, or some other equally impervious body, D. Under these conditions it will be evident that the stratum *a a* becomes a reservoi of a greater or less extent, and if, by boring through the superincumbent mass, we form an opening into this stratum, as at *b*, the water will rise in it, and flow over in a jet proportional to the height of the water in the stratum from which it flows. In a basin such as that described above, some miles in extent, having impermeable strata lying immediately under the thin surface of the soil, there must necessarily be a deficiency in the supply of water, and it is for these districts that *A. W.* are especially serviceable. There are many in the neighborhood of Vienna, and in the basins of London and Paris; among which may be mentioned those which supply the fountains in Trafalgar square in the former city, and the famous well of Grenelle, near Paris, from which, after boring for 8 years, with frequent interruptions arising from the obstructions and accidents that occurred during the prosecution of the work, water was obtained at the depth of 1,800 feet below the surface, a distance of 1,700 feet below the sea-level. The water from this well rushes upward with such force as to rise 30 feet above the level of the surface. The temperature of this water never varies, and is about 81° Fahr. The French government have caused many *A. W.* to be sunk in different parts of Algeria, round which some of the wandering Arab tribes have settled, and formed villages. The operation is performed by rods from 15 to 20 feet in length, which can be attached to each other by male and female screws. A boring-tool is fastened to the end of the lowest rod, and to the uppermost one a lever, turned by hand or power, by which the whole machine is turned round. The machine somewhat resembles a gigantic auger or gimlet, and operates in a similar manner. There are many *A.* in the U. States. In the arid regions of the West they are largely used in irrigation.

(CONTINUED IN SECTION II.)

Ar'tevelde, JACOB VAN, a celebrated Flemish patriot of the 14th century. His riches, eloquence, and experience in diplomatic business put him at the head of affairs in his native town of Ghent, at a time when the Flemings, subject to Louis II., count of Flanders, had resolved to extend their liberties, or at least to rid themselves of certain oppressive imposts. The French wars of Edward III. of England, in which he requested the assistance of the discontented Flemings against the lord-superior of their count, Philip VI. of Valois, presented a favorable opportunity for revolt, and accordingly, in 1339, *A.*, acting for the duke of Brabant, the cities of Louvain, Ghent, and others, concluded a treaty with Edward, by which the English king, styling himself king of France, was acknowledged lord-superior of Flanders. The defeat, however, which he sustained at St. Omer, obliged him to make peace with France, and a rupture ensued between the Flemings and their new superior. The alliance was revived after Edward's renewal of the war with Philip, and he was now persuaded by *A.* to make his son, the Black Prince, count of Flanders. This project was defeated, and *A.*'s career terminated by a revolt of the citizens of Ghent against his authority. *A.*, and 50 of his friends, were murdered by a rabble of their fellow-citizens, on 2d May, 1345.

Arte'velde, PHILIP VAN, son of the preceding, inheriting his father's wealth, and something of his ambition and genius, lived in quiet in his native city of Ghent, till 1382, when his fellow-citizens, having revolted from Count Louis III. of Flanders, summoned him to the chief command of the city. After summarily avenging his father's death, *A.* obliged Louis to raise the siege of Ghent, and pursued him to Bruges, where the Ghentois gained a great victory, which resulted in the flight of Louis, and the submission of most of the Flemish cities to the dictatorship of *A.* Charles VI. of France then interfered, and sent an army under Clisson to reinstate the count. On the 22d Nov., the French army, in which the king himself took a subordinate command, met the Flemings, commanded by *A.*, at Rosbeck. The battle which ensued resulted in the defeat of the Flemish troops, 9,000 of whom perished on the field, and 26,000 in the pursuit. *A.* was found among the slain. *A.*'s career has been made the subject of a drama by Henry Taylor.

Art'ful, *a.* Performed with art or skill; artificial; not natural; skilful; dexterous; cunning; crafty; deceitful; full of stratagems.

> "O still the same, Ulysses, she rejoin'd,
> In useful craft successfully refin'd,
> *Artful* in speech, in action, and in mind." — *Pope.*

Art'fully, *adv.* With art; skilfully; dexterously; cunningly; craftily.

Art'fulness, *n.* Art; skill; cunning; craftiness.

Arthrit'ic, Arthrit'ical, *a.* [Gr. *arthritikos*, from *arthron*, a joint.] Belonging or relating to joints; pertaining to arthritis or gout; gouty; as, "Frequent changes produce all the *arthritic* diseases."

Arthri'tis, *n.* [Gr.] (*Med.*) The gout.

Arthro'dia, *n.* [Gr., from *arthron*, a joint, and *eidos*, form.] (*Anat.*) A movable connection of bones, in which the head of one bone is received into the superficial cavity of another, so as to admit of motion in every direction, as the head of the humerus with the glenoid cavity of the scapula.

Arthro'dial, Arthrod'ic, *a.* Pertaining or relating to arthrodia.

Arthro'diæ, *n.* [From *arthrodia.*] (*Bot.*) A term applied to such algæ as possess an articulated structure, like confervaleæ and oscillatoreæ.

Arthrodyn'ia, *n.* [Gr., from *arthron*, a joint, and *odyne*, pain.] (*Med.*) Pain in a joint. It is one of the terminations of rheumatism.

Arthrodyn'ic, *a.* (*Med.*) Relating to pain in a joint, or in the joints.

Arthrol'ogy, *n.* [Gr. *arthron*, and *logos*, discourse.] (*Med.*) A treatise on, or a description of, the joints.

Ar'thur, a prince of the Silures, and king of Britain in the time of the Saxon invasions in the 5th and 6th centuries. *A.* was the son of Uther Pendragon, by Ignera, wife of Gorlois, duke of Cornwall, and was elected king of Britain at the age of 15. He immediately declared war against the Saxons in the north of England, and defeated them so completely, that in one battle alone, it is said, he slew 500 Saxons with his own sword, the famous *Caliber*. He subdued the Picts and the Scots, and also Ireland and Iceland. After a long peace, during which he married the fair Guinevere, *A.* conquered Gaul and Norway, and even fought against the Muscovite hordes. On the Romans demanding tribute, he crossed into Gaul, and defeated them in a mighty battle. Recalled to England by the revolt of his nephew Modred, allied to the Scots and Picts, *A.* fought against him in Cornwall his last battle, in which Modred was slain, and *A.* himself mortally wounded. He was buried at Glastonbury. It was long believed by his countrymen, that he was not dead, but carried to faëry-land, there to repose on flowers until his deep wounds were healed, and that he would yet reappear, and, with his mighty sword, again lead them to victory over their enemies. The existence and exploits of *A.* and of his paladins, the *Knights of the Round Table*, whether they have any real foundation, or are but a mere historical fable, have been for ages the theme of minstrels and poets, even down to the present day; for examples of which we may quote the famous romaunt of the *Mort d'Arthur*; and the *Idylls of the King*, the work of the great poet Tennyson.

Arthur, CHESTER A. See SECTION II.

Ar'thursburg, in *New York*, a P. O. of Duchess co.

Ar'thur's Seat, an eminence in the vicinity of Edinburgh, the Scottish capital, 822 feet high. From its top is a view of magnificent extent.

Ar'thurstown, a seaport of Ireland, in the co. Wexford, lying on Waterford harbor, 7 m. E. by S. of Waterford.

Ar'tic, *a.* An old spelling of the word *arctic*, q. v.

Ar'tichoke, *n.* [Fr. *artichaut*; probably from Gr. *artylikos*, fit for seasoning.] The *Cynaro scolymus*, gen. *Cynara*, q. v., is a perenuial, esculent plant, growing wild in the S. of Europe, and reared in gardens for use. They are cultivated from suckers arising in spring from the root of the old plants, and placed in rows 3 feet apart. By this process, artichokes may be produced in the autumn of the same year. The size of their fruit will gradually diminish, after the third or fourth year, though the roots continue sound for several seasons. *A.* flourish best in a rich and moist soil; but if it be too wet, the roots are apt to decay in severe frosts. When covered with straw in the autumn, they rot. The only precaution necessary to take, is to dig a ditch round the plant, to prevent the water from injuring them. The parts used are the receptacle, the lower part of the involucre, and the upper portion of the stalk. The *A.* is eaten raw, with salt, pepper, and oil; or it is boiled before being sent to table. It is not extensively cultivated in America.

Jerusalem A. See HELIANTHUS.

Ar'ticle, *n.* [Fr., from Lat. *articulus*, dim. of *artus*, a joint; Gr. *arthros*, a joint, from *arō*, to fit, to adapt.] A particular part of any complex thing; a single clause of an account, writing, or document. — A condition of a bargain; a stipulation.—A particular commodity or substance; as, an *article* of food.—The different species of goods that a merchant has in his store; as, "These *articles* are sold at fixed prices." — A point of faith; as, "the Thirty-nine *Articles* of the Church of England."

(*Gram.*) A part of speech prefixed to substantives in order to render their meaning more or less definite. The Greeks had only the definite article; the Latins had none, but used, instead, the demonstrative pronouns. In English there are two articles—the definite, *the*, and the indefinite, *a* or *an*.

(*Lit.*) A complete portion of any literary work which treats of various topics separately; as, "An *article* in a newspaper, or review."

(*Law.*) A division or paragraph of a document or agreement. A specification of distinct matters agreed upon, or established by authority, or requiring judicial action. — *Articles of agreement.* A written memorandum of the terms of an agreement. — *Articles of impeachment.* A written articulate allegation of the causes for impeachment. — *Articles of partnership.* A written agreement by which parties enter into a partnership upon the conditions therein mentioned. — *Articles of the peace.* A complaint made before a court of competent jurisdiction by one who has just cause to fear that an injury to his person or property is about to be committed or caused by the party complained of, alleging the causes of his belief, and asking the protection of the court. — *Articles of war.* The code of laws established for the government of the army. The term is used in this sense both in England and in the U. States. The term also includes the code established for the government of the navy.—*Bouvier.*

Ar'ticle, *v. a.* To draw up in articles or particulars; to accuse or charge by articles; to bind by articles.

—*v. n.* To stipulate; to make terms.

> "He has not infringed the least title of what was *articled*."—*Donne.*

Ar'ticled, *a.* Bound by articles to render services in return for instruction, as apprentices or pupils. — *Worcester.*

Ar'ticles of Confederation. The title of the compact which was made by the 13 original States of the U. States of America. It was adopted and carried into force on the first day of March, 1781, and remained as the supreme law until the first Wednesday of March, 1789.

Ar'ticles of Faith. (*Eccl. Hist.*) A point of Christian doctrine established by the Church, as the Thirty-nine *Articles* of the Church of England, for which see PROTESTANT EPISCOPAL CHURCH.

Artic'ular, *a.* [Lat. *articularis*, from *articulus*, a joint.] Belonging to the joints, or to an article.

Artic'ularly, *adv.* Articulately.

Articula'tion, *n.* [Fr., from Lat. *articulatio.*] (*Gram.*) *Literally*, uttering "by joints" (see ARTICLE); hence, the sounding of letters or of syllables distinctly and apart from each other. Therefore, a good *A.* consists in giving every letter and syllable of a word its due pronunciation. Exactness in *A.* corresponds to propriety in spelling, and is an object that ought to be aimed after by all. The Greeks and Romans paid particular attention to this subject, which constituted a principal branch of instruction: and the smallest error in pronunciation was regarded by them as disgraceful. An indistinct *A.* usually arises from too great precipitancy of speech, or from an improper use of the vocal organs. The latter of these may be cured by attending to the proper position of the tongue, lips, &c., in the formation of each letter: the former is to be got over by continued practice in reading aloud slowly and distinctly.

(*Anat.*) The skeleton is composed of a great number of bones, which are all so admirably constructed, and with so much affinity to each other, that the extremity of every bone is perfectly adjusted to the end of the bone with which it is connected; and this connection is termed their articulation. The articulations are divided into *diarthroses*, or movable articulations, and *synarthroses*, or immovable. — See SKELETON.

(*Bot.*) See JOINT.

Articula'ta, ARTIC'ULATED ANIMALS, *n. pl.* (*Zoöl.*) A branch of the animal kingdom, the species of which are characterized by the body being composed of movable pieces, jointed or *articulated* to each other. There are many classes and orders belonging to this division, varying considerably from each other in form and structure, but all agreeing in their nervous system. This consists of either a very small brain, and two nervous chords surrounding the œsophagus or gullet, and continued along the abdomen, but uniting here and there into knots, called ganglia, as in *Fig.* 203, representing the magnified nervous system of an insect; or of merely two ganglia, one in the head, and the other in the thorax, and united by slender threads. Respiration is effected either by branchiæ, a species of gill; or by tracheæ, or air-tubes. They have red blood. The division of articulated animals contains the *Annulosa*, or worms; the *Crustacea*; the *Cirripedia*, or barnacles; the *Rotifera*, or wheel-animalcules; the *Myriapoda*; the *Insecta*, or insects, and the *Arachnida*, or spiders.

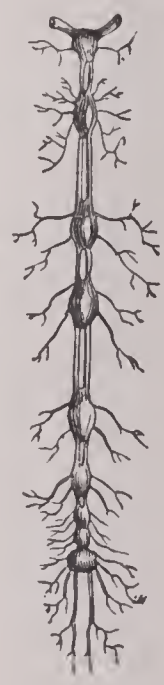


Fig. 203.

Artic'ulate, *a.* [Lat. *articulatus.*] Separated into distinct members, or joints; articulated. Uttered distinctly, as sounds; distinct; clear.

—*v. n.* To utter distinct sounds, syllables, or words.

—*v. a.* To form into distinct elementary sounds, syllables, or words; to speak, utter, or pronounce distinctly.

—*n.* (*Zoöl.*) One of the articulata.

Artic'ulated, *p. a.* Uttered, spoken, or pronounced distinctly.

(*Zoöl.*) Having articulations.—See ARTICULATA.

(*Bot.*) Jointed.

Artic'ulately, *adv.* Distinctly; clearly; with distinct utterance of syllables or words.

Artic'ulateness, *n.* The quality of being articulate.

Ar'tifice, *n.* [Fr.; Lat. *artificium*, from *ars*, *artis*, art, and *facio*, to make.] An artful or skilful contrivance or device; trick; fraud; cunning; imposition; craft; stratagem.

> "It needs no legends, no service in an unknown tongue: none of all these laborious *artifices* of ignorance; none of all these cloaks and coverings."—*South.*

Artificer, *n.* [See ARTIFICE.] A person who works with his hands in the manufacture of anything. He is usually a person of intellectual acquirements, and independent of mere manual labor, placing him above the *artisan*, whose knowledge is limited to the general rules of his trade.

—An artist; a maker; a contriver; an inventor.

> "Th' *artificer* of lies
> Renews th' assault, and his last battery tries." — *Dryden.*

(*Mil.*) A soldier-mechanic attached to the artillery, and engineer services, designed to be employed in the construction and repair of war-materials, &c.

Artifi'cial, *a.* Made or contrived by art or skill; not natural.

> "The curtains closely drawn the light to screen,
> As if he had contrived to lie unseen:
> Thus cover'd with an *artificial* night,
> Sleep did his office." — *Dryden.*

—Fictitious; not genuine; as, *artificial* tears; *artificial* majority. — Cultivated; not indigenous: not being of spontaneous growth; as, "Plants forced by *artificial* process."

(*Rhet.*) *A. arguments*, are proofs on considerations arising from the genius, industry, or invention of the orator; in contradistinction from laws, authorities, citations, and the like, which are said to be *inartificial* arguments.

(*Math.*) *A. lines*, on a scale or sector, are lines so contrived as to represent the logarithmic sines and tangents; which, by the help of the line of numbers, solve with tolerable exactness, questions in trigonometry, navigation, &c. — *A. numbers.* The same as logarithms.

Artifi'cial Flow'ers. (*Manf.*) This manufacture has latterly been carried to a wonderful degree of perfection, the imitation of natural flowers being so exact as to mislead even artists. The greatest ingenuity is displayed in the imitation of certain flowers: even in a common cheap sprig, consisting of several materials well put together and arranged. The leaves and petals are generally made of silk, or cambric, punched out to proper shapes and sizes. These are tinted with a brush and color, and, if necessary, glazed with gum, or sprinkled with fine flock, to imitate the glossy or velvety surface of natural flowers. The ribs, where present, are indented with a warm iron. The stamens and pistils are formed of wire covered with silk, and dipped in gum-water to form the anthers. The stalk is then made of wire, coated with green paper, and fixed to the stamens and pistil, around which are attached the petals, and, lastly, the calyx. Buds are made of cotton or glass balls covered with cambric of a proper color. The French excel in the manufacture of these pretty frivolities. This industry has been successfully naturalized in the U. States, where a large number of girls are constantly employed in making flowers. The coloring matter, however, used for these articles, is often nothing less than the deadly poison arsenic. Hoffman, and other chemists, have shown that the most terrible effects may spring from the use of these arsenical compounds; and it is to be hoped that their use will be speedily discontinued.

Artificial'ity, *n.* The quality or state of being artificial: artificialness.
Artifi'cially, *adv.* In an artificial manner.
Artifi'cialness, *n* The quality of being artificial.
Art'ilize, *v. a.* To give an appearance of art to; to make to seem artificial.
Artil'lerist, *n.* One who manages artillery; one skilled in gunnery.
Artil'lery, *n.* [Fr. *artillerie;* from O. Fr. *artiller,* to make or form by art, to make implements or weapons: from Lat. *ars, artis,* art.] (*Mil.*) In the most appropriate application of the word, *A.* means the guns, mortars, howitzers, and other large pieces for discharging shot and shell by the expansive force of gunpowder. In a more general sense, it denotes all kinds of engines of war, ancient and modern, by which darts, stones, bullets, &c., were shot forth in battle. *A.* is divided into *land A.* and *marine A.* The former is subdivided into *field, coast, garrison,* and *siege A.* Field *A.* accompanies cavalry and infantry, or arms any field-works that may be thrown up; coast, garrison, and siege *A.* consist of the heaviest guns that can be brought to bear in each particular case. The term *A.* has, since the invention of gunpowder, been restricted to such large pieces of ordnance as cannons, howitzers, mortars, and rockets; but including, also, the troops required for their working, the carriages, ammunition, &c. Yet, in its broadest signification, the term implies all kinds of missiles employed in warfare, with the machines used in propelling them. The earliest of these military engines were probably used for casting stones of enormous weight. In 2 Chron. xxvi. 15, we read of Uzziah, that "he made in Jerusalem engines invented by cunning men to be upon the towers and upon the bulwarks to shoot arrows and great stones withal." From the writings of Cæsar, Cicero, Livy, Seneca, and Tacitus, we gather, that the principal engines of *A.* of the Romans were the *balista* or *ballista,* for casting stones, and the *catapulta* for propelling darts and arrows. *A.* does not seem to have been known in England earlier than the Norman invasion; but the Normans appear to have introduced such machines, in the form of contrivances for discharging arrows, at the battle of Hastings. Edward I. is said to have used engines at the siege of Stirling Castle, in 1303, throwing stones of 300 lbs. in weight. Although it can be shown that the explosive force of gunpowder was understood in the East much earlier than the 12th century, the date when it became known to Roger Bacon; yet, it was not until long afterward, that fire-arms superseded the ancient war-engines we have hitherto included as *A.* Col. Chesney, in his "Observations on Fire-arms," thus traces the introduction of the new form of *A.* into Europe: — The Moors, according to Condé, used *A.* against Saragossa in 1118; and in 1132, a culverin of 4th calibre, named *Salamonica,* was made. In 1157, when the Spaniards took Niebla, the Moors defended themselves with machines which threw darts and stones by means of fire; and, in 1157, Abd-el-Mumen, the Moorish king, captured Mohadin, a fortified city near Bona, from the Sicilians by the same means. In 1280, *A.* was used against Cordova, and in 1306, or 130*, Ferdinand IV. took Gibraltar from the Moors by its means. Ibn-Hassan-ben-Bin, of Granada, mentions that guns were adopted from the Moors, and were used in Spain in the 12th century, and that balls of iron were thrown by means of fire, in 1331. Barbour, in his "*Metrical Life of Robert Bruce,*" says that cannon or "crakys of war," as he terms them, were employed by Edward III. in his earliest campaign against the Scots in 1327. Du Cange asserts that cannon were used by the French at the siege of Puy-Guillaume, in 1338; but Rapin, on the other hand, relates, that, so unacquainted were the French with these destructive engines, that four small cannons, used by Edward III. at the battle of Cressy, in 1346, contributed, as much by the

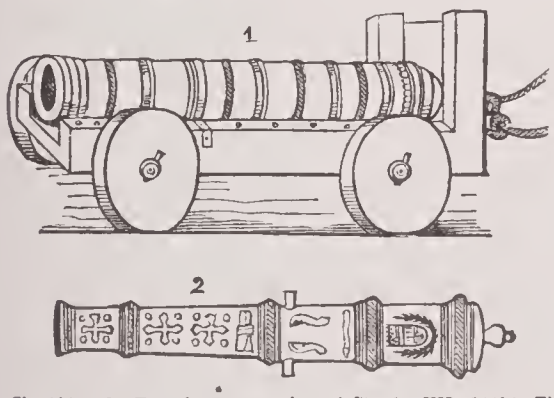


Fig. 204. — 1. French cannon, (time of Charles VII., 1440.) The first one used for iron balls.
2. One of the famous guns of the Emperor Charles V., called the "Twelve Apostles," (Palace of the Invalides, Paris.)

surprise as the slaughter they created, to the success of the day. The earliest cannon were clumsy and ill-contrived machines, wider at the mouth than at the chamber, and consisting generally of a series of iron bars soldered together lengthwise, and hooped about with iron rings. The projectiles were made of stone. Cannon were first cast in England in 1521; and in 1535, as Stowe informs us, "John Owen began to make brass ordnance, as cannons, culverines, and such-like." It was usual, about this period, to apply to cannon the names of certain birds and beasts, in fanciful allusion to their swiftness, or cruelty. Thus arose the terms *falcon, falconet, culverin, saker, basilisk, siren, dragon,* &c. Cannon have long been named according to the weight of the ball they propelled, as 10-pounder, 12-pounder, &c., but it is now largely the practice to name them from the diameter of the bore, as 8-inch, 12-inch, 15-inch, &c.—We first find mention of shells as projectiles in the siege of Naples by Charles VIII., in 1435. The howitzer, an improved form of mortar, was first used in 1697, and the carronade about 1779. Congreve rockets, invented by Sir William Congreve, were first employed at the siege of Copenhagen. The rifling of cannon has added immensely to their effectiveness, and this system was soon applied to howitzers and later to mortars, greatly increasing their range. Large rifled cannon are now constructed with an effective range of from 8 to 12 miles. Rifled cannon were first used in the Italian campaign of 1859, and have since been adopted by all nations. The Gatling gun, a machine gun invented by R. J. Gatling, of Indiana, in 1861, was followed in France by the mitrailleuse. These have given rise to the Gardiner, the Lowell and the Hotchkiss, all of which were invented in this country, and to others designed in Europe. These so-called "machine-guns" pour out an incessant shower of bullets with most destructive result. The effectiveness of *A.* in warfare has been greatly enhanced in recent years by the invention of "rapid-fire" guns, ranging as high as 6 inches in caliber. These are of the breech-loading type and their construction is such as to permit very rapid service in action. See CANNON, ARMSTRONG, DAHLGREN, LANCASTER, PARROTT, REMINGTON and WHITWORTH GUNS, ORDNANCE, RIFLE, SHELL, &c.

Artil'lery Corps. (*Mil.*) When large balls of iron came to be propelled to great distances by the irresistible force of gunpowder, a great revolution gradually took place in military tactics. A body of men were set apart to study the force and action of gunpowder, the flight and range of projectiles, the weight and strength of cannon, and the manœuvring of heavy masses of troops. The French were the first to make these researches; after them, the English; and still later, the Germans. During the Thirty Years' War, an important step was taken in Germany — that of including the artillerymen, who were till then a sort of guild, as a component in the regular army. Gustavus Adolphus in Sweden, Frederick II. in Prussia, and Napoleon I. in France, all attached a very high degree of importance to the artillery as an arm of the service. After the great wars in the beginning of the present century, all the states of Europe formally recognized artillery as the third great branch of military service; and in many of them, as France, Italy, and Russia, *A.* ranks before cavalry and infantry. The *A.* of the United States is divided as follows, according to its duties: — *Heavy* or *foot A.* is that portion which takes charge of, and manœuvres the siege, sea-coast, and mountain *A.* *Light* or *field A.* is that portion which manœuvres field-pieces with troops in the field. It is divided into *horse A.* and *mounted batteries.* In *horse A.*, the gunners, of which there are 7 to each piece, are mounted on horses, from which they have to dismount before attending to the piece, the two extra men holding the horses of the rest. In the *mounted batteries,* formerly called foot *A.*, the gunners are on foot, and remain so during the manœuvres of the battery, except when it is desired to move at a very rapid rate, when they are mounted on the ammunition boxes. The horse *A.* was originally, and is still, designed for service along with cavalry, receiving the lightest guns, which enables it to move at the same rate as the cavalry, and to keep up with it for a considerable time. In time of peace, a battery of field *A.* is to be composed of 4 pieces; in time of war, of 6 or 8. In peace, each battery will have 76 men and 44 horses; in preparing for war, 100 men and 80 horses; and in war, 150 men and 110 horses. This supposes these batteries to be formed of pieces of the smallest calibre. For heavy pieces, of course, these numbers would have to be increased. For the effective force of our *A.*, see UNITED STATES.

Artil'lery, Park of. (*Mil.*) That place in a camp, or the rear of an army, where the artillery is placed. The artillery is drawn up in lines, one of which is formed by the guns, the others by the ammunition wagons, portfires, &c.; and the whole is usually surrounded by ropes. The term *park of artillery* is also applied to the entire complement of guns, wagons, caissons, &c., necessary for siege or field operations.

Artil'lery, Trains of. (*Mil.*) A number of pieces of ordnance mounted on carriages, with all their furniture, &c., in marching order.

Ar'tisan, *n.* [Fr.; see ART.] One trained to manual dexterity; a mechanic; a handicraftsman.

Ar'tist, *n.* [Fr. *artiste;* from Lat. *ars, artis,* art.] One who is skilled in the exercise of any of the liberal arts, such as painting, sculpture, music, &c.; the professor of any liberal or mechanical art. The term is especially applied to those who follow painting and sculpture as a profession; the other *A.* being commonly designated by a term taken from the art to which they are devoted: as, a musician, a literateur, &c. In early times, the expression was used to denote a proficient in the 7 liberal arts which formed the principal course of study at the universities; viz., grammar, logic, rhetoric, arithmetic, music, geometry, and astronomy. By Paracelsus it is used to signify a chemist, or rather alchemist. In an extended sense, the term *artist* is frequently applied to a person skilled in any art, as a hair-dresser, a cook, &c. In this case, *artist* is commonly written with the French spelling, *artiste.*

Artis'tic, Artis'tical, *a.* Pertaining or relating to the fine arts, or to an artist; conformable to art.

Artis'tically, *adv.* In an artistic manner.

Ar'tistry, *n.* Works of art. (R.)

Art'less, *a.* Wanting art or skill.

"The high-shoed ploughman should he quit the land,
Artless of stars, and of the moving sand."— *Dryden.*

—Simple; unaffected; as, "an *artless* tale."—Sincere; without guile or fraud; as, "*artless* maid."

Art'lessly, *adv.* In an artless manner.

Art'lessness, *n.* Quality of being artless; want of art or skill; absence of guile or fraud.

Artocarpa'ceæ, ARTOCAR'PADS, *n. pl.* (*Bot.*) An order of plants, alliance *Urticales.* — DIAG. Milky juice, large convolute stipules, solitary erect or suspended arils, a straight exalbuminous embryo, and superior radicle. This order includes 23 genera and 54 species, all belonging to the tropics of both worlds. The artocarpads exude a milky acrid juice, the nettles a watery secretion. The celebrated Upas-tree, *Antiaris toxicaria,* named also Antjar-poison, is the most dangerous species. Extraordinary fabulous tales used to be told about this tree, which is a native of the island of Java, and was said to be so exceedingly poisonous, that no one could even approach it without certain death. Notwithstanding the exaggeration of these statements, there remains no doubt that the upas is a plant of extreme virulence. The stem when wounded exudes a gum resin containing strychnia, which, when introduced into the animal economy, produces vomiting, purging, and finally death, with tetanic convulsions. Even linen fabricated from its tough fibre is so acrid as to verify the story of the shirt of Nessus; for it excites the most distressing itching if insufficiently prepared. The natives of Java and Borneo use it mixed up with the *Capsicum fruticosum,* and some other substances, to steep their arrows in. It is said to act more powerfully when it is dried on the arrows than when used moist. The most important plant of the *A.* is the Bread-Fruit, *Artocarpus incisa;* the massive heads into which its fruits are collected representing the typical condition of the genera of this order. The Bread-Fruit tree, *Fig.* 205, is about the thickness of a man, and grows to the height of 40 feet in hot and damp places. The fruit is about the size of a melon, and the seeds are large nut-like bodies, which when roasted are said to be as good as the best chestnuts. The fleshy receptacle, however, is the most valuable part of the fruit. It is as white as snow, and of the consistence of new bread, and when roasted becomes excellent food, tasting like wheaten bread mixed with Jerusalem arti-

Fig. 205. — ARTOCARPUS INCISA.
(The Bread-Fruit Tree.)

chokes. A cloth is made from the fibres of the inner bark; the wood is used for making boats and building houses; the male catkins serve as tinder; the leaves are used as towels, table-cloths, and to wrap provisions in; and the juice, for making bird-lime, and for filling up the cracks of water-vessels.

Artocar'pus, *n.* (*Bot.*) A gen. of plants, ord. *Artocarpaceæ,* q. v.

Artois, (*ar-twa'*,) an ancient province of France, now forming the greatest part of the department of Pas-de-Calais. Its capital was Arras. It is from the name of this province that the word *Artesian,* as applied to wells, is derived.

—Before ascending the throne of France, Charles X. was known under the name of *Comte d'Artois.*

Ar'ton, in *Maine,* a township of Penobscot co.

Arts'man, *n.* A man skilled in arts. (O.)

Art-U'nions, *n. pl.* (*Fine Arts.*) Institutions formed with the object of promoting a more liberal patronage of, and a livelier interest on the part of the general public in, the fine arts. The original idea of *A.-U.* belongs to France, in the days of the first Napoleon. They were afterward established in Belgium, and, 10 years later, were encouraged and adopted in Germany. The *A.-U.* of Malines commenced its operations in 1812; that of Munich in 1823. The eminent Alex. von Humboldt, who took great interest in these institutions, recommended their adoption: and his advice was followed in Leipzig, Dresden, Berlin, Halberstadt, Breslau, and other cities and towns; and, in 1833, nearly every important town in Germany could boast of its *A.-U.* Since then groups of associations, each including several towns, such as Hanover, Cassel, Brunswick, Gotha, Halberstadt, Magdeburg, and Halle, have been formed for the encouragement of works of the highest class of art; and the influence of these æsthetic associations in improving and refining the general public taste, by the collection and distribution of modern works

of art, has been most powerful and beneficial. From Germany, *A.-U.* were introduced into England, where they were formed in the hope of offering to artistic genius and talent a higher aim and purpose than mere imitation. Many societies of this kind exist in this country, but they are all, unhappily, of a local character. An Art-Union, extending over the different States, with annual exhibitions in our principal cities by turns, and closing with a distribution for the pecuniary benefit of the artists represented, would have an immense influence in encouraging art. The periodical exhibitions of the works of our great artists would also tend to cultivate, and extend among the population of the U. States, a taste for the fine arts, and largely develop the artistic genius of the nation.

Art'vin, a town of Asiatic Russia, 35 m. from Batoum; *pop*, about 7,000.

Ar'tus, *n.*; *pl.* ARTUS. [Lat.] (*Anat.*) A limb.

Ar'u, or Ar'oo Islands, ("The islands of the Casuarina trees,") a group of islands in the Indian ocean, lying to the S. and W. of New Guinea, between lat. 5° 30′ and 7° S. They number about 80, are very low, and form a chain about 100 m. long, and 50 broad. They are thickly wooded, and swampy. The natives are mild and tractable, a few of them being Christians, cultivating maize and rice, and principally living by fishing. *Exp.* Pearls, mother-of-pearl shells, birds of paradise, and tripang. These islands are under the protection of the Dutch. Total population was estimated to be about 60,000 at the end of 1896.

A'rum, *n.* [Coptic *aron*, the name of the Egyptian species *A. colocasia.*] (*Bot.*) A gen. of plants, ord. *Aràceæ*. The dragon-root, or jack-in-the-pulpit, inhabitant of wet woodlands, is common in the U. States. Its scape, 8–12′ high, is erect, round, embraced at the base by the long sheaths of the petioles. Fruit, a bunch of bright scarlet berries. The corm loses its fiercely acrid principle by drying, and is then valued as a carminative. The corms of the *A. maculatum* are macerated, steeped, and the powder obtained from them is eaten by country people in England under the name of *Portland sago*. They are universally cultivated in India, and known there under the names of *kuchoo* and *gaglee*.

A'rum, a town of Arabia, in Yemen, 46 m. N.E. of Chamer.

Ar'undel, a town of England, in the co. of Sussex, 55 m. S.S.W. of London. There is here a magnificent baronial castle of Norman origin, which forms the principal residence of the great family of Howard, dukes of Norfolk. *Pop.* 2,496.

Arundelian Marbles, the name given to a collection of ancient sculptured marbles, discovered by William Petty, who explored the ruins of Greece, at the expense of, and for Thomas Howard, earl of Arundel, who lived in the time of James I. and Charles I., and devoted a large portion of his fortune to the collection of monuments illustrative of the arts, and of the history, of Greece and Rome. These marbles, named in honor of their purchaser, arrived in England, in 1627. A part of this celebrated collection was afterward presented by the grandson of the collector to the University of Oxford, where they still remain.

Arundif'erous, *a.* [Lat. *arundo*, a reed, and *fero*, to bear.] Producing reeds.

Arundina'ceous, *a.* [Lat. *arundinaceus.*] Of or like reeds.

Arundin'eous, *a.* [Lat. *arundineus.*] Abounding with reeds.

Arun'do, *n.* [Lat., reed.] (*Bot.*) A gen. of plants, ord. *Graminaceæ*.—DIAG. Spikelets many-flowered; glumes 2, awnless, lanceolate, unequal; lower flower perfect and naked at the base; the others perfect, pedicellate; palæ unequal, the lower one mucronate, acuminate or slightly awned. The species attain frequently a considerable size. The *A. Phragmites* or *Phragmites communis*, the common Reed, found in swamps and about ponds, is a well-known species, the culms being largely employed for thatching and other useful purposes.

Aru'ra, *n.* [Gr. *aroyra*, arable land.] (*Antiq.*) A Greek measure of surface, 100 Egyptian cubits in every direction, or 21·904 English square feet.

(*Law.*) Formerly a day's work at the plough.

Ar'uspex, *n.*; *pl.* ARUSPICES. [Lat.] An aruspice.

Ar'uspice, HAR'USPICE, *n.* [Lat. *aruspex*, from *aries*, a ram, and *specio*, to view.] (*Antiq.*) The aruspices were Roman priests and prophets, who foretold events from observing the entrails of sacrificed animals. They observed, too, all the circumstances which accompanied or happened during the sacrifice; *e. g.*, the flame, the mode in which the animal behaved, the smoke. Their origin is to be sought for in Etruria. They were introduced into Rome by Romulus, where they enjoyed their authority till the time of the emperor Constantine, 337 A.D., who prohibited all soothsaying on pain of death. Their number, at that time, was 70; their chief priest was called *summus aruspex*, or *magister publicus*.—The name of *A.* is sometimes applied to any kind of soothsayer or prophet.

Arus'picy, *n.* (*Antiq.*) The art of the arnspices. It was considered by the Romans so important at one time, that the senate decreed that a certain number of young Etruscans, belonging to the principal families in the state, should always be instructed in it. In later times, however, their art fell into disrepute among well-educated Romans; and Cicero relates a saying of Cato, that he wondered that one aruspice did not laugh when he saw another.

Ar've, a river in Savoy, France, which, after a course of 45 miles, falls into the Rhone near Geneva.

Ar'vel, ARVIL, ARVAL, *n.* [W. *arwyl*, from *wylo*, to weep, and *ar*, over.] A funeral.—A word only used in the north of England.

A'ryan, INDO-GERMANIC, and INDO-EUROPEAN, **Languages.** (*Philol.*) The different names given by different philologists to one of the three great families into which the tongues of the Mediterranean branch of the white race are divided. The family was also formerly called the *Japhetic* or *Japetic* family; but it is held by the more scientific grammarians of the present time, that *A.* is the most appropriate technical term, inasmuch as *A.* was the name adopted by those ancient tribes from whom we have preserved the oldest texts in this linguistic stock. There are likewise two other great families of languages in Asia, known respectively as the *Semitic* and the *Turanian*, both of which will be treated of in their proper places. To deal here with the *A.* languages:—The *A.* family of languages may, at the outset, be broadly classified into two great divisions: The Asiatic division, containing two main classes, the *Indic* and *Iranic*. The Indic branch comprises, as living languages, the Aryan dialects of India, and the dialect of the Gypsies; as dead languages, the Prakrit and Pali, the modern Sanscrit, and the Vedic Sanscrit. The Iranic branch comprises, as living languages, the dialects of Persia, Afghanistan, Kurdistan, Bokhara, Armenia, and the Ossetic; and, as dead languages, the Parsi, Pehli, the cuneiform inscriptions of Darius and Xerxes, the Zend, and the old Armenian. The European division of the *A.* family of languages contains six chief classes. 1. The Celtic has two branches, the Cymric and the Gaelic. To the Cymric belongs the dialects of Wales and Brittany, and the Cornish, the latter being a dead language. To the Gaelic branch of the Celtic class belong the dialects of Scotland, Ireland, and that of the Isle of Man, or Manx. 2. The Italic class embraces the dialects of Portugal, Spain, Provence, France, Italy, and Wallachia, as well as the dead languages known as the Langue d'Oc, Langne d'Oil, and the Oscan, Latin, and Umbrian. 3. The Illyric class contains the dialects of ancient Illyria and modern Albania. 4. The Hellenic class comprises the dialects spoken in Greece at the present time, together with the Doric, Æolic, Attic, and Ionic, the four latter being dead languages. 5. The Letto-Slavic class comprises within itself the living dialects of Lithuania, Courland, and Livonia (*Lettish*), as well as the old Prussian, which last is reckoned as a dead language; the living dialects of Russia (Great, Little, and White), Illyria, (Slavonian, Croatian, Servain), Poland, Bohemia (*Slarakia*), and Lusatia; in this class also are included the dead languages known as the Ecclesiastical Slavonic, and the old Bohemian. 6. The Teutonic class contains: the High-German branch, in which are included the living dialects of Germany, and the dead languages called the Middle High-German and Old High-German; the Low-German branch, containing the living dialects of England, Holland, Friesland, and the north of Germany (*Platt-Deutsch*), together with the Gothic, Anglo-Saxon, Old Dutch, Old Frisian, and Old Saxon, the five latter being dead languages. The Scandinavian branch comprises the living dialects of Denmark, Sweden, Norway, and Iceland, as also the dead langnage known as Old Norse. It may now be asked—Why are these great streams of language, rolling on through centuries, set down as converging to one common source? To this question the greatest philologists of our day reply, that in all these languages and dialects, we find a great number of roots or radicals in common; that the grammatic processes and laws are the same in all; and that these identities increase in number as we go back in time. Yet, even if we attempt to assert that all the dialects of the Indo-Germanic family have diverged from one common type, how shall we be able to prove this to be the original language? It may have been the language of conquerers which had pushed away and survived numerous previous idioms. All that we can say is, that in the *A.* languages the closest affinity has been discovered in the roots and in the inflections, those two great tests of the relationship of languages. Did our space permit, an extensive list of samples might be given in a tabular form, to prove the unmistakable family likeness which exists between the chief representatives of the great *A.* family of languages. We must, however, rest content by referring the reader to some of the most valuable authorities on this subject: Schrader and Jevous, *Prehistoric Antiquities of the Aryan Peoples;* Brugmann, *Comparative Grammar of the Indo-European Languages;* Isaac Taylor, *Origin of the Aryans.*

Aryt'enoid, *a.* [Gr.] (*Anat.*) Applied to some parts, from their being funnel-shaped.—*A. cartilage* is the name of two cartilages of the larynx.

Arza'mas, a town of Russia in Europe, gov. of Nijni-Novgorod, 62 m. from the latter city.

Arza'no, a town of S. Italy, near Naples. Flax and hemp are largely cultivated in its environs. *Pop.* 5,171.

Arzig'nano, a town of N. Italy, prov. and 10 m. W. of Vicenza. It produces good wine, and has cloth-mills, dye and brick works. *Pop.* 7,700.

As, *adv.* and *conj.* [A.S. *ase*, from *eall-swa*; O. Eng. *als*, also.] In the same or like manner.

"I live *as* I did, I think *as* I did, I love you *as* I did; but all these are to no purpose; the world will not live, think, or love *as* I do." *Swift.*

—Like; in the same kind with; for example.

"A simple idea is one uniform idea, *as*, sweet, bitter."—*Watts.*

—In the state or character of another.

"Madam, were I *as* you, I'd take her counsel."—*A. Phillips.*

—While; at the same time that.

"These haughty words Alecto's rage provoke.
And frighted Turnus trembled *as* she spoke."—*Dryden.*

—It is used in a reciprocal sense, answering to *as*.

"*As* sure *as* it is good that human nature should exist, so certain it is, that the circular revolutions of planets do declare God."—*Bentley.*

—Also in a comparative sense, before *as*.

"Sempronius is *as* brave a man *as* Cato."—*Addison.*

—Answering to *such*.

"Is it not every man's interest, that there should be *such* a governor of the world *as* designs our happiness, *as* would govern for our advantage?"—*Tillotson.*

—Having *so* to answer it; in a conditional sense.

"*As* far *as* they carry light and conviction to any other man's understanding, so far, I hope, my labor may be of use to him."—*Locke.*

As for, as to, with respect to.—*As if*, in the same manner that it would be if.—*As well as*, equally with.—*As though*, as if.

"These should be at first gently treated, *as though* we expected an imposthumation."—*Shaks.*

As, *n.* [Lat. *æs*, copper or brass.] (*Antiq.*) The Romans used this word in three different ways, viz., to denote, 1, any unit whatever, considered as divisible; 2, the unit of weight, or the pound (*libra*); 3, their most ancient coin. In the first use of the word, the pound, foot, *jugerum sextarius*, were called *as*, when contra-distinguished from their divisions or fractions. In fact, the word was applied to any integer; *e. g.* inheritances, interest, houses, funds, &c. Therefore, *ex asse heres* signifies *to inherit the whole*. The *as*, whatever unit it represented, was divided into 12 parts, or ounces (*unciæ*). The *as* (*libra*) corresponded nearly to the English pound. The *as* (coin) weighed originally a pound, and its value was then about 18 cents; but it was gradually reduced to $\frac{1}{35}$ of a pound, and even lower. The oldest form of *as* usually bore the figure of an ox, a sheep, or other domestic animal (*pecus*), from which it is usually supposed that the Latin word for money, *pecunia*, is derived. The next and most common form is that which has the two-faced head of Janus on one side, and the prow of a ship on the other, as seen in *Fig.* 206.

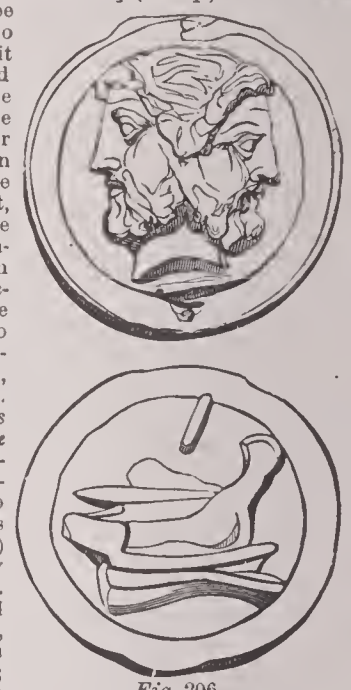


Fig. 206.

A'sa, son of Abijah, and third king of Judah, conspicuous for his earnestness in supporting the worship of God and rooting out idolatry, and for the vigor and wisdom of his government. He reigned from 955 to 914 B. C.

Asafœt'ida, or ASSAFŒT'IDA, *n.* [*Assa*, a corruption of *laser*, the juice of the plant *laserpitium*, and Lat. *fœtidus*, fetid.] (*Chem.* and *Med.*) A resinous gum, procured from the root of plants of the genus *Ferula*, q. v. According to Pelletier, *A.* is composed of 65 parts resin, 3·6 volatile oil, 19·44 gum, 11·66 bassorin, and ·30 various salts. No one who has ever smelt the peculiarly powerful and garlic-like odor of *A.* can well forget it. If exposed to the air, but particularly when heated, it will pervade every apartment of a house. Notwithstanding this, it constitutes a favorite seasoning for food with the inhabitants of the East Indies. It is brought to us from Persia, in large irregular masses, composed of various little shining lumps, or grains, which are partly of a whitish color, partly reddish, and partly of a violet hue. Those masses are accounted the best which are clear, of a pale reddish color, and variegated with a great number of elegant white tears. It is the most powerful of all the fetid gums, and is a most valuable remedy. It is most commonly employed in hysteria, hypochondriasis, some symptoms of dyspepsia, flatulent colics, and in most of those diseases termed nervous, but its chief use is derived from its anti-spasmodic effects; and it is thought to be the most powerful remedy we possess for those peculiar convulsive and spasmodic affections which often recur in the first of these diseases, both taken into the stomach and in the way of enema. It is also recommended as an emmenagogue, anthelmintic, anti-asthmatic, and anodyne.

As'aph, son of Berechiah, a Levite, and one of the leaders of David's choir (1 *Chr.* vi. 39, xv. 17, xxv. 6, 9). Psalms l. and lxxiii.–lxxxiii. are attributed to him (*Psalms*); and he was in after-times celebrated as a seer (*Prophets*), as well as a musical composer (2 *Chr.* xxix. 30, *Neh.* xii. 46). The office appears to have remained hereditary in his family, unless he was the founder of a school of poets and musical composers, who were called, after him, "the sons of Asaph," as the Homeridæ from Homer.

Asaph', St., a city of Great Britain, in N. Wales, co. of Flint, 185 m. N.W. of London.

A'saphus, *n.* (*Pal.*) A genus of *Trilobites*.

As'arales, *n. pl.* (*Bot.*) An alliance of plants, class *Epigynous Exogens*, having monochlamydeous flowers, and a small embryo lying in a large quantity of albumen.

As'arin, As'arone, *n.* (*Chem.*) A substance contained in the root of asarabacca (*Asarum Europæum*), which passes over in a crystalline form when the dry root is distilled with water. The crystals belong to the monoclinic or oblique prismatic system, and resemble camphor in taste and odor. *A.* melts at 40° C., begins to boil at 280°, and may be sublimed in small quantity

between two watch-glasses. It is insoluble in water, but dissolves readily in alcohol, ether, and essential oils. Nitric acid converts *A.* into oxalic acid. It is dissolved with red color by strong sulphuric acid. *Form.* $C_{20}H_{26}O_5$. — See ASARUM.

As'arite, *n.* (*Chem.*) A camphor-like substance found, together with asarin, in the root of *Asarum Europæum*, and resembling that substance in many respects, but melting only at 70° C., whereas asarin melts at 40°.

As'arum, *n.* [Gr. *a*, not, *saron*, feminine.] (*Bot.*) A gen. of plants, ord. *Aristolochiaceæ*. They are herbs with creeping rhizomas and 1–2 leaves on each branch; flowers solitary. The root of the *A. Europæum*, which forms the drug *Asarabacca*. gives by distillation the *Asarin*, q. v. It was formerly much employed as an emetic; but has been superseded by ipecacuanha, which is milder and safer. It is still occasionally used as an errhine. The species *A. Canadense*, the Canada snake-root, or wild ginger, found in the W. States, is another medicinal plant, the rhizome being used as a tonic, diaphoretic, and aromatic stimulant.

As'arum Oil, *n.* (*Chem.*) A volatile oil existing in small quantity (about $\frac{1}{180}$) in the root of *Asarum Europæum*, and passing over, together with asarin, when the root is distilled with water. It is yellowish and viscid, smells like valerian oil, has a sharp burning taste, is lighter than water, sparingly soluble in water, but easily soluble in alcohol, and in oils both fat and volatile. *Form.* $C_{10}H_{15}O_2$.

As'ben, a considerable kingdom of Central Africa, between Fezzan and Cashna; Lat. about 20° N.; Lon. 7° E. The sultan is said to rank next to that of Bornou among the potentates of interior Africa. Its inhabitants are Tuaricks of the Kolluvi tribe; their numbers are unknown. The chief town is also called *Asben*.

Asbes'tic, Asbes'tine, Asbes'tous, *a.* Pertaining to asbestos; incombustible.

Asbes'tiform, *a.* Having the structure of asbestos.

Asbes'tons, *a.* Same as Asbestic.

Asbes'tus, Asbes'tos, *n.* (*Min.*) See AMIANTHUS.

As'bury, FRANCIS, an American divine, and one of the pioneers of Methodism in the U. States, B. in England, 1745. He was sent by John Wesley as a missionary to this country, and, in 1784, was appointed first bishop of the newly constituted Methodist organization. D. 1816.

As'bury, in *New Jersey*, a post-village of Warren co., in Mansfield township, about 40 m. N.N.W. of Trenton.

As'calon, ASH'KELON, AS'KELON, one of the five cities of the Philistines, on the Mediterranean, W.S.W. of Jerusalem, on the main road from Egypt through Gaza to central Palestine. Very often mentioned in Scripture, *A.* rose to considerable importance in past biblical times. Near the town were the temple and sacred lake of Derceto, the Syrian Venus. A great victory was won here by the crusaders in 1099. The position of *A.* is naturally very strong. Near the ruins of the city, stands now a village of the same name. The *eschalot* or *shallot*, a kind of onion (*Allium escalonicum*), was first grown there. *Fig.* 207 is a copy of a medal of *A.* representing the Syrian Venus Derceto or Derketos. The dove is the insignia of Venus; the ship implies her arising from the sea; the staff is an ensign of command; and the branch is a memorial of the olive-branch brought by the dove to the great patriarch.

Fig. 207. — MEDAL OF ASCALON.

Asca'nius. (*Myth.*) A son of Æneas and Creusa, who accompanied his father in his flight from the burning of Troy, and landed in Italy. He ably supported Æneas in his war with the Latins, and succeeded him in the government of Latium. He afterwards built Alba Longa, to which he transferred his seat of government from Lavinium, and reigned there 38 years. His descendants ruled over Alba for 420 years.

As'caris, *n.*; *pl.* ASCAR'IDES. [Gr. *askarizo*, I jump.] (*Zoöl.*) Parasitic worms which inhabit the intestines of animals. They belong to the ord. of *Nematoids*. One of the commonest species, the *A. lumbricoides*, which is very like the common earth-worm, is found frequently in the intestines of men, and of horses, oxen, &c. They have been often observed 15 inches in length, and they are frequently the cause of a severe disease, which has sometimes proved fatal. The mouth of this worm is only formed for suction; hence it is unable to injure the coating of healthy intestines. In a very young state, *A.* have never been found either in man or the other animals. Persons living in damp valleys are said to be most liable to suffer from them. The *A. vermicularis*, or thread-worm, is very common among young children. It is white, and about half an inch long. It infests the lower part of the intestines in great numbers, and is sometimes called Little Maw.

Ascend', *v. n.* [Lat. *ascendo*, from *ad*, and *scando*, to mount, to climb; probably allied to W. *esgyn*, to ascend, to mount, to rise.] To mount; to go or come up; to rise; to arise; to soar; to become higher or more elevated. To go backward in the order of time; as, "to trace genealogies in the *ascending* line."

—*v. a.* To go or move upward upon; to climb.

"They *ascend* the mountains; they descend the valleys."—*Delancy.*

—To go toward the source; as, "to *ascend* a river."

Ascend'able, *a.* That may be ascended.

Ascend'ancy, *n.* Same as ASCENDENCY, but not so much used.

Ascend'ant, *n.* Height; elevation; that which is high or elevated.

"Sciences were there in their highest *ascendant*."— *Temple.*

—Superiority or commanding power or influence.

"Some star, I find,
Has given thee an *ascendant* o'er my mind." — *Dryden.*

(*Law.*) One of the degrees of kindred reckoned upward; an ancestor. We take from Bouvier the following computation: "Every one has two ascendants at the 1st degree, his father and mother; 4 at the 2d degree, his paternal grandfather and grandmother, and his maternal grandfather and grandmother; 8 at the third. Thus, in going up we ascend by various lines, which form newer branches at every generation. By this progress, 16 ascendants are found at the 4th degree; 32 at the 5th; 64 at the 6th; 128 at the 7th; and so on. By this progressive increase, a person has at the 25th generation 33,554,432 ascendants. But, as many of the ascendants of a person have descended from the same ancestor, the lines which were branched reunite to the first common ancestor, from whom the others descend; and this multiplication, thus frequently interrupted by the common ancestors, may be reduced to a few persons."

(*Astrol.*) A term applied to the first or strongest house in the scheme of any person's nativity. The *A.* is so called from containing the eastern point of the horoscope, or the degree of the ecliptic rising on the horizon at the time of birth. This was imagined to exercise considerable influence on a person's life and career, according to the supposed nature or power for good or evil of the planet or sign of the ecliptic about to rise at that time, and the relative position of these and other heavenly bodies to each other in all parts of the heavens at that moment.

Ascend'ant, *a.* Superior; predominant; surpassing.

"Christ outdoes Moses, and shows an *ascendant* spirit above him." — *South.*

—Above the horizon.

"Let him study the constellation of Pegasus, which was about that time *ascendant*." — *Brown.*

Ascend'ency, *n.* [Fr. *ascendance.*] Elevation or superiority of position; governing or controlling influence or power; authority; sway; prevalence.

Ascend'ible, *a.* [Lat. *ascendibilis.*] That may be ascended.

Ascend'ing, *p. a.* Rising; moving upward.

(*Astron.*) *A. latitude*, the latitude of a planet when moving toward the North pole. — *A. or northern node*, that part of the orbit of a planet or other heavenly body in which it crosses the ecliptic going northward.—*Hutton.*

(*Math.*) *A. series*, a series in which each term is greater than the preceding.

Ascension, *n.* [Fr., from Lat. *ascensio.*] Act of ascending; a rising or mounting upward;—frequently applied to the visible elevation of Christ to heaven, celebrated on Ascension Day, *q. v.*

(*Astron.*) The *Right Ascension* of a heavenly body is its distance (which may be calculated and expressed either in hours, minutes and seconds of time, or degrees, minutes and seconds of arc) east of the first point of Aries, measured on the equinoctial. It corresponds with longitude on the terrestrial globe: and as the position of any place on the earth is determined by its longitude and latitude, so the position of any object in the heavens is determined by its *A.* and declination. (See DECLINATION.) The *A.* of any heavenly body is ascertained by the aid of a transit instrument and sidereal clock, the former showing its passage across the meridian, and the latter indicating the time when the passage takes place. The sidereal clock beats seconds, and is so constructed and regulated, that the hour-hand describes a complete revolution in 24 hours from the time of the passage of any star across the meridian to its return to the same point. The hands are set at 0h. 0m. 0s. when the first point of Aries is on the meridian, and the time shown by the clock when any other celestial body passes the meridian is therefore its *A.*, or distance from the first point of Aries in time; and if the time shown be multiplied by 15, the distance in degrees, minutes, and seconds is obtained. — *Oblique ascension* is the arc of the celestial equator intercepted between the first point of Aries and that point of the equator which rises at the same time with any heavenly body. — *Ascensional difference* is the difference between the right and oblique ascension of any object. The terms oblique ascension and ascensional difference are old expressions, seldom used in the present day: the latter was chiefly applied to the sun, because the sun's ascensional difference converted into time shows how much he rises before or after 6 o'clock.

Ascen'sion, a British island in the Atlantic ocean, off the W. coast of Africa, 780 m. N.W. of St. Helena; Lat. 7° 55′ 55″ N., Lon. 14° 25′ 5″ W. It is 8 m. long by 6 broad, and is of volcanic origin, having a barren appearance. *A.* is a coaling depot for steamers. It was discovered on Ascension Day, 1501: hence its name. *Pop.* 1879, abt. 200.

Ascen'sion, in *Indiana*, a village of Sullivan co.

Ascen'sion, in *Louisiana*, a S.E. parish, lying on both sides of the Mississippi, and partly subject to inundation. The seat of justice is at Donaldsonville, which is situated on Bayou La Fourche.

Ascen'sional, *a.* Relating to ascension or ascent.

(*Astron.*) *A. difference* is the excess of the right ascension over the oblique, or *vice versâ*.

Ascen'sion Bay, in Central America, on the E. coast of Yucatan, N. of Espiritu Santo Bay.

Ascen'sion-Day. (*Eccl. Hist.*) One of the great religious festivals of the Roman Catholic and Episcopal churches. As its name denotes, it is intended to commemorate the ascension of our Lord into glory, after his last appearance upon earth. *A.* has been observed in the Church from the earliest times, and is believed by some to have been instituted by the Apostles themselves, or their immediate successors. It is held on the Thursday next preceding Whit-Sunday; and is hence also termed Holy Thursday. The week in which it occurs is also termed *Rogation Week*, from the rogations (petitions or litanies) which were anciently used by the minister of each parish in perambulating his district, which he did on *A.*, or on one of the three days immediately preceding it.

Ascent', *n.* [Lat. *ascensus*, from *ascendo.*] Act of ascending or rising; a mounting upward.

"To him with swift *ascent* he up return'd."—*Milton.*

—The means of ascending.

"A rock . . . . winding with one *ascent*."—*Milton.*

—An eminence; acclivity; the rise of a hill.

"The country is diversified with depressed valleys and swelling *ascents*."—*Bentley.*

Ascertain', *v. a.* [O. Fr. *acertener*, from Lat. *ad*, and *certum*, certain or sure.] To bring to clearness or certainty, as the result of investigation; to determine; to establish; to become cognizant of.

"Money differs from uncoined silver in this, that the quantity of silver in each piece is *ascertained* by the stamp."—*Locke.*

Ascertain'able, *a.* That may be ascertained.

Ascertain'er, *n.* One who ascertains.

Ascertain'ment, *n.* The act of ascertaining; determination by a settled rule or established standard.

"The positive *ascertainment* of its limits."—*Burke.*

Asceť'ic, *a.* [Fr. *ascétique*; Gr. *askētos*, from *askeō*, I exercise.] Pertaining to ascetics or asceticism; employed wholly in exercises of devotion and mortification; recluse; austere; rigid.

—*n.* One who retires from the world, and exercises himself in acts of piety, devotion, and self-denial; a hermit; a recluse; one extremely rigid and austere in religious things.

Asceť'icism, *n.* [See ASCETIC.] State or practice of ascetics. — Among the Greeks, the word *A.* was at first applied to those athletes and wrestlers who were accustomed, by rigid abstinence from all sensual and enervating indulgences, to harden their bodies for the personal competition in the public games; but it soon came to bear a deflected, or secondary meaning. Among the Stoics and Cynics, it became applied to that severe discipline to which those persons subjected themselves, by mastering their passions and appetites for the sake of that ideal virtue sought for by them all. It was afterward applied by the Christians to all who wrestled with Satan, with the world, and with the flesh, and thus endeavored to exalt themselves by a severe course of personal renunciation above this world, where they were strangers and sojourners. But the earliest ascetics we read of had an Eastern origin. The Brahmins, and other sects in Asia, carried this practice to a monstrous extent, even long before authentic history begins. The *yogis* and *fakeers* of the present time, the suicides in the sacred Ganges and under the wheels of the car of Juggernaut, are only a repetition, in a civilized age, of what was done by their remote ancestors long anterior to any authentic record we have of the country. The Buddhists, who for the most part dwell considerably to the E. of India, carried the principle of *A.* to an extreme height. They despised the world; lived a life of solitude and beggary; mortified the flesh, and abstained from all uncleanness. And so they do at the present day. In the early centuries of Christianity, the adherents of the comparatively new religion were more exemplary for purity of morals than for the practice of ascetic severities. But, before long, in Egypt and elsewhere, they endeavored to escape from the sinful world in which they lived, and by fasting and prayer sought for divine aid around the shores of Lake Maræotis, and in other parts of the Christian world. *A.* assumed a more intellectual shape among the Neo-Platonists of Egypt than it has ever done in any other part of the world. Its greatest names are Philo the Jew, the father of the system, Plotinus, Porphyry, Iamblichus, and Proclus. Philo has left us a history of it in his *De Vitâ Contemplativâ*. Even in the 2d century of the Christian era we find societies of men and women living together under vows of continence. The tendency to outward manifestation, and to inward and spiritual life, began to decline in Christian communities. This gave rise to the chief manifestation of *A.*, namely, monasticism. — The essence of *A.* is to hold self-denial and suffering to be meritorious in the sight of God, in and for itself, without regarding whether it promotes in any way the good of others, or the improvement of the individual's own character. Ascetic practices have been modified in recent times; nevertheless, its spirit often shows itself as still alive, even in Protestantism. In some religious orders of the Catholic Church, as the *Carmelites*, *A.* is actually practised in its greatest severity. — See GNOSTICS, &c.

Aseh, a town of Austria, in Bohemia, circ. of Elmbogen *Manf.* Cottons, hosiery, woollens, &c. *Pop.* 8,178.

Aschaff'enburg, a city of Bavaria, circle of Lower Franconia, on the Main, 38 m. N. W. of Würbnrg, 23 m. E. S. E. of Frankfort-on-the-Main. It has a fine old Gothic church, containing the tombs of the former Electors of Mayence.—*Trade.* Timber, wine, tobacco, and shipbnilding. *Pop.* (1895) 13,630.

Aschersle'ben, a town of Germany, kingdom of Saxouy, 14 m. E. S. E. of Qnedlinbnrg. *Manf.* liuens, woollens, and earthenware. *Pop.* (1895) 22,865.

As'ci, *n. pl.* [Lat., from Gr. *askos*, a pouch.] (*Bot.*) The spore-cases of certain lichens and fungi.

Asc'ians, Ascii, *n. pl.* [Gr. *a*, priv., and *skia*, shadow.] A term applied to those inhabitants of the globe who at certain times of the year have no shadow. Such are the inhabitants of the torrid zone, where the sun being twice a year in its zenith — in other words, being perpendicular to their heads — no projecting shadow is thrown.

Ascid'ians, *n. pl.* [Gr. *askos*, a bottle or pouch.] (*Zoöl.*) An order of acephalous mollusks, also called *Tunicata.* They adhere by their base to rocks, shells, and other submarine substances; they are more or less gelatinous, and some are esculent; they contract and dilate themselves alternately, and have the power of squirting out the water they have imbibed. Some of the *A.* are *compound:* different individnals being nnited together by a common stem, bnt each having its own heart, respiratory apparatns, and digestive system; and each fixed on a footstalk that branches from a common creeping stem, through which a circnlation takes place that connects them all. The general structnre of the individnals is the same in the single and in the composite animals, and may be understood from the figure accompanying the art. ACEPHALA, *q.v.* The cavity of the mantle possesses two orifices; by one of which, *b*, a current of water is continually entering, while by the other, *a*, it is as continnally flowing ont. These orifices lead into a large chamber, the lining of which, folded in varions ways, constitutes the gills; and at the bottom of this chamber lies the stomach, *e*, and the intestinal canal, *i*, which terminates near the aperture for the exit of the water. All these parts are covered with *cilia*, by the action of which a continnal stream is made to flow over the gills, and to enter the stomach; and the minute particles, which the water brings with it, and which are adapted to serve as food, are retained and digested in the stomach. Even these animals, fixed to one spot during the early part of their lives, and presenting bnt very slight indications of sensibility, possess a regnlar heart and system of vessels; and these vessels form part of the stem, *c*, by which the compound species are connected. Both in the compounnd and solitary *A.*, the yonng animal, when it first issnes from the egg, has active power of locomotion, being provided with a large tadpole-like tail, by the aid of which it is propelled through the water. The *A.* are not uncommon on the coasts of the United States.

Ascid'ium, *n.; pl.* ASCIDIA. (*Bot.*) A name given to an anomalous form of petioles constituting a hollow receptacle, which is called a pitcher, as in the side-saddle flower, *Sarracenia purpurea.* — See SARRACENIA.

Asci'tes, *n.* [Gr. *askites;* from *askos*, a battle.] (*Med.*) A term used to denote abdominal dropsy, or dropsy in the belly.

Ascit'ic, Ascit'ical, *a.* Pertaining to ascites; dropsical.

Asciti'tious, *a.* [Lat. *ascititius.*] Supplemental; additional; not inherent; not original; ADSCITITIOUS, *q. v.*

Ascle'piad, *n.* (*Anc. Poet.*) The name of a species of verse, so called after Asclepiades of Tragilos, in Thrace, a scholar of Isocrates. He wrote some tragedies, fragments of which still remain. The verse consists of 4 feet, of which the 1st is a spondee, the 2d, a choriambns, and the 3d and 4th, dactyls, as in the following line from Horace:

Mæcē | nās ătăvīs | ēdītē | rēgĭbŭs.

Asclepiad'aceæ, ASCLE'PIADS, *n. pl.* [See ASCLEPIAS.] (*Bot.*) An ord. of plants, alliance *Solanales.* — DIAG. Anthers and stigma consolidated into a column. They are herbs or shrubs, almost always milky, and often twining. Leaves entire, opposite, having ciliæ in lieu of stipnles. Flowers somewhat umbelled, fascicled, or racemose. Calyx 5-divided, persistent. Corolla monopetalous, 5-lobed, with imbricated æstivation. Stamens 5, inserted into the base of the corolla; anthers ordinarily 2-celled. Ovaries 2; styles 2; stigma common to both styles. Follicles 2; placenta attached to the snture: seeds numerons, imbricated, pendulons; albumen thin; embryo straight; cotyledons foliaceous. The order includes 241 genera and 910 species, inhabiting for the most part warm and tropical regions, though there are many natives of northern latitudes also. In general, they have acrid, purgative, emetic, and diaphoretic properties. The milky jnice is usnally bitter and acrid, bnt occasionally it is bland, and is used as milk, as in the case of *Gymnema lactiferum.* Many of the species of the gen. *Asclepias* possess powerful medicinal properties. The celebrated Hindoo medicine *mudar* is procured from several species of the gen. *Calotropis.* The gen. *Gomphocarpus* furnishes the silk-plant of Madeira; and the gen. *Periploca* has fine and valuable species for arbors and gardens.

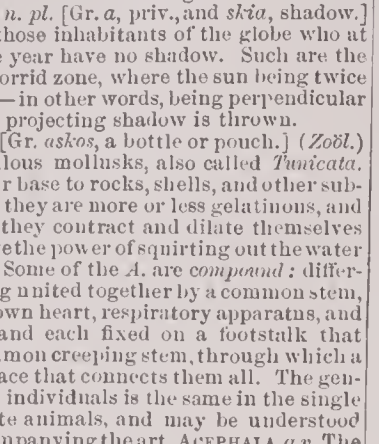


Fig. 208. — PERIPLOCA GRÆCA.
(1. Flower, natural size.)

Asclepi'ades, the descendants of the god of medicine, Æsculapius, by his sons Podalirius and Machaon, spread, together with the worship of the god, through Greece and Asia Minor. They formed an order of priests, which preserved the resnlts of the medical experience acquired in the temples as an hereditary secret, and were thns, at the same time, physicians, prophets, and priests. They lived in the temple of the god, and by exciting the imaginations of the sick, prepared them to receive healing dreams and divine apparitions; observed carefully the course of the disease; applied, as it is believed, besides the conjnrations and charms nsual in antiqnity, real magnetic remedies, and noted down the results of their practice. They were, accordingly, not only the first physicians known to us, bnt, in fact, the founders of scientific medicine, which proceeded from their society. At first, this order of priests was confined to the family of the Asclepiades, who kept their family register with great care. Aristides celebrated them by his eulogiums at Smyrna. Hippocrates of Cos, the founder of scientific physic, derived his origin from it, and the oath administered to the disciples of the order (*jusjurandum Hippocratis*) is preserved in his writiugs.

Asclepi'adic, *a.* Relating to an asclepiad.

Ascle'pias, *n.* [From *Æsculapius*, the god of medicine.] (*Bot.*) The silk weeds, a geu. of plants, ord. *Asclepiadaceæ.* The *A. incarnata* is a handsome shrub, fonnd in wet places in the U. States and Canada. Its stem is erect, branching above, 3–4 feet high, with 2 hairy lines; nmbels close, 2–6 together, at the top of the stem or branches, and consisting of 10 to 20 small flowers; corolla deep purple, corona pale; blossoming in July. The roots of *A. curassavica*, or bastard ipecacuan of the West Indies, are emetic, and are frequently sold as ipecacuanha. The roots of *A. tuberosa*, a species fonnd in sandy fields in the U. States and Canada, are famed for their diaphoretic qualities. The sap of *A. syriaca* is recommended as an expectorant. It is white, and contains a considerable qnantity of caontchonc. The nectaries or leaflets of the crown act as fly-traps. The seeds of this and some other species are covered with down, which is well adapted for stuffing mattresses and pillows. They are hence sometimes called wild cotton-plants. A good many of them are cultivated for their beauty. Their flowers have curious horned processes added to the corolla.

As'coli, a frontier town of Central Italy, in the Marches, 53 miles S. of Ancona. It is a handsome place, well-built and strongly fortified. *A.* is the ancient *Asculum Picenum*, described by Strabo as a place of almost inaccessible strength. It snstained a memorable siege against the Romans under Pompey. Lat. 42° 51′ 24″ N.; Lon. 13° 25′ 15″ E. *Pop.* 14,223.

As'coli di Satria'no, a very ancient town of S. Italy, in prov. of Capitanata, 13 m. E. by S. of Rovino. It was here that Pyrrhns enconntered for a second time the Roman legion, but with no decisive resnlt to either side. It was destroyed by an earthquake in 1400.

Ascomyc'etes, HELVELLACEÆ, *n. pl.* [Gr. *askos*, a bag.] (*Bot.*) An ord. of fungi, or mnshrooms, alliance *Fungales*, prodncing the spores, often in sets of eight, in tnbnlar sacs, which are called *asci* or thecæ. They are nearly related to the lichens. They differ considerably, and are hence divided into several tribes. Some are flocculent in appearance, or of a fleshy consistence, growing on the gronnd or on decaying vegetable snbstances in damp situations; others growing underground, of a globnlar form, solid and fleshy within, snch as the trnffle, *Tuber cibarius.*

Ascot Heath, a place in England, co. of Berks, 6 m. S.W. of Windsor, celebrated for its races. The annnal meeting is in June, and the first prize is a gold cnp valued at £500.

Ascri'bable, *a.* That which may be ascribed.

"Those phenomena are *ascribable* to the weight of the air."—*Boyle.*

Ascribe', *v. a.* [Lat. *ascribo*, from *ad*, to, and *scribo*, to write.] To account for one thing by another, as its cause or the subject in which it recedes, or to which it appertains.

"To this we may justly *ascribe* those jealousies and encroachments, which render mankind uneasy to one another."—*Rogers.*

Ascrip'tion, *n.* Act of ascribing; the thing ascribed.

Ascut'ney Mountain, in *Vermont*, Windsor co. It is but a hnge mass of granite, affording from its snmmit a splendid view of the Connecticnt river.

Ascut'neyville, in *Vermont*, a post-office of Windsor co.

Ascy'rum, *n.* [Gr. *a*, priv., and *skyros*, roughness.] A gen. of plants, ord. *Hypericaceæ.* The St. Peter's-wort, *Acrux-andreæ*, found in sandy woods, from N. Jersey to Lonisiana, has a stem about 1 foot high, thickly clothed with leaves; flowers pale-yellow, on very short pedicels, blossoming in July.

As'dond, or AS'DOOD, a small seaport of Palestine, on the Mediterranean, 35 m. W. of Jerusalem. It was the *Ashdod* of Scriptnre, one of the five confederate cities of the Philistines, and one of the seats of the worship of Dagon (1 *Sam.* v. 5). It occupied a commanding position on the high-road from Palestine to Egypt, and was never subdued by the Israelites. It snstained against Psammetichns a siege of 29 years, B. C. 630; was destroyed by the Maccabees (1 *Mac.* v. 68, x. 84), and restored by the Romans, B. C. 55. It is now an insignificant village, from which the sea is constantly receding.

Fig. 209.—ASDOUD, IN PALESTINE, (the Ashdod of Scriptnre.)

Asel'li, or **Asel'lio,** GASPAR, a celebrated Italian physician and surgeon, B. at Cremona, about 1581; D. 1626. He was the discoverer of the lacteal vessels, to which he assigned the function of conveying the chyle. His discovery, though now universally regarded by physiologists as genuine and important, was not generally admitted as trne until 15 or 20 years after it was made.

As'enath, daughter of Potipherah, wife of Joseph (*Gen.* xli. 12, 45), and mother of Manasseh and Ephraim.

Asep'tic, *a.* [Gr. *a*, priv., and *sepomai*, to pntrefy.] Not liable to pntrefaction.

A'ses. See ODIN.

Asex'nal, *a.* [Gr. *a*, priv., and Lat. *sexualis*, sexual.] That has no distinct sex.

Ash, *n.* [A.S. *æsc*; Ger. *esche.*] The English name of a genus of trees, which will be described nnder its botanical name, FRAXINUS, *q. v.* They are generally large, hardy trees, and their wood is extensively used where strength and elasticity are reqnired. — *Ash Mountain*, another species of tree, gen. PYRUS, *q. v.*

—The wood of the ash.

—*a.* Pertaining to the ash; made of ash.

—*v. a.* To sprinkle with ashes.

Ash, in *Michigan*, a township of Monroe co., 27 m. S.W. by S. of Detroit.

Ashamed', *a.* [A.S. *gescamian, ascamian*, to be ashamed. See SHAME.] Affected by shame; abashed; put to the blnsh.

"This I have shadowed that you may not be *ashamed of* that hero."—*Dryden.*

Asham'edly, *adv.* Bashfully; shyly.

Ashan'go Land, a country of Loango, in W. Africa, between the rivers Gaboon and Congo, Lat. 1° 58′ 54″ S.; Lon. 11° 56′ 38″ E. *A.* was discovered in 1863, by Paul B. Dn Chaillu, a celebrated French explorer, who has written a very interesting acconnt of it. In the dense tropical forests of this and the adjoining countries was first seen the gorilla, an animal which is both the largest and fiercest of the ape tribe.

Ashantee', an extensive kingdom of W. Africa, lying along the Guinea coast, between from 6° and 8° N. Lat., and from 4° 48′ W. to 1° 10′ E. Lon., being 280 m. equally both in length and breadth. — *Estim. Area*, 70,000 sq. m. — *Surface.* Mountainous, but with no elevated peaks or snmmits: and on the N. of Lat. 7° to 8° the country is a large and very fertile plain. The Velta or Asweda, about 400 m. in length, and the Assinee, are the principal rivers. There are several lakes, which, in the summer season, often overflow their banks. — *Clim.* The heat of six months of the year, from October to March, is excessive, bnt during the remainder it is so cool that fires are frequently desirable. The coast is very unhealthy, especially to Europeans. The rainy and foggy season lasts from May to October. From 7½° N. Lat. to the coast, *A.* presents one vast forest, whose trees have all the stupendous characteristics of African vegetation, exemplified near the sea by the gigantic baobab, the cactus, mangrove, and various kinds of palm and cotton trees; and in the interior the oliferous and viniferous palms, the aloe, and the citron. The lands are generally covered with jungle, and Guinea grass of enormous height and thickness. The sugar-cane grows wild, and tobacco, maize, dhourra, yams, and rice, are produced in plenty. Fruits, as the pineapple, orange, banana, cocoa, fig, papay, &c., flourish here in perfection, as also gums, aromatic plants, dye and hard woods. — *A.* has a magnificent *flora*, and possesses all the animals, reptiles, and insects peculiar to tropical Africa. — *Inhab.* The natives on the coast are well made and muscular, and less imbued with the characteristic features of the African type than those in the interior. The better classes of the women are almost handsome, and of Indian rather than Negro physique. Both sexes are cleanly, and the upper orders wear a garment resembling the Roman toga. The lower orders are destitute of clothing, save a piece of cloth round the loins. There are five orders into which society is divided: the king, the cabooceers, the gentry, the traders, and the slaves. Polygamy is allowed, bnt only accessible to the

rich. Well-stocked and well-managed markets are held in the towns. The common drink is palm-wine. At their high festivals, the most brutal excesses and cruelties are practised, and hundreds of human victims are sacrificed in cold blood. Caunibalism is practised, but not avowed; and to complete their character, it must be observed that they are great thieves, and extraordinary lovers of etiquette. — *Com.* Gold is the chief article of export, and a good deal is done in ivory, dye and hard woods. Slaves are exported when practicable. The imports are principally arms, gunpowder, rum, tobacco, &c., and many kinds of European manufactured goods. The currency is gold, either in dust or small lumps, but the *cowrie-shells* in use farther N. are not unknown. — *Gov. and Relig.* The legislative power lies in the king, an aristocracy of 4 persons, and an assembly of *caboceers*, or captains. The religion of *A.* is Fetichism, but there are many indications of Mohammedanism. *Language.* 7 or 8 different languages are spoken within 60 m. of the coast. The only written language is the Arabic; and the Moslems are the only persons who can read and write. *Cap.* Coomassi.—*Hist.* The early history of *A.* is obscure. In consequence of disputes with the *Fantees*, *A.* declared war against the English, in 1824, were defeated, and compelled to recognize the independence of the Fantees. In 1874 England went again to war with *A.*, defeated the king in battle, burnt his capital, and compelled him to sue for peace. In 1895 new troubles broke out and a British expedition invaded the country, captured Coomassi, and took the king (Jan. 1896) as a hostage to Cape Towu. *A.* is now a British protectorate.

Ash'away, in *R. I.*, a manf. village of Washington co.

Ash'borough, in *Indiana*, a post-village of Clay co., about 19 m. E. by S. of Terre-Haute.

Ash'borough, in *N. Carolina*, a township and cap. of Randolph co., 78 m. N.W. of Fayetteville. There are cotton mills in the neighborhood.

Ash'bourne, a borough and par. of England, Derbyshire. At *A.*, in 1644, the Parliamentary troops defeated those of Charles I. *Pop.* of par. 5,445.

Ash'burn, in *Missouri*, a post-village of Pike co., on the Mississippi, 17 m. S.E. of Hannibal.

Ash'burnham, in *Massachusetts*, a post-township of Worcester co., 55 m. N.W. of Boston.

Ash'burnham, a village in Peterborough co, Ontario, Canada. *Pop.* 1,674.

Ash'burton, LORD (ALEXANDER BARING), a London merchant of considerable wealth, B. 1776. In 1834 he became a member of Sir Robert Peel's cabinet, as President of the Board of Trade, and Master of the Mint, and was created Baron *A.* In 1841, he proceeded to America, and concluded with the U. States the famous treaty commonly called the *A. Treaty*, by which the frontier line between the State of Maine and Canada was settled. By this treaty, seven-twelfths of the disputed ground, and the British settlement of Madawaska, were given to the U. States, and only five-twelfths of the ground to Great Britain. D. 1848.

Ash'by, in *Ill.*, a. v. of Coles co.—In *Mass.* a township of Middlesex co.

Ash'by-de-la-Zouche', a town of England, in the co. of Leicester, 116 m. N.W. by N. of London. In the vicinity are the ruins of Ashby Castle, in which Mary, Queen of Scots, was once confined. *Pop.* (1895) 7,302.

Ash'bysburgh, in *Kentucky*, a post-village of Hopkins co. on Green river, 200 m. W. S. W. of Frankfort.

Ash'by's Mills, in *Indiana*, a post-office of Montgomery co.

Ash Creek, in *Mississippi*, a village of Oktibbeha Co.

Ash'dod. (*Script.*) A city of the Philistines. See ASDOUD.

Ashe, in *N. Carolina*, a mountainous county, bordering on Virginia and Tennessee; and situated between the Blue Ridge on the S.E. and Stone Mountain on the W. Capital, Jefferson.

Ashelf', *adv.* [*a* and *shelf.*] (*Naut.*) On a shelf, or rock.

Ash'en, *a.* Pertaining to ash; made of ash wood.

Ash'ery, *n.* A place where ashes are kept; an ash-hole. A manufactory of potash.

Ash'es, *n. pl.* [A.S. *asca*; Goth. *azgo*; Ger. *asche*; probably allied to Gr. *aza*, *aze*, dryness, heat.] The dry dust or remains of anything burned; the dust or loose earthy particles produced by combustion. — The remains of a human body;—used in poetry, from the ancient practice of burning the dead.

> "To great Laërtes I bequeath
> A task of grief, his ornaments of death;
> Lest, when the fates his royal *ashes* claim,
> The Grecian matrons taint my spotless name."—*Pope.*

—In common language, *ashes* is always used in its plural form, but the singular, *ash*, seems to be generally adopted by modern chemists.

(*Chem.*) When any part of an organized body, vegetable or animal, is burned with free access of air, part of it is resolved into volatile compounds, while the other, and generally the smaller portion, is left as incombustible residue or ash. This residue may contain the following elements:—*Basic.* Potassium, sodium, calcium, barium, iron, magnesium, manganese, aluminum, copper, zinc.—*Acid.* Chlorine, bromine, iodine, phosphorus (as phosphoric acid), sulphur (chiefly as sulphuric acid), silicon (as silicic acid), carbon (as carbonic acid, and occasionally as cyanogen). These substances are the so-called inorganic or mineral constituents of the vegetable or animal structure; they are essential to its existence, and are associated with the organic matter in certain definite forms, not necessarily the same as those which they assume in the ash. The inorganic constituents above enumerated are not all equally essential to organized structures. Potassium, sodium, calcium, magnesium, and iron, associated with phosphoric acid, sulphuric acid, carbonic acid, silicic acid, and chlorine, are almost always present, in greater or lesser quantity, in the ashes of organized bodies, whether vegetable or animal; the other elements are of rare or doubtful occurrence. In *bone*, the inorganic matter, consisting mainly of phosphate of calcium and carbonate, constitutes ½ to ¾ of the entire mass. Phosphate of calcium occurs also in the ashes of the *albuminous* principles. Phosphate of magnesium is abundant in the ash of wheat-grain; chloride of sodium is invariably present in the fluids of the animal body, and in the juices of plants. Carbonate of potassium forms the greater part of *wood-ash*. Silica is scarcely ever absent from the ashes of organized bodies. The ashes of *equisetaceous plants* contain 97 per cent. of silica. Sulphur occurs to the amount of about 1 per cent. in all the albuminoidal substances. Alumina has been found in considerable quantity in the juice of plants which exhibit an acid reaction, as *Lycopodium chamæcyparissus*. The presence of the other metals is mostly, perhaps, due to some peculiarity in the nutrition of the plant or animal in which they are found.

(*Agric.*) As the mineral constituents of plants are all derived from the soil, and vary greatly in amount and in composition, it will be easily understood that the examination of plant-ashes is of great importance with reference to agriculture. A plant will not grow on soil deficient in the mineral substances which it requires; if phosphoric acid is deficient, wheat and other cereal grasses cannot form their seed in its normal amount; if there is a deficiency of silica, the straw will be weak; some plants require abundance of alkali, others of lime, &c. The examination of the ashes shows what particular mineral substances the plant requires, and consequently what substances must be supplied to it artificially in the form of manure, if they are not already contained in the soil. The preparation and analyses of ashes require very delicate manipulations, and ought to be intrusted only to an experienced chemist.

(*Volcanic Ashes.*) This name is applied to the pulverulent portion of the matter thrown out by volcanoes. The ashes emitted by different eruptions of the same volcano, at different times, exhibit great differences of structure and composition. It is sometimes dark-colored or even black, and composed of earthy or soft particles, sometimes gray or white, and finely divided. In the eruption of Vesuvius, A. D. 79, which overwhelmed Pompeii and Herculaneum, the ashes was so fine and dry that it took exact casts of objects buried in it. It is this finely divided matter to which the term ashes is especially applied, the coarser varieties being generally denominated volcanic sand; it sometimes rises to a considerable height, and is then carried by the wind to great distances. *V. A.*, when examined by the microscope, appear to be composed of fragments of lava, slag, mica, felspar, magnetic iron ore, augite, pumice, olivine, &c. It is therefore a mechanical mixture of minerals and rocks abraded by trituration against each other.

Ashe'ville, in *Pennsylvania*, a village of Lancaster co.

Ashe'ville, in *Alabama*, and *N. Carolina*. See ASHEVILLE.

Ash'field, in *Massachusetts*, a post-township of Franklin co., 40 m. N.W. of Springfield. It is a large place, and the seat of considerable trade.

Ash Flat, in *Arkansas*, a post-office of Lawrence co.

Ash'ford, a town and par. of England, co. of Kent, 47 m. E.S.E. of London; *pop.* 7,215.

Ashford, in *Connecticut*, a post-township of Windham co. It is noted for its tanneries.

Ash'ford, in *New York*, a post-township of Cattaraugus co., 35 m. S.S.E. of Buffalo.

Ash'ford, in *Wisconsin*, a post-township of Fond du Lac co., 14 m. S.S.E. of Fond du Lac.

Ash Grove, in *Illinois*, a post-township of Iroquois co., 65 m. E.N.E. of Bloomington.

—A township of Shelby co.

Ash Grove, in *Indiana*, a post-office of Tippecanoe co.

Ash Grove, in *Missouri*, a post-office of Greene co.

Aship'pun, in *Wisconsin*, a post-township of Dodge county, 25 m. N.W. of the city of Milwaukee, on Rock river.

Ashi'ra Land, a country of W. Africa, bordering on Ashango Land, in Lat. 1° 44′ 22″ S.; Lon. 10° 30′ 34″. Discovered in 1863 by Du Chaillu. Its inhabitants are savages of the purest Negro type.

Ash'kenaz, one of the three sons of Gomer, son of Japhet (*Gen.* x. 3), *i. e.*, one of the peoples or tribes belonging to that part of the Japhetic division of the human race which bears the name of Gomer. The original site of the people of *A.* was in the neighborhood of Armenia (*Jer.* li. 27), and we may perhaps recognize the tribe of *A.* on the N. shore of Asia Minor, in the name of Lake *Ascanius*, and in Europe in the name of *Scand*-ia, *Scandinavia*. Knobel regards *A.* as a compound, *Ash-kenaz*, i. e. the *As*-race, perhaps the origin of the name Asia.

Ash'kum, in *Illinois*, a post-village of Iroquois co., 73 m. S. by W. from Chicago.

Ash'land, in *Illinois*, a town of Cass co., 16 m. N. E. of Jacksonville. *Pop.* (1890) 1,015.

Ash'land, in *Indiana*, a thriving village of Fayette co., 65 m. E. by S. of Indianapolis.

—A post-village of Henry co., 3 m. E. by S. of Newcastle.

—A village of Wabash co., 48 m. S. W. of Fort Wayne.

Ash'land, in *Iowa*, a village of Wapello co., 72 m. S. W. of Iowa City.

Ash'land, in *Kansas*, a post-village, cap. of Clark co., on A., T. & S. Fé R.R., 40 m. S. by W. of Dodge City.

Ash'land, in *Kentucky*, a thriving town of Boyd co., on the Ohio.

Ash'land, in *Maine*, a township of Aroostook co., now called DALTON, *q. v.*

Ash'land, in *Massachusetts*, a post-township of Middlesex co., 24 m. from Boston.

Ash'land, in *Michigan*, a post-township of Newaygo co.

Ash'land, in *Minnesota*, a post-village of Dodge co., in *A.* township.

Ash'land, in *Mississippi*, a post-office of Monroe co.

Ash'land, in *Missouri*, a post-village of Boone co., about 18 m. N. by W. of Jefferson City.

Ash'land, in *Nebraska*, a vill. of Saunders co.

—A village of Cass co., 3 m. S.W. of the Platte river.

Ash'land, in *New York*, a post-township of Greene co., 40 m. S. by W. of Albany.

Ash'land, in *Ohio*, a N.E. co., watered by the Black Fork and Lake Fork. Its soil is highly fertile. *Area*, 390 sq. m. *Pop.* (1890) 22,223.—Cap., Ashland, situated 85 m. N.N.E. of Columbus; *pop.* (1890) 3,566.

Ash'land, in *Pennsylvania*, a township of Clarion co.

—A thriving city of Schuylkill county, in the midst of a rich anthracite region. *Pop.* (1890), 7,346.

—A village of Wayne co., 170 m. N.E. of Harrisburg.

Ash'land, in *Virginia*, a post-village of Hanover co., about 16 m. N.W. of Richmond.

Ash'land, in *Wisconsin*, a thriving city, cap. of Ashland co. on Chaquamegon Bay, Lake Superior. *Pop.* (1890), 9,956; in 1897 est. at 12,500.

Ash'land City, in *Tennessee*, a township of Cheatham county.

—A vill. of Wayne co., abt. 76 m. N.W. of Nashville.

Ash'land Mills, in *Oregon*, a post-office of Jackson co., in Ashland township, now called OREGON.

Ash'lar, ASH'LĒR, *n.* [It. *asciare*, to cut or hew smooth with an axe, from *asce*, an axe.] (*Masonry.*) The name given to common or free-stones, as they come from the quarry, of various sizes. — Also the facing or squared stones on the front of a building. When the work is smoothed or rubbed, so as to take out the marks of the tools by which the stones were cut, it is called *plane A.* — *Tooled A.* is understood to be that, the surface of which is wrought in a regular manner like parallel flutes, and placed perpendicularly in the building; but when the surfaces of the stones are cut with a broad tool, without care or regularity, the work is said to be *random-tooled*; when wrought with a narrow tool, it is said to be *chiselled*, or *boasted*; and when the surfaces of the stones are cut with very narrow tools, the *A.* is said to be *pointed*; when the stones project from the joints, the *A.* is said to be *rusticated*; in this kind, the faces may either have a smooth or broken surface.

Ash'laring, and **Ash'lering,** *n.* (*Arch.* and *Masonry.*) In Nicholson's *Architectural Dictionary*, the word *ashlaring* is used to signify the operation of bedding the slabs of stone employed for facing brick or rubble walls; and *ashlering*, as a technical term in carpentry, for the short pieces of upright quartering used in garrets to cut off the acute angle between the floor and the sloping rafters of the roof.

Ash'ley, LORD. See SHAFTESBURY.

Ash'ley, in *Arkansas*, a S.E. county, watered by Bartholomew bayou, Saline and Washita rivers. *Area*, 870 sq. m.; surface generally level. *Chief Prod.* Cotton, Indian corn, tobacco. *Cap.* Hamburg. *Pop.* (1890) 13,295.

—A township of Independence co.

Ash'ley, in *Illinois*, a post-village and township of Washington co., 18 S.W. of Centralia.

Ash'ley, in *Michigan*, a post-office of Gratiot co.

Ash'ley, in *Missouri*, a post-village and township of Pike co.

Ash'ley, in *Ohio*, a post-village of Delaware co., 104 m. S.W. of Cleveland.

Ash'ley, in *South Carolina*, a small river, which has lately acquired a great importance. It takes rise in the district of Colleton, and flowing S.W. to Charleston, forms with Cooper river the Charleston harbor. On the banks of this river and its tributary streams, were found, in 1867 and 1868, very extensive deposits of phosphatic rocks or boulders, imbedded near the surface of the ground. These, when ground, are quite adapted to use as the main substratum of the fertilizers now coming so extensively into use; and has already become so much in demand, that the citizens of Charleston rely on the trade as a very important means of restoring their commercial importance.

Ash'ley, in *Utah*, a lake of Iron co., about 25 m. long, and 10 broad.

Ash'ley City, in *Michigan*, a village of Macomb co., on Lake St. Clair, with a harbor open to large vessels.

Ash'ley Falls, in *Massachusetts*, a post-office of Berkshire co.

Ash'ley's Fork, in *Utah*, a tributary of the Green river of the Colorado.

Ash'leyville, in *Massachusetts*, a village of Hampden co.

—A village of Berkshire co.

Ash'mole, ELIAS, a celebrated English antiquary, B. 1617. On the restoration of Charles II. he was appointed Windsor herald, and became one of the first members of the Royal Society. His principal work is the *History of the Order of the Garter*. D. 1692.

Ash'more, in *Illinois*, a township of Coles co.

Ash'mun, JEHUDI, an American philanthropist, B. at Champlain, New York, 1794. In 1822, he was commissioned to conduct a body of liberated Negro settlers to Liberia, and accordingly set sail for Cape Montserado. The greatest difficulties in the way of the settlements had been overcome by the talents and energy of *A.*, when

his health gave way, and he was obliged to return to America. D. 1828.

Ashore', *adv.* On shore; on the land.

"The poor Englishman riding in the road, having all that he brought thither *ashore*, would have been undone."—*Raleigh.*

—To or at the shore.

"We may as bootless spend our vain command,
As send our precepts to the leviathan
To come *ashore*."—*Shaks.*

(*Naut.*) A ship is said to be *ashore* when she has run upon the ground, or on the sea-coast, either by accident or design.

Ash'petuck' River, in *Connecticut*, a small river of Connecticut, emptying into the Sangatuck.

Ash Point, in *Kansas*, a post-village of Nemaha co., about 70 m. N.N.W. of Topeka.

Ash'port, in *Tennessee*, a post-village of Landerdale co., on the Mississippi, 170 m. W.S.W. from Nashville.

Ash Ridge, in *Illinois*, a village of Massac co.

Ash Ridge, in *Ohio*, a post-office of Brown co.

Ash'ruff, a town of Persia, province of Mazandcran, 52 m. W. of Asterbad. Near it are the ruins of the magnificent palace built by Shah Abbas, the greatest of the Persian monarchs.

Ash Spring, in *Texas*, a village of Harrison co.

Ashtabu'la, in *Ohio*, a county settled in 1796, bordering on Pennsylvania and Lake Erie, and watered by Grand and Conneaut rivers. *Prod.* Hay, Indian corn, oats, butter, cheese, wool and cattle. *Cap.* Jefferson.

—a thriving manuf. city of above county, on Lake Erie, at mouth of Ashtabula river. *Pop.* (1890), 8,338.

—A river of Ashtabula co., falling into Lake Erie.

Ash'taroth, or As'TAROTH, plurals of ASH'TORETH; As'TARTÉ. The *Ashtoreth* worshipped by the Jews in times when idolatry prevailed, was the principal female divinity of the Phœnicians, as *Baal* was the principal male divinity; and the plural Ashtaroth indicate probably different modifications of the divinity herself. Ashtoreth is the Astarté of the Greeks and Romans, and is identified by ancient writers with the goddess Venus (*Aphrodite*). She is probably the same as the Isis of the Egyptians, and closely connected with the Asherah of Scripture; Ashtoreth being, according to Berthau, the name of the goddess, and Asherah the name of her image or symbol. In Scripture she is almost always joined with Baal, and is called god, Scripture having no particular word for expressing goddess. She was the goddess of the moon: her temples generally accompanied those of the sun, and while bloody sacrifices or human victims were offered to Baal, bread, liquors, and perfumes were presented to Astarté. She was also goddess of woods, and in groves consecrated to her, such lasciviousness was committed as rendered her worship infamous. Cicero says, lib. iii. *de Nat. Deorum*, that their Astarté was the Syrian Venus, born at Tyre, and wife of Adonis: very different from the Venus of Cyprus. On medals she is represented in a long habit; at other times with a short one; sometimes holding a large stick; sometimes she has a crown of rays; sometimes she is crowned with battlements, as the Venus of Ascalon. (See *Fig.* 207.) In a medal of Cæsarea she is in a short dress, with a man's head in her right hand, and Sanchoniathon says that she was represented with a cow's head, or only with horns intended to represent the lunar rays, as in *Fig.* 210, which is the copy of an ancient sculpture.

Fig. 210. — ASHTORETH, OR ASTARTÉ.

Ash'ton, in *Illinois*, a township of Lee co.

Ash'ton, in *Iowa*, a village of Monona co., 2 m. N. by W. of Onawa.

Ash'ton, in *Missouri*, a post-office of Clarke co.

Ash'ton, in *Pennsylvania*, a village of Carbon co., 115 m. N.E. of Harrisburg. It is largely engaged in coal-mining.

Ash'ton, in *Rhode Island*, a post-office of Providence co.

Ash'ton, in *Wisconsin*, a post-office of Dane co.

Ash'ton-under-Lyne, a borough of England, in Lancashire, on the Tame, 187 m. N. by W. of London, and 7 E.N.E. of Manchester. *Manf.* Extensive manufactures of cotton, calicoes, ginghams, &c. *Pop.* of parish, 71,181; of borough, 40,000.

Ash'uelot, in *New Hampshire*, a river falling into the Connecticut river.

—A post-office of Cheshire co.

Ash'ville, in *Alabama*, a post-village and cap. of St. Clair co., 120 m. N. of Montgomery. This county is full of bituminous coal

Ash'ville, now ASHEVILLE, in *North Carolina*, a thriving city, capital of Buncombe co., 255 m. W. of Raleigh. Is a famous health resort. *Pop.* (1897), about 15,000.

Ash-Wednesday is the name given to the first day of Lent, from the Roman Catholic ceremony of strewing ashes on the head, as a sign of penitence. The ashes used on this day are said to be those of the palms consecrated on the Palm-Sunday before. The ashes are first consecrated on the altar, then sprinkled with holy water, and afterward strewed on the heads of the priests and the assembled people, the officiating priest repeating the words, "*Remember that thou art dust, and shalt return to dust.*" The ceremony is said to have been introduced into the Church by Pope Gregory the Great. In the Church of England, a commination service is appointed to be read on this day, containing the curses denounced against impenitent sinners.

Ash-Weed, *n.* (*Bot.*) An herb of the tribe *Angelicidæ*, named also goat-foot, herb-gerard, gout-weed, &c.

Ash'wood, in *Tennessee*, a post-office of Maury co.

Ash'y, *a.* Belonging to ashes; having the color of ashes; pale: composed of ashes.

"Oft I have seen a timely partest ghost
Of *ashy* semblance, meagre, pale, and bloodless."—*Shaks.*

Ash'y-pale, *a.* Pale as ashes.

"'Twixt crimson shame and anger, *ashy-pale.*"

Asia, (ā'zhah.) [Lat. and Gr. *Asia*; Ger. *Asien*; perhaps from Scr. *ushoc*, aurora. See also ASHKENAZ.] Asia, the largest of the great divisions of the earth, the birthplace and cradle of the human race, the mother of nations, religions, and states; of languages, arts, and sciences; rich in all natural gifts and historic memories; the theatre of human progression in ancient times, and still exhibiting, in many parts, the same characteristic traits which distinguished it centuries ago,—presents to our study an immense assemblage of facts that cannot be condensed in the space of a few columns. We, therefore, in offering below a generalized summary of its geographical history, and principal divisions, have to refer the reader for more minute details to the various names of countries, &c. it contains, each in its alphabetical place in this work.

I. HISTORY.—The geographical knowledge of *A.* may be considered as commencing with its western countries, and with Greece, the cradle of our present civilization. Judæa and Phœnicia are the quarters from which the earliest information comes, and this knowledge became extended in the 5th century B.C. The conquests of

Fig. 211. — VIEW OF NAZARETH.

Alexander the Great, and, after him, the Romans, did much to arouse the spirit of discovery: but in this they were surpassed by the Saracens or Arabs, who penetrated all over this continent, with the exception of Siberia and that region bordering on the Arctic ocean. The latter was by them supposed to contain the castle of two enormous giants, Gog and Magog, the search after which impelled the caliphs to send forth many exploratory expeditions, one of which returned with a formidable account of this fortress. This fable was so implicitly believed at the time, that the castle figures conspicuously in all the maps of the middle ages. In Europe, the crusades first drew attention to the Eastern world, and intercourse was also created by an embassy from the Pope being sent to the Mongols, who had invaded Europe as far as Hungary and Silesia. About the same time, owing to the revival of commerce among the maritime cities of Italy, two Venetian nobles of enterprising spirit, named Polo, visited Bokhara, and from thence Cambalu, the court of Kublai, surnamed the *Great Khan*, who was the inheritor of the conquests of Jenghis in China and other countries. They a second time travelled through the Farther East, taking with them the son of one of them, Marco Polo (*q. v.*), to whom mankind is indebted for the earliest work of travel known of *A.* *Cathay*, as N. China was then called, with *Cambalu*, its cap. (the modern Pekin), excited their wonder, the latter surpassing in magnificence any city of Europe at that time. They afterward visited *Mangi*, or S. China, whose cap., *Quinsai*, or the "Celestial City," is also described in glowing colors. Marco heard also of *Zipangu*, or Japan, as a rich insular empire, which the great khan had been unable to subdue. Returning, the travellers passed through India and Syria to Trebizonde, and reached Venice after an absence of 24 years. In the beginning of the 14th century, Juan de Monte Corvino, a Minorite friar, went on a religious mission, and penetrated to Cambalu, where he resided for many years, made many converts, and even caused himself to be made archbishop of that city. Another, Oderic of Portenau, also describes a voyage made to India, the Oriental Archipelago, and China, and his return by way of Thibet. At the end of this century, Europe resounded with the triumphs and conquests of Timour the Great; and Henry III., of Castile, sent two successive embassies to the court of the Tartar conqueror, the last of which was in 1403, under Clavijo, who sojourned at Samarcand, and has given us an interesting account of that monarch, his court, and policy. In 1497, Vasco de Gama doubled the Cape of Good Hope, and arrived at Calicut in India. The Portuguese followed him, and in 20 years established forts and settlements in Hindostan, and the Malayan islands, and even tried to get a footing in China. In the 17th century, a body of French missionaries, eminent for their scientific acquirements, obtained permission to reside in Pekin, and made a survey of China and the adjacent countries. The materials thus collected were sent to France and arranged by D'Anville. In 1636, Bronghton, an English surgeon, found favor with Shah Jehan, the *Great Mogul*, or emperor of Hindostan, who gave him the privilege of free commerce throughout his dominions, and promised to allow the same to all the English who should come to Bengal. This was communicated to the English governor of Surat, a place where this people had already established a trading factory. In consequence of this permission, the English company sent out from England, in 1640, two ships to Bengal, and thus formed the nucleus of a vast commerce, which in course of years led to the territorial conquest and absorption of nearly the whole of Hindostan. The southern part of *A.* having thus become known, the discovery of that division of the continent N. of the Altai was reserved for Russia, which country, about the middle of the 15th century, having conquered the Cossacks, engaged that hardy race to explore and conquer for her the vast region of Siberia. This was gradually done for 50 years, until 1639, when Dimetrei Kopiloff reached the Gulf of Ochotsk. Another division marched to the Amoor, but were driven back by the Chinese. The English and Dutch, during this time, were engaged in the attempt to reach China by way of the Arctic ocean; Middleton, Hudson, Barentz, and other navigators, tried this passage, but none of them reached beyond the Gulf of Oby, to the E. of Nova Zembla. In 1640, however, Cossack expeditions sailed down the rivers Lena, Alaska, and Colima; and in 1646, they explored the extreme N.E. peninsula of *A.*, inhabited by the Tchutchis. Toward the end of the century, Behring discovered the most E. cape of *A.*; and, in conjunction with Tchurikoff, afterward made a voyage to America. Subsequent expeditions, as those of Wrangel, Beechey, Cook, Perouse, and Broughton, did much to explore the E. boundary of Asiatic Russia, and its connection with Jesso, Japan, and China. The entire coast of *A.* has thus been explored, and in a great measure possessed by Europeans. The chain of the Himalayas has been surveyed, and its heights determined. Thibet has been explored by Turner and Moorcroft, Cabool and Afghanistan by Elphinstone, and Bokhara by Burnes and Wolff. Russian embassies, sent overland to China, have crossed the Great Mongolian desert; as has also Pallas, and Humboldt. Siberia, and the region of the Amoor, has become known to us by the adventurous researches of Atkinson; and in Central *A.* the brothers Schlagentweit, in 1856, passed over the Kuenluen mountains, a feat never before attempted. An Hungarian traveller, Arminius Vambéry, accomplished, in 1863, a perilous journey from Teheran through the wilds of the Turcoman deserts to Samarcand. We have here named only the earlier of the Asiatic explorers of the present century. Those named have been followed by a host of others, who have penetrated almost every portion of that long little-known continent, and made us fairly well acquainted with its physical features and the characteristics of its populations. Our knowledge of Asia is, in considerable measure, due to the aggressive movements of Russia, in consequence of which Central Asia has been made a part of the great Russian Empire. Beginning with the conquest of the Caucasus, Russia extended her invasive movements into Turkestan, the whole of which has been made a Russian province, while a railroad now traverses the desert to and beyond the once inaccessible Samarcand. A railway is also being built across the great width of Siberia, and the era of railroad construction has fairly begun in China. The long seclusion of Asia is at an end, and, moreover, civilization seems destined to penetrate its every section.

II. TOPOGRAPHY.—*A.* extends from Lat. 10° 20′, and, inclusive of the archipelago of islands belonging to it, from Lat. 10° 19′ S. to 78° N. From W. to E. it occupies from 26° to 190° E. Lon. The most northerly point of the continent is Cape Sievero Vostotchnia, Lat. 78° 25′ N.; easterly, Cape Tschukotskoi-noss, 190° E. Lon.; southerly, Cape Romania, Lat. 1° 18′ N.; and the most westerly, Cape Baba, in Natolia, 26° E. Lon. Its greatest length E. to W., from Behring's straits to the Dardanelles, may be taken as 7,500 m.; its greatest breadth, from North-East cape in Siberia, to Cape Romania at the extreme end of the Malayan peninsula, at about 5,200 m. *Area.* Estimated to be about 17,805,146 sq. m., being over 4 times the size of Europe. — Asia is washed on the N by the Arctic sea; on the E. by the Pacific ocean, which separates it from the American continent; on the S by the Indian ocean, which lies between it and Australia; while on the W. it is divided from Africa by the Red sea and Gulf of Aden; and from Europe, by the Mediterranean and Ægean seas, the Dardanelles, the Black sea, and the

ATLANTIC OCEAN
ARCTIC
ICELAND
SPITZBERGEN
FRANCIS JOSEPH LAND
BRITISH ISLANDS
NORTH SEA
ARCTIC CIRCLE
IRELAND
SCOTLAND
ENGLAND
LONDON
ENGLISH CHANNEL
PARIS
FRANCE
BRUSSELS
SWEDEN
NORWAY
CHRISTIANIA
STOCKHOLM
COPENHAGEN
DENMARK
GULF OF BOTHNIA
FINLAND
BALTIC SEA
GERMANY
BERLIN
AUSTRIA HUNGARY
VIENNA
BUDAPEST
ROME
BELGRADE
ADRIATIC SEA
ROUMANIA
BUCHAREST
BULGARIA
SOFIA
SICILY
ST. PETERSBURG
ARCHANGEL SEA
WHITE SEA
KARA SEA
NOVA ZEMBLA
RUSSIA
Moscow
Volga River
URAL MOUNTAINS
SIBERIA
BLACK SEA
CONSTANTINOPLE
MEDITERRANEAN SEA
TURKEY
CAUCASIA
CASPIAN SEA
ARAL SEA
TRANSCASPIAN TERRITORY
TURKESTAN
PERSIA
TEHERAN
AFGHANISTAN
BALUCHISTAN
KAFIRISTAN
KASHMIR
ARABIA
SYRIAN DESERT
RAB EL KHALI
HADRAMAUT
GULF OF ADEN
PERSIAN GULF
GULF OF OMAN
ARABIAN SEA
RED SEA
EGYPT
AFRICA
TRIPOLI
ABYSSINIA
SOMALI
Cape Guardafui
SOCOTRA I.
INDIAN OCEAN
BRITISH INDIA
HINDOSTAN
GREAT DESERT
RAJPUTANA
CENTRAL INDIA
CENTRAL PROVINCES
Bombay
MADRAS
Madras
CEYLON
LACCADIVE ISLANDS
MALDIVE ISLANDS
BAY OF BENGAL
NEPAL
TIBET
CHINESE TURKESTAN
SCALES.
Statute Miles, 69.16 = 1 Degree.
0 100 200 300 400 500 600 700 800
Kilometres, 111.307 = 1 Degree.
0 100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400
Rand, McNally & Co.'s New 14 x 21 Map of Asia. Copyright, 1895, by Rand, McNally & Co.
For MALAYSIA See Map of Oceania and Malaysia.
Longitude from Greenwich.
A B C D E F G H I J
1 2 3 4 5 6 7 8 9 10 11 12
10° 0° 10° 20° 30° 40° 50° 60° 70° 80°
50° 40° 30° 20° 10° 0°

K L M N O P Q R S T
100° 110° 120° 130° 140° 150° 160° 170° 180° 170°

50° 40° 30° 20° 10° 0°

K 100° L 110° M 120° N 130° O 140°

ASIA

AFGHANISTAN (Empire) .. H 4
Ar., 279,000 sq. m.
Pop.....4,000,000

BALUCHISTAN (Empire) .. H 5
Ar., 130,000 sq. m.
Pop..... 500,000

BHOTAN (Kingdom) .. K 5
Area, 16,800 sq m.
Pop. 35,000

CEYLON (British Colony) J 9
Area, 25,364 sq.m.
Pop.....3,008,466

CHINA (Empire) M 5
Ar. 1,336,841 sq.m.
Pop....386,000,000

DUTCH EAST INDIES (Dutch Colony) .. N 11
Ar., 736,400 sq. m.
Pop.....32,617,000

FRENCH INDIA (French Colony)
Area...200 sq. m.
Pop..... 280,303

FRENCH INDO-CHINA (French Dependencies)
Ar., 142,742 sq. m.
Pop.....17,791,500

HONGKONG (British Colony) .. M 6
Area....29 sq. m.
Pop. 221,441

INDIA (Empire) J 6
Ar. 1,560,160 sq.m.
Pop....287,223,431

JAPAN (Empire) O 4
Ar., 147,655 sq. m.
Pop.....41,089,940

KOREA (Empire) N 4
Area, 82,000 sq m.
Pop.....10,528,937

NEPAL (Kingdom) .. J 5
Area, 54,000 sq.m.
Pop.....2,000,000

OMAN (Empire) G 6
Area..82,000 sq.m.
Pop. 1,500,000

PERSIA (Kingdom) .. G 4
Ar..628,000 sq. m.
Pop. 7,653,000

PHILIPPINE ISLANDS (Spanish Colony) .. N 7
Ar..114,326 sq. m.
Pop. 7,000,000

RUSSIA, ASIATIC (Empire) .. K 1
Ar. 6,564,773 sq.m
Pop. ... 19,002,198

SIAM (Kingdom) .. L 7
Ar..250,000 sq. m.
Pop. 6,000,000

TURKEY IN ASIA (Empire) .. E 4
Ar..687,640 sq. m.
Pop. ... 21,608,000

Ural mountains. The principal *straits* of *A.* are, Behring's, dividing it from N. America; Corea, between China and Japan; Formosa, separating that island from China; Perouse, and Saugor in Japan; Malacca, between the island of Sumatra and the Malayan peninsula; Ormuz, Bab-el-mandeb, the Dardanelles, and the Bosphorus or Strait of Constantinople. Of *bays* and *gulfs*, the most remarkable are the sea of Kara, and gulfs of Obi and Khatanskaia, on the N.; all connected with the Arctic ocean. The seas of Anadyr, Kamtschatka, and Okhotsk, on the N.E.; the sea of Japan, Gulf of Tartary, and Yellow sea, on the E.; and the China sea, and Gulf of Tonquin, on the S.E.; all connected with the Pacific. The gulfs of Siam and Martaban, the Bay of Bengal, the Arabian and Red seas, and the gulfs of Cambay and Cutch, together with the Persian gulf, all form a junction with the Indian ocean. There are, besides, the Gulfs of the Levant, and Archipelago; and seas of Marmora, the Euxine, and that of Azoff, all associated with the Mediterranean.—*Rivers.* *A.* is, like America, a continent possessing rivers of the first magnitude. Of such are the Oby, the Yenesei, and the Lena, flowing into the Arctic ocean. Entering the Pacific are the Amoor or Saghalien, the Hoang-Ho, Yang-tse-Kiang, and the Cambodia; and falling into the Indian ocean are the Irrawaddy, Brahmapootra, Ganges, Godavery, and the Indus. In the W., the Jihoun and Sihoun empty into the sea of Azoff. With the exceptions of the Amazon and the Mississippi, the Obi has the largest basin of any river in the world. The lengths of some of these rivers are as follows: Yang-tse-Kiang, 2,880 m.: Yenesei, 2,800; Amoor, 2,641; Lena, 2,400; Obi, 2,000; Hoang-Ho, 2,000; Indus, 1,700; Ganges, 1,557; Brahmapootra, 1,500; Irrawaddy, 1,200.—*Lakes.* *A.* possesses the largest inland lake in the world, viz., the Caspian sea, covering an area of 140,000 sq. m.; the other large lakes are Aral, Baikal, Van, and Balkash, and there are numerous smaller ones.—*Mountains.* The principal systems are those of the Himalayas, the Altai, the Thian-shan, and the Kuenluen. These generally run parallel with the equator, and form the great central table-land of *A.*, the most extensive on the globe. The entire length of the Himalayan chain, from Assam to the W. of the Hindoo-Coosh, is about 1,800 m., with peaks which are the loftiest on earth. Among these, Chumulari rises to nearly 24,000 feet above sea-level; Comsanthan, to close on 25,000; Jamnobri and Nanda Dewi to about 26,000 each; Dhawalagiri, to 27,600 to about 29,000; and Deodkunga, the loftiest, to 29,002 feet. Many of the passes of this range are above 15,000 feet, while some reach even to as high as 18,000 and 19,000 feet above sea-level. On the N. of these mountains, the perpetual snow-line is at 16,620 feet; on the S., 12,981. The Altai mountain system extends, under various names, from the confluence of the Oby and Irtish, to East Cape: their whole length is about 5,000 m., and their breadth varies from about 400 to 1,000. The Thian-shan, or *Celestial mountains*, have their rise in Tartary, and, taking a course nearly along the 42d parallel of N. Lat., terminate in the great desert of Gobi. Their highest summit is the Bogdo-Oöla, a huge snow-clad elevation rising abruptly from a flat steppe, and held as sacred by the Kalmucks. The Kuenluen mountains run nearly parallel with the Celestials, and also, in some places, with the range of the Hindoo-Coosh. They rise a little to the E. of the 100th degree of E. Lon., and, under a variety of names, take a course W. and N.W., and skirting the Caspian and Black seas on the S., finally terminate to the W. of the latter. These are the principal mountains, but other chains exist, which are comparatively but little known. Volcanoes in active operation are found in Iceland, the island of Jan Mayen, and in Kamtschatka. Earthquakes are frequent, and occur at times with considerable violence.—*Deserts, Steppes, Plateaux, &c.* The principal portion of the great country known as Central *A.* is composed of vast deserts, called more generally *steppes*. Of these the most extensive is Gobi, or the *Great Steppe*, lying to the N. of the Kuenluen mountains, on the W. between the latter and the Thian-shan range, and on the E. between it and the Altai. This is all a sandy waste of vast and imperfectly known extent. The Gobi-shamo Steppe or "*Sand sea*," extends about 1,200 m. in length, and has a width of between 500 and 700. The country which is included between the two branches of the Kuenluen range, the Nan-shan, and Bayan Kara mountains, is called Khoo-khoo-noor, from a lake of that name. This region is but little known. The plateau of Yu-nan, which forms the most southerly portion of the great table-land of Eastern *A.*, has an extremely diversified surface, comprising mountains, in some places above the snow-line, and small valleys and plains. The great salt desert of Irak-Ajemee, in Persia, has a length of about 300 m., by a breadth of 210.—*Islands.* The principal are those of Japan, Saghalien, Formosa, the Philippines, the islands of the Eastern or Malay Archipelago, Ceylon, &c.

III. Minerals.—*A.* abounds in gold, and precious stones in great variety; diamonds are found in Hindostan, the Ural mountains, Borneo, Ceylon, &c.; gold in the Altai chain; silver in China, Annam, Asiatic Russia, &c.: tin in Banca, and the islands of the Malayan archipelago; copper, iron, and mercury in Japan, China, Hindostan, Ceylon, &c.; coal has been met with in Northern China, Bengal, and other localities; and salt is very generally diffused over the entire surface of the continent and petroleum on the shores of the Caspian.

IV. Botany.—The following table will give a prominent view of the more important botanical productions of *A.*—Forest Trees: *Bamboo, Birch, Chestnut, Cypress, Fir, Larch, Mangrove, Myrtle, Oak, Palm, Pine, Plantain, Ponna, Poplar, Teak,* and *Willow.*—Hardwoods: *Aloes, Eagle-wood, Ebony, Iron-wood, Lingoa, Rose-wood, Sandal-wood.*—Fruits: *Almond, Apple, Apricot, Banana, Banyan, Betel, Bignonia, Bread-fruit, Cashew, Citron, Cocoa, Coffee, Date, Dunon, Fig, Guana, Guava, Jamboo, Lemon, Lime, Mangosteen, Mulberry, Olive, Orange, Pandanus, Peach, Pear, Plum, Pomegranate, Shaddock, Tamarind, Vine, Walnut.*—Spice-trees: *Camphor, Cassia, Cinnamon, Clove, Mace, Nutmeg,* &c. There are also several species which cannot be conveniently classed under either of the 4 foregoing heads, as the *champaka, malor,* and *tanjang,* all flower-bearing trees; the *touki,* the *faung,* the *tallow-tree,* the *upas,* the most deadly of vegetable poisons; the *cotton-tree,* and, above all, the *tea-plant.* The other kinds of vegetation are not less abundant. Grain of every kind is grown with but little labor, and generally yields two crops annually. The leguminous plants are common, as, peas, beans, lentils, and the less-known kinds of the *lotus, moong, murhus, tamea, tour, koll,* &c. A root called *katchill* supplies the place of the American potato; but this last root, as well as the yam, is abundantly cultivated, especially in China and the E. peninsula of India. This is also the native home of the arrow-root, galanga, jalap, sarsaparilla, datura, anise, opium, and other drugs. The fields abound in flax, hemp, tobacco, and flowers of every hue. Dye-plants are very numerous; the sugar-cane grows luxuriantly, and many odoriferous gums are met with. Lindley estimates the gross number of species of the plants of *A.* to be 86,000.

V. Zoölogy.—*A.* is the natal country of all the more useful species of animals, excepting, perhaps, the sheep. From this continent came originally, the ox, horse, camel, goat, ass; together with the whole race of domestic poultry, excepting the turkey, which is a denizen of the New World. Of the ox-tribe, are the Asiatic, or common ox (*Bos Taurus* of Linnæus), the aurochs, the buffalo, and the yak. Among sheep, the argali is found in Siberia and the northern countries. Of goats, the Angora goat, the Thibet goat, and the ibex; and the domestic species, *Capra hircus,* are the most noted varieties. The elk is common to Siberia and Mongolia. Deer and antelopes are also found. The elephant, horse, ass, and hog, have their home in the forests and plains of this continent; and the *dziggetai,* a creature intermediate in size between the horse and ass, still runs wild in the Asiatic deserts; like his congeners, he is gregarious, and like them, too, his numbers seem almost unlimited. A similar remark will apply to the *Koulan,* or wild ass. Two species of the rhinoceros are peculiar to Asia and the Indian islands: the latter are distinguished by a double horn like the *A. Africanus.* Tropical *A.* possesses most of the fiercer Carnivora: lions, tigers, leopards, black panthers, ounces, and tiger-cats, of the feline genus; wolves, hyenas, and jackals, of the dog tribe. The lion is, however, becoming very rare in *A.*; he is now found only in the deserts of Mesopotamia, Persia, and India, and perhaps in some parts of China. The dog and fox, in all their varieties, are common throughout this continent. The smaller Carnivora also abound, as the martens, civets, mangousti or ichneumon, which attacks and destroys the most dangerous serpents; bears, badgers, gluttons, sea-otters, walruses, seals, &c. The ornithology of *A.* is less rich than its mammalogy. It includes eagles, vultures, falcons, buzzards, with nearly all the varieties of domestic and game-fowls. Song-birds are very scarce. Among reptiles are the Python and other venomous serpents, alligators, lizards, turtles, &c. The sea and rivers swarm with fish of all kinds. The insect-tribe is numerous throughout the whole continent; and the ravages of the locust in Arabia, Syria, &c., are far more dreaded than the attacks of wild animals.

Fig. 212.—ELEPHANT WITH HOWDAH.
(From Major Luard's "Views in India.")

VI. Meteorology.—Although *A.* is mostly within the temperate zone, it is generally colder than might be supposed by the indications of its latitude. In the central N. and E. parts the extremes both of cold and heat are felt. The great table-land is both dry and cold; but to give a general and comprehensive definition, *A.* may be said to be cold in the N., wet and cold in the E., dry and hot in the S.W., and wet and hot in the S., where the year is divided only into two seasons, a wet and a dry. Here the mousoons blow from April to Sept. from the S.W., and from Sept. to April from the N.E. It is from this peculiarity that they have received their name, which, in the Malay language, signifies a season. The suffocating *simoom* sweeps the Syrian and Arabian deserts, whilst *typhoons* carry their terrors across Persia, and the S.E. countries generally. In China every variety of climate is experienced, in accordance with the difference of latitude in which it lies, and with other causes which combine to give it this character. Although its capital is in the same latitude as Naples, in winter it has the atmosphere of the N. of Europe, and in summer the temperature of Egypt.

VII. Races of Man.—The natives proper of *A.* belong to the three distinct types of the Caucasian, the Mongolian, and the Malay. The first of these families comprises all the aboriginal inhabitants of the mountainous region lying between the Black and Caspian seas, from about 38° to 42° of N. Lat. It includes the mountaineers of the valleys of the Caucasus, as the Abasians, Lesghians, and Kisti; and, in the more level country lying to the S. of the Caucasus, the Georgians, Mingrelians, and Armenians. The Caucasian family also com-

Fig. 213.—CAUCASIAN TYPE.

prises the independent Tartar tribes, Kurds, Druses, Arabs, Persians, Hindoos, Afghans, &c. The Mongolian, or 2d great aboriginal race, occupies all Thibet, Central *A.*, China, Japan, Mantchouria, and the country of the Samoyedes. Finally, the Malay family have their habitat in Siam, Malacca, and the islands of the Indian Archipelago generally.

VIII. Political Divisions, Population, and Foreign Possessions. Compiled from the best authorities and latest estimates to 1897:

Countries.	Sq. Miles.	Population.
Afghanistan	278,562	4,000,000
Arabia	968,200	3,700,000
Assam (British)	25,290	200,000
Beloochistan	106,800	500,000
Bokhara	92,300	2,130,000
Burmah (British)	277,720	6,736,800
China & Manchuria	1,660,300	395,000,000
Cochin-China, Cambodia, Toukin and Annam (French)	225,620	25,100,000
India and Ceylon	1,413,490	257,119,100
Island Settlements (Java, Sumatra, Borneo, &c.)	781,920	35,080,300
Japan	147,669	41,089,940
Kafiristau	20,000	1,000,000
Khiva	22,300	70,000
Persia	630,000	7,653,600
Russian Asia—		
Caucasus	182,500	6,534,850
Siberia	4,824,570	4,093,500
Transcaspia	230,400	206,000
Turkestan	1,541,500	5,245,000
Siam	280,550	5,700,000
Straits Settlements (British)	1,450	540,000
Turkey in Asia	729,200	16,133,000
Vassal States (Mougolia, Thibet, &c.	2,519,300	9,200,000
Total	16,959,541	826,324,090

IX. Religions.—The four pre-eminent religious creeds ruling on this continent are, Brahminism, Buddhism, Mohammedanism, and Christianity; but there exist numerous other sects, many of which are but little known. Hindostan is the principal seat of the religion of Brahma, and Buddhism reigns omnipotent over Farther India, China, Japan, Mongolia, Thibet, and the Corea. In Independent Tartary, Afghanistan, Beloochistan, Persia, and Arabia, Islamism is professed, as it is, also, by the Tartars and Turks of Siberia and Turkey. In Asiatic Russia, and in some parts of Asiatic Turkey,

In addition a number of minor modern sects might be named, including Babism (*q.v.*), which has made some progress in Persia and Hindostan, and the Brahma Somaj (*q.v.*), a reformed Brahmanism, which is having a salutary effect upon Indian thought. India has also populations still in a state of abject heathenism.

Asi'ago, a town of N. Italy, 24 m. N. of Vicenza, celebrated for its manufactures of straw hats. *A.* is the chief town of a district of 7 communes, the people of which speak a sort of bastard Germau; and they are supposed to descend from such of the ancient Cimbri that escaped after their great defeat by Marius, 101 B. C. *Pop.* 5,574.

A'sia Minor. See NATOLIA.

A'sian, *a.* Belonging or relating to Asia; Asiatic.

"The *Asian* churches."—*Milton.*

A'siarch, *n.* [Lat. *asiarcha;* Gr. *asiarches*, from *Asia*, and *archos*, ruler.] In the time of pro-cousular Asia, one of the chiefs or pontiffs who had the superintendence of the public games aud religious mysteries or spectacles. The office of *A.* was annual, and subject to the approval of the pro-consul for renewal.

Asiat'ic, *a.* Relating to Asia.

—*n.* A native of Asia.

Asiat'icism, *n.* Imitation of the Asiatic manner.

Asiat'ic, or Eastern, Archipelago. See ARCHIPELAGO.

Asiat'ic Societies. Associations formed for investigating the languages, literature, history, and archæology of Asia. Some of these exist in Asia, others in Europe, and in America. The oldest society of this kind is the *Bataviaasch Genootschap van Kunsten en Wetenschapen*, founded in Batavia, 1781. It was soon followed by the *A.* of Calcutta, founded by Sir William Jones. The first volume of its proceedings was published in 1788, under the title of *Asiatic Researches*, and was continued till 1836. Other kindred societies in India followed. The first *A.* founded in Europe was the *Société Asiatique* of Paris, in 1822, whose published records, the *Journal Asiatique*, still appear. In 1823, the *Royal Asiatic Society of Great Britain* was founded, and in 1824 received a royal charter. It has also published an annual volume of its transactions. In 1845, the German *Deutsche Morgenländische Gesellschaft* was instituted at Leipzig. In 1842, an American Oriental society was founded at Boston; and, in 1852, at Constautinople, appeared the *Société Asiatique.*

Aside', *adv.* [*a* and *side.*] On side; to or on one side; not straight or perpendicular.

"The flames were blowu *asia* , yet shone they bright,
Fann'd by the wind, aud gave a ruffled light."—*Dryden.*

—Out of the right way; to another part.

"He had no brother; which, though it be a comfortable thing for kings to have, yet it draweth the subject's eyes a little *aside.*"—*Bacon.*

—Apart; at a small distance; separate from.

"He took him *aside* from the multitude."—*Mark* vii. 33.

To lay aside. To put off; to put away.

To set aside. To put by for a particular use.—(*Law.*) To annul; to make void; as, to *set aside* an award.

Asil'idæ, *n. pl.* (*Zoöl.*) A tribe of insects belonging to the sub-order *Diptera.* The geu. *Asilus* is the type of the tribe. They are very strong, predaceous insects, living upon live flies, humble-bees, and other insects, &c., which they chase and soon kill. Their flight is strong, and when on the wing they make a loud buzzing uoise. They attack horses and cattle, and sometimes cause them great annoyance and irritation.

Asi'lius, *n.* See ASILIDÆ.

Asimi'na, *n.* See ANONA.

Asine'go, *n.* See ASSINEGO.

Asinel'li, GHERARDO, and his brother, were two Bolognese architects of the 12th century. Among their works may be mentioned the tower of Bologna, and a leaning tower, *La Garizenda.*

As'inine, *a.* [Lat. *asininus*, from, *asinus*, an ass.] Belonging to or resembling the ass.

Asi'tia, *n.* [Gr., from *a*, priv., and *sitos*, food.] (*Med.*) Abstinence from food; want of appetite.

As'ius, an elegiac poet of Samos, who flourished in the 5th or 6th century B. C., and whose fragmentary poems have been published by Dünzer, (Cologne, 1840, 8vo.)

Ask, *v. a.* [A.S. *ascian, acsian*, or *axian;* probably from *asecan*, to search, to seek out, to inquire.] To request; to demand; to petition; to beg; to solicit; to entreat.

"When thou dost *ask* me blessing, I'll kneel down, and *ask* of thee forgiveness."—*Shaks.*

—To seek for by interrogation; to question.

"He *asked* the way to Chester."—*Shaks.*

—To inquire of; to interrogate.

"Sent priests.... to *ask* him, who art thou?"—*John* i. 19.

—To require; to demand; to claim

"*Ask* me never so much dowry and gift."—*Gen.* xxxiv. 12.

Ask, *v. n.* To request or petition; to beg; geuerally with *for.*

"If he *ask for* bread, will he give him a stone?" —*Matt.* vii. 9.

—To make inquiry or seek by request; sometimes with *for*, or *after.*

"*Ask for* the old paths, where is the good way, and walk therein."—*Jer.* vi. 16.

"Wherefore dost thou *ask after* my name?"—*Gen.* xxxii. 12.

Askance', Askant', *adv.* [Dut. *schuins*, away, oblique; probably allied to It. *scansare*, to turn or slip aside.] Awry; sideways; obliquely; toward one corner of the eye.

"At this, Achilles roll'd his furious eyes,
Fixed on the king *askant.*"—*Dryden.*

"Zelmare, keeping a countenance *askance*, as she understood him not...."—*Sidney.*

Ask'er, *n.* A petitioner; an inquirer.

(*Zoöl.*) An old name of the water-newt. Written also *ask.*

Askew', *adv.* [Ger. *schief*, from *schieben*, to push, to shove; closely allied to *askance.*] With a wry look; aside; obliquely; askant; contemptuously.

"Theu take it, sir, as it was writ,
Nor look *askew* at what it saith;
There 's uot petition iu it."—*Prior.*

As'kew, ANNE, an English martyr, daughter of Sir W. Askew, a Lincolnshire knight, B. 1529; she was burned at the stake, 1546, for maintaining the doctriues of the Reformation. She died with great serenity, and as she said herself, "for her Lord aud Master."

As'kew, in *Arkansas*, a post-office of Phillips co.

Ask'ing, *p. a.* Requesting; petitioning; interrogating: inquiring.

—*n.* The making of a request; a petitiou.

As'koe, a small Danish island in the Belt; Lat. 54° 54′ N.; Lon. 11° 29′ E.

As'lan, ASLA'NI, or ASSELA'NI. (*Com.*) A name given to the Dutch dollar, in most parts of the Levant. It is of silver, but much alloyed, and is current for from 115 to 120 aspers.

Aslant', *a.* or *adv.* On a slant; on one side; obliquely; not perpendicularly.

"There is a willow grows *aslant* a brook,
That shews his hoar leaves in the glassy stream."—*Shaks.*

Asleep', *adv.* and *a.* Iu, or to sleep; sleeping; at rest.

"How many thousands of my poorest subjects
Are at this hour *asleep!* O geutle sleep,
Nature's soft uurse, how have I frighted thee!"—*Shaks.*

—Figuratively, it is used for *dead.*

(*Naut.*) Applied to the state of the sails when the wind is just strong enough to fill without shaking them.—*Worcester.*

Aslope', *adv.* aud *a.* On slope; with leaning or inclination; obliquely; with declivity or descent.

"Set them not upright, but *aslope*, a reasonable depth under the grouud."—*Bacon.*

Asmannshau'sen, a village on the banks of the Rhine, below Rüdesheim, in Nassau, celebrated for the excellent wine produced on hills of blue slate in its vicinity. The red kind of *A.* wine is the more valuable; its color is peculiar. It retains its value only 3 or 4 years; after which it becomes worse every year, and precipitates the whole of its red coloring matter. It is difficult, but not impossible to transport it across the Atlantic.

Asmatog'raphy, *n.* [Gr. *asma*, a song, and *grapho*, to write.] The art of writing songs. (R.)

Asmo'deus, *n.* [Lat., from Heb. *aschmedai*, the desolator, the destroying angel; probably the same as ABADDON, *q. v.*] An evil spirit, which in *Tobit* is represented as loving Sara, the daughter of Raguel, and causing the death of seven husbands; but Tobias, instructed by Rachel, having burned the heart and liver of a fish on "the ashes of the perfumes," "the evil spirit fled into the utmost parts of Egypt, and the angel bound him." (*Tob.* viii. 1 to 3.) Since the Talmud calls *A.* "*king of the demons*," some identify him with Beelzebub, and others with Azrael.

Asmo'næans. See MACCABEES.

As'nieres, a village of France, on the river Seine, 4 m. N.W. of Paris, known in history for the fights of the Paris communists with the government troops in April, 1871. *Pop.* 5,782.

Asoak', *a.* In a state of soaking; soaking in water.

Aso'des, *n.* [Gr., from *ase*, disgust, and *odes.*] (*Med.*) A fever accompanied with anxiety and nausea.

A'sola, a fortified town of N. Italy, on the Chiesa, 20 m. N.W. of Mantua; *pop.* 5,760.

As'olo, a fortified town of N. Italy, 19 m. W.N.W. of Treviso; *pop.* 4,950.

Aso'matous, *a.* [Gr. *a*, priv., and *soma*, a body.] Without a body; incorporeal. (O.)

Asp, Asp'ic, *n.* [Lat. and Gr. *aspis*; etymol. uncertain.] (*Zoöl.*) A species of venomous serpent, fam. *Viperidæ*, often mentioned both by Greek and Roman writers (who, from the discrepancies in their accounts of it, appear to have known several noxious reptiles under this uame); but most especially celebrated as the instrument chosen by Cleopatra to put an end to her existence after the

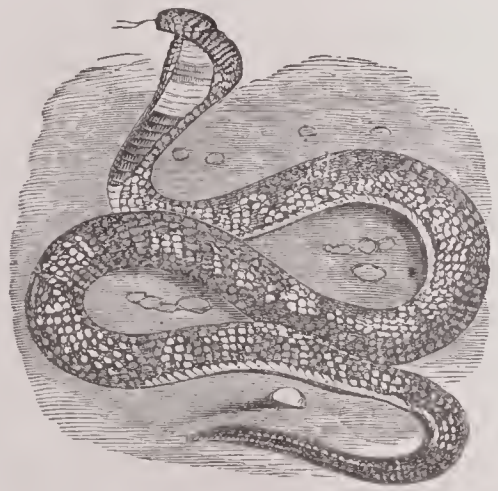


Fig. 214.—THE ASP, (*Naja Haje.*)

defeat of Mark Antony. It is believed that the true asp is the serpent called by the Arabs *Naja Haje*, of a green color, marked obliquely with brown bands, aud measuring from 3 to 5 feet in length. The effects of its poison are most deadly; but it is asserted that its bite is the least painful of all the instruments of death, and that its poison has some affinity with opium, though less disagreeable in its operation. The name ASP is also generally giveu to *Vipera aspis*, a native of S. Europe.—See VIPERIDÆ.

Aspalaso'mos, *n.* [Gr. *aspalax*, a mole, and *soma*, a body.] (*Physiol.*) A genus of monsters in which there is imperfect development of the eyes. Also, a malformation, in which the fissure and eventration extend chiefly upon the lower part of the abdomen.

Aspal'athus, *n.* (*Bot.*) A gen. of plants, ord. *Fabaceæ*, tribe *Loteæ*. Some tropical species yield a beautiful rose-colored wood.

Aspara'geæ, *n. pl.* (*Bot.*) A tribe of plants, ord. *Liliaceæ.*—DIAG. Stem usually fully developed, or if not, the leaves are coriaceous and permanent. *Asparagus*, q. v., is the principal genus of the tribe.

Aspar'agine, ASPAR'AMIDE, *n.* (*Chem.*) A substance which exists ready formed in common asparagus (*A. officinalis*), in the marsh-mallow, in potatoes, chestnuts, &c. The juice obtained from the young shoots of *asparagus*, filtered and evaporated to a syrup, deposits, after standing for some days, hard brittle crystals of *A.*, which may be purified by re-crystallization from water, and belong to the trimetric system. They are inodorous, have but a slight taste, and are permanent in the air. They dissolve in 11 parts of cold, and 4·44 parts of boiling water; the solution has a slight acid reaction. *A.* dissolves also in acids, and in alkalies. Sp. gr. 1·519 at 14° C. *Form.* $C_8H_8N_2O_2$.

Asparag'inous, *a.* Belonging to, or resembling, asparagus.

Aspar'agus, *n.* [Gr. *asparagos;* Lat. *asparagus;* Fr. *asperge.*] (*Bot.* and *Hort.*) A genus of plants, tribe *Asparageæ.* The common *A.*, *A. officinalis*, concentrates in itself the chief interest of the genus. It is one of the most delicate, extensively diffused, and anciently used of culinary vegetables. It is usually boiled and served without admixture, and eaten with butter and salt; or the points of its shoots are cut into small pieces, and served in a manner similar to green peas. It has too delicate a flavor to be a mere ingredient in compound culinary preparations, or to admit, without detriment, of almost any vegetable accompaniment. The plant is thought to be diuretic, and is extensively employed as an alleviative of stone or gravel by the sedentary operative classes of Paris. It was in high esteem as a delicate esculent among the ancient Greeks and Romans, and it continues to be held in esteem by a large portion of the modern civilized world. It was much praised by Cato and Columella, and is said to have been highly relished by Augustus Cæsar. The plant usually grows to

Fig. 215.—COMMON ASPARAGUS, (*A. officinalis.*)
1. Stem with fruit.—2. Flowers.—3. Young shoot, natural size.

the height of about 4 feet, and blooms from June till August. Each flower consists of a calyx of 6 deeply-cut segments,—6 stamens, one very short style, with its stigma cut into 3 divisions,—and a germen; and the fruit, which becomes developed from the last of these, is a scarlet globular berry, containing in its 3 cells one or more perfect seeds. The annual shoots for esculent use rise from the roots in the months of April till July, and are often obtained in winter, but usually in an imperfect condition, by various processes of forcing. Two principal varieties are in cultivation,—the red-topped, with reddish green, full, and close heads,—and the green-topped, with green heads, not so close and plump as those of the red-topped. The successful and highly artistic modes of cultivating *A.*, with the view to producing it in full perfection, are too numerous and complicated to be even mentioned here. The mode which is now in favor with the best gardeners, is to sow carefully selected seed in spring, once in several years for a single plantation; and when the plants are one year, or at most two years old, to transplant them into permanent beds; and to begin to cut off the annual shoots for esculent use in the 3d year

after transplantation. The seed-beds are usually 4 feet broad; the transplanted plants are generally in rows, at the distance of 9 inches from plant to plant, and of 12 or even 18 inches from row to row; and sometimes the seeds are sown in the permanent beds, and merely thinned out to the proper distance. The soil in every case is as nearly as possible a dry, sandy, light, mellow loam, trenched to the depth of 2½ or 3 feet, and very powerfully manured. A covering of dung or litter is laid over the beds in winter, to protect the plants from the frost; and in spring this covering is raked off the plants and dug into the alleys, and the beds are stirred with a fork in order to increase absorption of heat and air, and the infiltration and ascent of moisture. Plants raised according to this general method of culture will yield shoots in excellent condition from the 5th to the 15th or 17th year after sowing; and they may be forced a week or two by warm coverings of dung upon the beds, or extensively forced, but with the speedy death of the roots, by lifting the plants, and placing them on dung or tan beds.

Aspar'tates, *n. pl.* (*Chem.*) Aspartic acid is monobasic, the formula of its normal salts being $C_4H_6MNO_4$. It likewise forms basic salts or aspartates, the composition of which is not very clearly made out. The *A.* of the alkali-metals are soluble, and taste like broth. The active and inactive *A.* agree in composition, and in most of their properties, differing only in solubility, crystalline form, and relation to polarized light.

Aspar'tic Acid, ASPARAMIC ACID, *n.* (*Chem.*) An isomeric acid, obtained either by the decomposition of asparagine, chiefly under the influence of acids or alkalies, or by the action of heat on the acid malate, maleate, or fumarate of ammonium. The acids obtained by these two processes are identical in composition, but differ in their relations to polarized light, the former being optically active, the latter inactive. *A.* acid crystallizes in small crystals belonging to the monoclinic system. It dissolves in water, and more easily in hydrochloric, and in nitric acid. Sp. gr. 1·6613–1·6632 at 12·5° C. *Form.* $2C_4H_7NO_4$.

Aspa'sia, a celebrated Grecian courtesan, issued from a family of some note in Miletus, and was early distinguished for her graces of mind and person. She came to Athens after the Persian war, and by her beauty and accomplishments soon attracted the attention of the leading men of that city. She engaged the affections of Pericles, who is said to have divorced his former wife in order to marry her. Their union was harmonious throughout; he preserved for her to the end of his life the same tenderness; she remained the confidante of the statesman's schemes, and the sharer of his struggles. Their house was the resort of the wisdom and wit of Athens. Orators, poets, and philosophers came to listen to the eloquence of *A.*; and in their conversation, which turned upon the politics, literature, and metaphysics of the age, they deferred to her authority. Plato says that she formed the best speakers of her time, and chief among them, Pericles himself. The sage Socrates was a frequent visitor at her *salons*, drawn thither, it is insinuated, by the double attraction of eloquence and beauty. Anaxagoras, Phidias, and Alcibiades, were also numbered among her admirers. The envy which assailed the administration of Pericles was unsparing in its attacks on his mistress. Jealousy of foreigners, and dislike of female influence, combined to offend the prejudices of the mass. Her fearless speculation aroused their superstitious zeal. She shared the impeachment, and narrowly escaped the fate of her friend Anaxagoras. She was accused by Hermippus of disloyalty to the gods, and of introducing free women into her house to gratify the impure tastes of Pericles. He himself pleaded her cause triumphantly, and *A.* was acquitted. She survived Pericles some years, and is reported to have married an obscure Athenian, Lysicles, whom she raised by her example and precept to be one of the leaders of the republic.

As'pe, a town of Spain, in Valencia, 16 m. W. of Alicante; *pop.* 7,903.

As'pect, *n.* [Fr., from Lat. *aspectus*, from *aspicio*—*ad*, and *specio*, to look, to look at.] Look; air; appearance; view.

"They have the true *aspect* of a world lying in its rubbish." *Burnet.*

—Countenance; look; visage.

"Yet had his *aspect* nothing of severe,
But such a face as promised him sincere."—*Dryden.*

—Point of view; position; situation.

"The setting sun
Slowly descended; and with right *aspect*
Against the eastern gate of Paradise
Levell'd his ev'ning rays."—*Milton.*

(*Arch.*) The quarter of the heavens to which the front of a building faces. Thus, a front to the north is said to have a north *aspect*.

(*Astron.* and *Astrol.*) *A.* is an old term, almost disused, and of interest only because it may be met with in old works of considerable value. It denotes the situation of the planets and stars with respect to each other. There are five different aspects:—1, sextile aspect, when the planets or stars are 60° distant, and marked thus, ⚹: 2, the quartile or quadrate, when they are 90° distant, marked □: 3, trine, when 120° distant, marked △: 4, opposition, when 180° distant, marked ☍; and 5, conjunction, when both are in the same degree, marked ☌. Kepler added 8 more. It is to be observed that these aspects, being first introduced by astrologers, were distinguished into *benign*, *malignant*, and *indifferent*.

Aspect'ant, *a.* (*Her.*) Opposite to each other, as two beasts or birds.

As'pen, ASP, *n.* [A.S. *æsp*; probably allied to Gr. *aspairo*, to palpitate, to tremble, to quiver.] A species of poplar, with trembling leaves—the *Populus tremula*, genus POPULUS, *q. v.*

—*a.* Pertaining to, or resembling the aspen.

"Oh! had the monster seen those lily hands
Tremble like *aspen* leaves upon a lute."—*Shaks.*

—Made of aspen-wood.

As'pen Hill, in *Tennessee*, a post-office of Giles co.

As'pen Wall, in *Virginia*, a post-office of Charlotte co.

As'per, a coin current in Egypt, of which 80 form a piastre; in Morocco and Algiers, 180 belong to a sequin. American value, about 1½ cents.

Aspergil'liform, *a.* (*Bot.*) Shaped as an *aspergillum*, or brush used to sprinkle holy water, as the stigmas of most grasses.

Aspergil'lum, *n.* [L. Lat., from *aspergo*, to sprinkle; Fr. *aspersoir* and *aspergès*.] A kind of brush used in the Catholic Church to sprinkle holy water.

(*Zoöl.*) The *watering-pot shell*, a genus of conchifereous or bivalve mollusca, fam. *Gastrochænidæ*. The animal lives in a shelly tube, which is round, elongated, open above, where the siphonal end is generally ornamented with a series of ruffles, but closed below with a convex disc, which is perforated with numerous small holes, and having a minute fissure.

Aspergil'lus, *n.* (*Bot.*) A gen. of fungi, ord. *Hyphomycetes*. The *A. glaucus* is well known as producing the blue mould of cheese. It is only common on cheese, lard, bread, &c.; but what is curious, it is found in the lungs and air cavities of birds. It gives a value to cheese, and its color is often imitated by fraudulent dealers by sticking brass pins into the cheese, the verdigris formed from the pins giving it the color of mould.

Asperifo'liate, Asperifo'lious, *a.* [Lat. *asper*, rough, and *folium*, a leaf.] (*Bot.*) That has rough leaves.

Asper'ity, *n.* [Fr. *aspérité*; Lat. *asperitas*, from *asper*, rough.] Roughness of surface; ruggedness; unevenness.—Hence, by analogy, roughness of sound or taste;—and metaphorically, harshness and disagreeableness of feeling, character, or manner; sharpness; sourness; moroseness.

Asperm'ous, *a.* [Gr. *a*, priv., and *sperma*, a seed.] (*Bot.*) Destitute of seeds.

As'pern, a small village of Austria, on the Danube, about 2 m. from Vienna. Here, and in the neighboring village of Esslingen, were fought the tremendous battles of the 21st and 22d May, 1809, between the French grand army commanded by Napoleon, and the Austrians under the Archduke Charles. The French, after this continuous fighting, with vast loss to both sides, were obliged to retreat, and occupy the island of Lobau.

Asperse', *v. a.* [Lat. *aspergo*, *aspersus*, from *ad*, and *spargo*, to strew, to scatter; Gr. *speiro*, to sow.] To besprinkle with ill words or bespatter with slander; to calumniate; to befoul; to defy; to defame; to vilify.

Aspers'er, *n.* One who asperses.

Asper'sion, *n.* The act of aspersing; a sprinkling upon;—calumny; defamation.

(*Eccl. Hist.*) The sprinkling with water in the sacrament of baptism.

Asper'sive, *adv.* Tending to asperse; defamatory; slanderous; calumnious.

Asper'sively, *adv.* In an aspersive manner.

Asper'sory, *a.* Aspersive. (R.)

Aspet'ti, TIZIANO, a sculptor of Padua, B. in 1565. His mother was the sister of Titian. *A.* was a pupil of Sansovino, and produced many beautiful works in marble and bronze at Padua, Florence, and Pisa. D. 1607.

Asphalt', Asphal'tum, *n.* [Fr. *asphalte*; Gr. *asphaltos*; probably from *a*, privative, and *sphalo*, to slip; from its use as a cement in ancient buildings.] (*Min.* and *Chem.*) The *Mineral Pitch*, a variety of bitumen arising from the decomposition of vegetable matter. It is found in most parts of the world, and is the principal coloring matter of the dark indurated marl, or shale, found in coal districts. It occurs frequently floating on the surface of springs. There is one such in the island of Zante, which was at work in the time of Herodotus, and continues so at the present time. Great quantities are found on the shores, or floating on the surface, of the Dead sea, whence its name of *Asphaltites*, or *Asphaltic lake*. It is also artificially prepared from bitumen, and is largely used in Europe, and more recently in America, as a material for paving. It has the advantage of being very easy to repair.—The mineral *A.* is a mixture of different hydrocarbons, part of which are oxygenated. Ordinarily, its character is thus: Amorphous. Lustre resembling that of black pitch. Color black and brownish-black. Bituminous odor. Melts in ordinary cases at 90° to 100° C., and burns with a bright flame. Mostly or wholly soluble in oil of turpentine, and partly in alcohol. The more solid kinds graduate into the pit-asphalts, or mineral tar, and have through these a gradation to petroleum. The fluid sorts change into the solid by the loss of a vaporizable portion on exposure, and also by a process of oxidation, which consists, 1st, in a loss of hydrogen; and, 2dly, in the oxygenation of a portion of the mass.—*Comp.* The *A.* from different localities is very various in composition. Yet the true composition is not known to any one of them. *A.* belongs to rocks of no particular age. The most abundant deposits are superficial. But these are generally, if not always, connected with rock deposits containing some kind of bituminous material, or vegetable remains.

(CONTINUED IN SECTION II.)

Asphal'tic, *a.* Pertaining to asphalt, or containing it.

Asphal'tin, *n.* (*Chem.*) A black substance dissolved out of asphalt by oil of turpentine, insoluble in alcohol and ether.

Asphal'tites, Lake. See DEAD SEA.

Asphal'tus, *n.* See ASPHALT, ASPHALTUM.

As'phodels, *n. pl.* See ANTHERICEÆ.

Asphodel'us, AS'PHODEL, *n.* [Lat. *asphodelus*; from Gr. *a*, priv., and *sphallo*, to surpass; a flower not surpassed in beauty.] (*Bot.*) A genus of plants, order *Liliaceæ*. They are fine garden-plants, native of S. Europe. The king's spear, *A. luteus*, is a plant of easy culture and rapid increase. Stem 3 ft. high, thickly invested with 3-cornered, hollow leaves. Flowers yellow, in a long spike, reaching from the top almost to the base of stem; blossoming in June.—The white or blanching asphodel, *A. ramosus*, is not so tall as the preceding, but has larger, white flowers.—The ancients planted *A.* near burying-places, in order to supply the manes of the dead with nourishment.

"By those happy souls, who dwell
In yellow meads of *asphodel*."—*Pope.*

(*Chem.*) The bulbs of *A. ramosus* and other species are said to contain a fermentable substance from which alcohol may be prepared. According to Landerer, an excellent glue may be obtained from the bulbs of the same species by washing them with water, drying them thoroughly in a stove, grinding them to coarse powder, and mixing the powder with water.

Asphyx'ia, ASPHYXY, *n.* [Gr., from *a*, priv., and *phyxis*, pulse; Fr. *asphyxie*.] (*Med.*) A term which denotes that state of body during life in which the pulsation of the heart and arteries cannot be perceived. In *A.*, the action of the lungs is suspended, and the blood no longer undergoes that purifying process so necessary to life. Hence the body becomes filled with impure blood, the powers of sensation and voluntary motion are suspended, and, if the proper means of restoration are not resorted to, death will speedily ensue. *A.* may be produced by various causes; as by whatever prevents the access of air to the lungs, as strangulation, drowning, choking, &c.; or whatever interferes with the action of the nerves that are concerned in respiration, as paralysis, cold, stroke of the sun or lightning, &c. It may also be produced by breathing an impure or a too rarefied atmosphere. "In cases of *A.*," Dr. Trall says, "atmospheric air is the only remedy. The patient should be placed in a current of fresh air, or fanned vigorously, and the tongue drawn forward. This last point is exceedingly important, and lives have been lost by not properly attending to it. The tongue is paralyzed, and lies like a dead mechanical weight in the back part of the mouth, closing the glottis and completely excluding the atmospheric air from the lungs. To favor the inclination of the tongue forward, the patient should be turned on one side, with the face inclining downward. When the patient has been for a long time exposed to mephitic gases or vapors, or submerged, the restoration of the respiratory function can often be achieved as follows: Support the patient in a sitting posture, carry the arms gradually upward and outward above the head, and then as gradually depress them downward and forward, the whole to be performed 16 to 18 times per minute; during the downward motion an attendant should press firmly against the abdominal muscles. The object is to imitate the respiratory motions as nearly as possible, by which means a sufficient quantity of air may be made to enter the lungs to reinvigorate the circulation of the blood, and set the whole machinery of life in motion again. The strangling is not occasioned, as is commonly supposed, by the water or noxious gases or vapors entering the lungs, but by the spasmodic closure of the glottis to keep them out."—See DROWNING, STRANGULATION, SUFFOCATION, &c.

As'pic, *n.* [Fr., an asp.] A serpent; the asp, *q. v.*

(*Cookery.*) A savory meat-jelly moulded into a regular form, and containing portions of fowl, game, fish, &c., usually with hard-boiled eggs and sliced pickles.

—(*Oil of*), or oil of spike. See LAVANDULA.

Aspid'ium, *n.* [Gr. *aspidion*, a little buckler.] (*Bot.*) A gen. of ferns, tribe *Polypodeæ*. The fronds of the species *A. fragrans* possess aromatic and slightly bitter properties, and have been used as a substitute for tea.

Aspidu'ra, *n. pl.* [Gr. *aspis*, a shield, *oura*, tail.] (*Pal.*) A gen. of fossil star-fishes, so named from the buckler-like arrangement of the bony plates which protect the arms. They are peculiar to the muschelkalk of Germany, and are closely related to the existing ophiura.

As'pinwall, in *Nebraska*, a post-village of Nemaha co., on the Missouri river, 10 m. from Brownville; *pop.* 835.

As'pinwall (generally called COLON), a flourishing seaport of the Republic of Colombia, situate on the small island of Manzanilla, in Navy Bay, Gulf of Mexico. This town was founded in 1852 by the American Company who formed the Isthmus of Panama Railroad, and named *A.* in honor of Col. Aspinwall, one of the original promotors. It was ceded to the railroad company in perpetuity by the government of New Granada. *A.* is the terminus, on the Atlantic side, of the above-mentioned line, 48 m. long, which terminates on the S. at Panama, on the Pacific. This route, connecting as it does the two great oceans, has been termed the *highway of the world*. *A.* is a handsome, well-built town, and is the terminus of the inter-oceanic ship canal projected by the French engineer, Ferdinand de Lesseps, and prosecuted with vigor for a number of years. The company organized for this purpose in 1880, purchased the Panama railroad in 1881 as an aid in the work, and did a vast amount of excavating, but was finally forced to abandon the enterprise on account of the enormous cost. There is a light-house on its point, but the harbor, though commodious, is quite open to the "norther," that scourge of the Mexican gulf. Steamers touch here from various ports in Europe and America, and from its commanding position as a place of transit, *A.* benefits by the traffic, in both directions. *A.* is sit. 8 m. N. E. of the old Spanish fort of Chagres.

A., formerly unhealthy, has been greatly improved by drainage, but fevers prevail largely among those unacclimated. In 1870 the French Empress Eugenie presented the town with a Statue of Columbus, after whom it is named officially, *Colon. A.* was burned down during a civil commotion in April, 1885, p. then abt. 10,000, but has decreased since the abandonment of the Canal work.

Aspir'ant, *n.* [Fr., from Lat. *aspirans*, aspiring.] One who aspires, breathes after, or seeks with eagerness; a candidate.

—*a.* Aspiring; ambitious.

As'pirate, *v. a.* [Fr. *aspirer*, from Lat. *aspiro, aspiratus.* See ASPIRE.] To pronounce with a breathing, or full emission of breath.

—*v. n.* To be pronounced with full breath.

As'pirate, *a.* Pronounced with a full breath.

—*n.* A letter to whose articulation the force of a rough breathing is given.

(*Greek Gram.*) The *spiritus asper*, an accent peculiar to the Greek language, marked thus ('), and importing that the letter over which it is placed ought to be strongly aspirated, that is, pronounced as if an *h* were prefixed.

As'pirated, *p. a.* Uttered with a strong emission of breath; aspirate.

Aspira'tion, *n.* [Fr.; Lat. *aspiratio*, from *aspiro, aspiratus.*] A breathing or panting after; art of aspiring; eager pursuit or search after; ardent wish or desire for; ambition to reach or attain.

"A soul inspired with the warmest *aspiration* after celestial beatitude."—*Watts.*

—The pronunciation of a letter with a full emission of breath.

"H is only a guttural *aspiration*, i. e., a more forcible impulse of the breath from the lungs."—*Holder.*

Aspira'tor, *n.* (*Chem.*) An apparatus first devised by Brunner, for drawing a stream of air through a tube or other vessel. The simplest form of it is a cylindrical vessel *G* (*Fig.* 216), of zinc or tin plate, to hold water, having a cock, A, near the bottom, and three apertures closed with corks, *B, C, D*, on the top. *B* is connected with the vessel through which the stream of air is to be drawn; *C* is for the insertion of a thermometer; and *D* to pour in water. The vessel *G* being filled with water, the apertures *C* and *D* closed, and the cock A opened, the water runs out; and as air can only enter by the bent tube *E*, inserted into the opening *B*, a stream of air is drawn through the apparatus with which the other end of this tube is connected, the volume of air thus drawn through being exactly equal to that of the water which runs out at *G*. Instead of the metal cylinder, a glass vessel may be used, having a stop-cock at the lower part of its side.

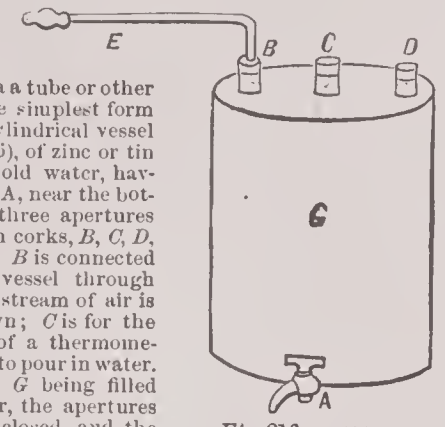


Fig. 216.— ASPIRATOR.

Aspire', *v. i.* [Fr. *aspirer*, from Lat. *aspiro, aspiratus*, from *ad*, and *spiro*, to breathe.] To breathe or pant after; to desire or pursue eagerly; to aim at what is elevated, great, noble, or difficult.—Followed by *to* or *after.*

"*Aspiring to* be gods, if angels fell,
Aspiring to be angels, men rebel."—*Pope.*
"To *aspire after* immortality."—*Atterbury.*

—To rise; to tower; to soar.

"My own breath still foments the fire,
Which flames as high as fancy can *aspire.*"—*Waller.*

Aspir'er, *n.* One who aspires.

Aspir'ing, *a.* Ambitious; having an ardent desire to rise to eminence.

Aspir'ingly, *adv.* In an aspiring manner.

Aspir'ingness, *n.* State of being ambitious; eager desire to rise to eminence.

As'plenites, *n. pl.* [See ASPLENIUM.] (*Pal.*) A genus of fossil ferns, containing a number of species, bearing a general resemblance to the recent genus *Asplenium.* Most of them are found in the mines of Silesia.

Asple'nium, *n.* [Lat., from Gr. *a*, priv., and *splen*, the spleen: from its supposed medicinal virtues.] A genus of ferns, tribe *Polypodeæ.* Its fructifications or sori are disposed in right lines along the under disc of the frond. A considerable number are described; several are natives of the U. States. The dwarf spleenwort, *A. trichomanes*, is a very beautiful little fern, common on rocks and old walls. The wall-rue spleenwort, *A. ruta muraria*, found in dry rocky places, is extremely small and delicate. The bird's-nest spleenwort, *A. nidus*, native of Java, grows on the tops of trees, the leaves coming out in a circle, and forming a kind of umbel, in the middle of which birds make their nests.

Asporta'tion, *n.* [Lat. *asportatio*, from *abs*, from, and *porto*, to carry.] (*Law.*) The act of feloniously carrying a thing away. In all larcenies, there must be both a taking and a carrying away.

Aspropot'amo, the largest of the rivers of Greece, rising in Albania, and, after a course of 100 m., falling into the Ionian sea, 15 m. from Missolonghi.

Asquint', *adv.* [Dut. *schuinte*, a slope, wryness; kindred with *askance.*] To the corner or angle of the eye; obliquely; toward one side.

"A single guide may direct the way better than five hundred, who have contrary views, or look *asquint*, or shut their eyes."—*Swift.*

Ass, *n.* [A.S. *assa*; Lat. *asinus*; Gr. *onos*; Heb. *athon*, from the last syllable of which the Greek appears to have been formed; Fr. *âne.*] Figuratively, a dull, heavy, stupid fellow; a dolt.

(*Zoöl.*) The common name of the *Equus asinus*, a well-known and the humblest species of the Horse family. The common ass is a most useful domestic quadruped, whose good qualities are too generally undervalued by us in consequence of our possessing a more noble and powerful animal in the horse; but, as Buffon remarks, if the horse were unknown, and the care and attention which we lavish upon him were transferred to his humble and despised rival, both his physical and moral qualities would be developed to an extent, which those persons alone can fully estimate who have travelled through Eastern countries, where both animals are equally valued. In his domesticated state, we observe no superior marks of sagacity; but he has the merit of being patient, enduring, and inoffensive; temperate in his food, and by no means delicate in the choice of it; eating thistles and a variety of coarse herbage which the horse refuses. In his choice of water, however, he is remarkably nice, and will drink only of that which is clear. His general appearance, certainly, is very uncouth; and his well-known voice, it must be confessed, is a most discordant succession of flats and sharps — a *bray* so hideous as to offend even the most unmusical ear. The ass is believed to be a descendant of the wild ass inhabiting the mountainous deserts of Tartary, &c., (by some naturalists called the *onager*, and supposed to be identical with the Persian *koulan*,) and celebrated in sacred and profane history for the fiery activity of its disposition, and the fleetness of its course. But, in the state of degradation to which for so many ages successive generations have been doomed, the ass has long since become proverbial for stolid indifference to suffering, and for unconquerable obstinacy and stupidity. From the general resemblance between the ass and the horse, it might naturally enough be supposed that they were very closely allied, and that one had degenerated; they are, however, perfectly distinct; there is that inseparable line drawn, that barrier between them, which Nature provides for the perfection and preservation of her productions,— their mutual offspring, the mule, being incapable of reproducing its kind. The best breed of asses is that originally derived from the hot and dry regions of Asia; at present, perhaps, the best breed in Europe is the Spanish; and very valuable asses are still to be had in the southern portion of the American continent, where, during the existence of the Spanish dominion, the breed was very carefully attended to. In truth, wherever proper attention has been paid to improve the breed by crossing the finest specimens, he is rendered nearly if not quite equal to the horse for most purposes of labor; while on hilly and precipitous roads he is decidedly better adapted from his general habits and formation. The most common color of the ass is a mouse-colored gray, with a black or blackish stripe, extending along the spine to the tail, and crossed by a similar stripe over the shoulders. The female goes with young eleven months, and seldom produces more than one foal at a time; the teeth follow the same order of appearance and renewal as those of the horse. Asses' milk has been long celebrated for its sanative properties; invalids suffering from debility of the digestive and assimilative functions make use of it with great advantage; and to those also who are consumptive it is very generally recommended. The wild ass (*Equus hemionus*), called *koulan* or *ghor-khur* by the Persians, stands much higher on its limbs than the common ass; its legs are

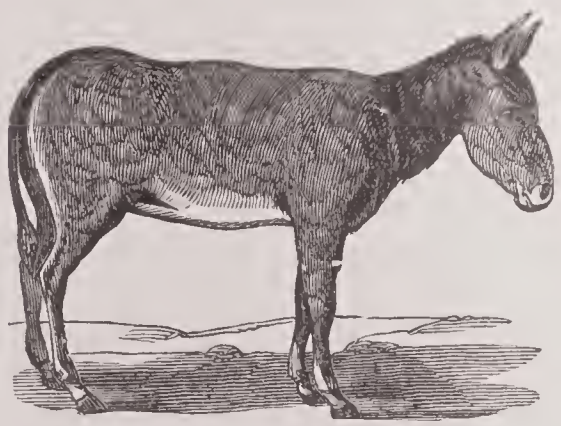


Fig. 217.— WILD ASS OF PERSIA.

more slender, the forehead is more arched, and it is altogether more symmetrical. The mane is composed of a soft, dusky, woolly hair, about 3–4 inches long; the color of the body is a fine silvery gray: the upper part of the face, the sides of the neck, and body are of a flaxen hue; and a broad brown stripe runs down the back, from the mane to the tail, and crosses the shoulders, as in the common ass. The koulan inhabits parts of Central Asia, and migrates from north to south, according to the season. Its flesh is held in high esteem by the Tartars and Persians, who hunt it in preference to all kinds of game.—Since we have alluded to the frequent mention of this interesting animal by both sacred and profane writers, we may properly conclude by quoting some passages of a witty and humorous study of the ass, by Mr. H. T. Tuckerman, in Putnam's Magazine (Feb., 1869): "The ass is intimately associated with the East, and patriarchal life. In the schedule of Abraham's possessions, when he went down into Egypt, she-asses are noted; among the possessions of our neighbor the Decalogue forbids us to covet, is his ass; the princes and rulers of Judah rode thereon, and Moses is said to have proscribed the use of horses, because of their unsuitableness to the country; Deborah apostrophizes the great, 'Ye who ride on white asses;' and in the story of Isaac's sacrifice, the patriarch is described as rising early in the morning and 'saddling his ass;' from Balaam's ass, who saw the angel of the Lord, and stood still until his master's eyes were opened to the celestial vision long apparent to the beast he so cruelly smote, to the ass's foal whereon our Saviour rode into Jerusalem in triumph, the animal most despised by modern civilization figures benignly. It was with the jawbone of an ass that Samson crushed his foes; and the evidence of prosperity of the thirty sons of Jair of Gilead, cited by the sacred historian, is not only that they ruled that number of cities, but rode on as many asses. Homer compares Ajax to an ass, in no degrading sense, as whoever has seen the wild breed of the Syrian mountains can well understand. How have the mighty fallen, even in the asinine realm! Once worshipped as a sacred creature, cared for with exquisite nurture, the favorite of monarchs, the free and fleet denizen of mountain and desert, a gift for princes, a grace of courts, and pride of households — the ass is now the drudge of mendicants, the butt of *gamins*, the vagabond of animals, the contemned, belabored, overburdened victim, and the synonym for imbecility and obstinacy in the human species. Only in the Orient do some of his ancient honors linger; and now and then, in Southern Europe, we catch glimpses of the original glory of the tribe, or learn, on dizzy summit or dreary wild, to appreciate the patient, frugal, sure-footed creature, who bears us so safely where no other quadruped could pick his way without a stumble, or keep his pace without drooping. From Apuleius to Æsop, from Shakspeare to La Fontaine, and from Sterne to Dickens, the ass figures effectively in literature: perhaps the animal kingdom affords no creature more suggestive in authorship. The earliest romance of celebrity (A. D. 130) is the 'Golden Ass,' by the first-named writer, a student of Platonic philosophy at Athens; this, as well as the 'Asinus' of Lucan, aimed to satirize hypocrisy and the profligacy of a priestly order, specious pretenders to the supernatural. Bishop Warburton argues, in his 'Divine Legation,' that its object was to contrast paganism favorably with Christianity; others contend that it is suggestive of human progress. This ancient allegory was the predecessor of countless fables, wherein the ass plays a conspicuous part. Many of them are current in proverbial philosophy; such as, the ass in the lion's skin, between two bundles of hay, with the cock and lion, with the old man, the dog, the horse, the shadow, relics, eating thistles, etc. La Fontaine serves him up with infinite variety, both of situation and moral lessons; he is the best lay-figure to drape with human absurdities, the most apposite animal whereby to illustrate mortal folly. The fantasy of Shakspeare finds in an ass's head the most grotesque illusion of love's midsummer dream;

'Come sit thee down upon this flowery bed,
While I thy amiable cheeks do coy,
And stick musk-roses in thy fair, large head,
And kiss thy fair, large ears, my gentle joy.'

The sting of passion's recoil he makes the consciousness of being made 'egregiously an ass;' and 'write me down an ass' is the adjuration of official obtuseness. The adjectives he applies to modify the term are significant; thus we have a secure, a mad, a virtuous, a tender, a Trojan, a valiant, an affectionate, and a preposterous ass. In Parini's *Animali Parlanti* he is an important personage; and how the vivacious reiteration in the *Barber of Seville* haunts the memory — 'and a jackass was your father!' Titania was enamored of one, and Crassus is said to have laughed only once in his life, and that was at an ass eating thistles: while in our day he is the central figure of Guerrazzi's elaborate political allegory. When the rhetorical gave place to the natural school of poetry, in Britain, and bards went back to the simple in expression and the elemental in life, seeking to reveal the charms of familiar things and to show that the humblest objects, regarded with sympathy and reverence, had in them some benign attraction; while Wordsworth took a pedlar or an idiot-boy for his hero, and sang of childhood and 'the meanest thing that lives,' — Coleridge thus apostrophized a young ass:

'Poor little foal of a despised race,
I love the languid patience of thy face,
And oft with gentle hand I give thee bread,
And clap thy rugged coat, and pat thy head.
Do those prophetic eyes anticipate,
Meek child of misery, thy future fate?
The starving meal, and all the thousand aches,
Which patient merit of the unworthy takes?'

Whereupon Byron, in his fierce attack on the minstrels and critics of the day, declares, as the consummation of his satire, that none

'in lofty numbers can surpass
The bard who soars to elegize an ass.'

How aptly, in the peerless romance of Cervantes, the ass plays his part; though Don Quixote doubted if such an animal were admissible in knight-errantry, to him we owe the memorable episode of 'The Brayers;' and Sancho's lament for Dapple is characteristic of that unaspiring squire's selfish affection; for, though he refuses the Don's pecuniary consolation, and calls his deceased ass the child of his bowels and the joy of his children, the true reason of his ostentatious lamentation comes out at last, when he says, 'Thou wert the envy of my neighbors, the relief of my burdens, and lastly, the half of my maintenance, for with the six-and-thirty maravedis I earned every day by thy means, I have half supported my family.' Thus was Sancho unchivalric and material in his grief, which, therefore, is in entire con-

trast to that described in Sterne's chapter, in the '*Sentimental Journey*' of the 'Dead Ass,' so unwarrantably satirized by Thackeray.—Nor has he (the ass) lacked eulogists among human observers. 'L'âne,' says George Sand, 'est sage et plein de raisonnements.' No animal enjoys such constant health. He never blushes for his race, but is proud thereof. He has not only to bear the physical burdens imposed by man, but the moral weight of his follies, of which fable makes him the invariable victim. His two most ridiculed defects—loug ears and a dissonant bray—are the provisions of Nature, whereby, in his native wilderness, he heard his enemies afar off, and gave shrill notice thereof to his distant comrades.—'How trusty, when you come to a steep, rocky place,' says a grateful traveller, 'they put their steady little feet exactly in the right spot, and carry you safe; but on free roads nibble at grass, and amuse themselves, careless of their riders,'—a philosophic proceeding that shows donkey discrimination between business and pleasure, and the time and place for each. 'L'âne,' says About, 'est moins dégradé en Orient que chez nous. Les ânes d'aujourd'hui sont braves petites bêtes qui ont le pied sur, qui galopent au besoin et qui font dix lieues par jour lorsqu'il leur plait.' In other words, they are capable, but capricious—a combination not rare among much higher animals."—The word Ass is used in a number of compound words: Ass's-ear, (*Conch.*) the *Haliotis asininus*, an iridescent shell used in the manufacture of buttons and for inlaying. (*Bot.*) The *Symphytum officinale*, or popular comfrey. Ass's head, or Ass head, (*archaic*), *q. v.* Asses' bridge, or *Pons asinorum*, (*Geom.*) the fifth proposition of the first book of Euclid's "Geometry," so called from the difficulty often experienced by beginners in mastering its demonstration. To make an ass of oneself, is a decidedly uncomplimentary phrase, meaning to act foolishly or stupidly.

As'sabet, in *Massachusetts*, a village of Middlesex co., 22 m. N. by W. of Boston.

—A river of Worcester county, joining the Sudbury at Concord.

As'sacon, or **Ussacu,** *n.* (*Chem.*) The Brazilian name for the *Hura brasiliensis Martius*, a euphorbiaceous tree. the bark and sap of which contain an acrid and very poisonous principle. The thickened sap and the decoction of the bark exert an emetic action, produce ulcerating pustules on the skin, and are used as a remedy for elephantiasis. The natives also use them to prepare poisonous drinks, against which no antidote is known.—See Hura.

Assafa'di, an Arabian biographer, and commentator on the Koran; so named from his place of birth, Safadah, in Syria: b. 1296; d. 1362. His name in full was Khali-Ibn-Aybek Abu-s-Defa Salahu-Din.

Assafœt'ida, *n.* See Asafœt'ida.

As'sagai, or **As'segai,** *n.* [Sp. *azagaya*; Port. *zagaya*; It. *zagaia*; Ar. *al-khazegah*.] A weapon or instrument of assault, in the form of a dart or javelin, used among the Kaffirs of S. Africa, and other semi-barbarous nations.

Assa'i, (*as-sä'-e.*) [It., enough, much, very.] (*Mus.*) A term denoting increase; as, *adagio*, slow; *adagio-assai*, very slow.

Assai', *n.* A beverage used in Brazil.—See Euterpe.

Assail', *v. a.* [Fr. *assaillir*, from Lat. *assilio*—*ad*, and *salio*, to leap.] To spring, rush, or fall upon; to invade; to attack; to assault.

"So when he saw his flatt'ring arts to fail,
With greedy force he 'gan the fort t' assail."—*Faërie Queene.*

—To attack with argument; censure, or motives applied to the passions.

"My gracious lord, here in the parliament
Let us *assail* the family of York."—*Shaks.*

Assail'able, *a.* That may be assailed.

Assail'ant, *n.* One who assails, attacks, or assaults.

—*a.* Attacking; assaulting or invading.

Assail'er, *n.* An assailant.

Assail'ment, *n.* Attack; assault. (R.)

Assainisse'ment, *n.* [A French word, from Lat. *ad*, and *sanare*, to make healthy.] The act of rendering healthy, as by the draining of marshes, the disinfection of the air, &c.

Assaisonne'ment, *n.* A French word answering to condiment.

As'sam, a province in the N.E. extremity of British India, separated from that of Beugal in 1874. It is bounded on the N. by Bootan and Thibet, on the E., S.E., and S. by Burmah, and on the W. by Bengal. Lat. from 25° 40′ to 28° 17′ N; Lon. from 90° 40′ to 97° 1′ E. *Area*, 88,364 sq. m.—*Desc. A.* forms part of the great basin of the Brahmapootra, which flows through the centre of it. Many other lesser rivers also irrigate its surface. The country is, in general, highly fertile, more particularly in the dry season, when it is capable of high cultivation. Many stagnant lakes and swamps are interspersed over a great part of its surface.—*Climate.* Hot, unhealthy, and earthquakes frequently occurring.—*Inhab.* The Assamese are an idle and depraved race, inferior even to the Bengalese. To them has been ascribed the first invention of gunpowder.—*Relig.* Formerly Buddhism, now Brahmanism.—*Prod.* The tea-plant is indigenous, and its leaf bears a good repute both in Europe and America; gold, ivory, rice, mustard, amber, &c., are also found.—*Manf.* Unimportant.—*Divisions and Towns. A.* is divided into two provinces, Upper *A.* and Lower *A.*, and these are again subdivided into smaller districts. Gowhati is the principal town; the others are Ghergong, and Rungpore. *Pop.* 5,476,883.—*Hist.* In 1826, a part of *A.* was ceded to England at the termination of the Burmese war, but owing to the mal-administration of the remaining rajah, Great Britain took possession of his portion in 1838. Its capital is Gowhatty, on the Brahmapootra. *Pop.* (1895), 11,492.

As-Sa'mani, Abu-s-ad-Abdul-Kerim-Ibn-Abi-Beer Mohammed At-Temimi-al-Merwazi, surnamed Kawwamuddin ("the pillar of the faith"), a celebrated Moslem writer, author of a history of Bagdad, a history of Meru, and a work on Genealogy; b. at Merv, 1113; d. 1166.

Assamar', *n.* [Lat. *assare*, to roast, and *amarus*, bitter.] (*Chem.*) This name was given by Reichenbach to the peculiar bitter substance produced when gum, sugar, starch, gluten, meat, bread, &c., are roasted in the air till they turn brown. According to Reichenbach, *A.* is a yellow transparent solid: but according to Völcker, it is a reddish-yellow syrupy liquid, which does not solidify till it begins to decompose. It is extremely hygroscopic, and dissolves in water in all proportions. The aqueous solution is neutral. Völcker assigns to *A.* the formula $C_{24}H_{13}O_{13}$; but it is doubtful whether the substance so called is a definite compound, or has ever been obtained in the pure state.

Assamese', *n. sin.* and *pl.* A native, or natives of Assam.

Assa'moosick, in *Virginia*, a P.O. of Southampton co.

Ass'as, Nicolas, Chevalier d', a French officer, celebrated for an act of patriotism which cost him his life, was captain in the regiment of Auvergne when the French army was stationed near Gueldres, in 1760. On the 15th Oct., while engaged in reconnoitring, he was taken prisoner by a division of the enemy advancing to surprise the French camp, and was threatened with death if a word escaped him. He shouted, "*A moi, Auvergne, voilà les ennemis!*" and was instantly struck down. An annual pension was allowed to his descendants.

Assas'sin, *n.* [Fr.; see Assassins.] One who kills, or attempts to kill, by surprise or secret assault.

"The Syrian king, who, to surprise
One man, *assassin*-like, had levy'd war."—*Milton.*

Assas'sinate, *v. a.* To murder by surprise or secret assault; to waylay. To take by treachery; a meaning peculiar to Milton.

"Such usage as your honourable lords
Afford me, *assassinated* and betray'd."—*Milton.*

Assassina'tion, *n.* Act of murdering by surprise or secret assault.

Assas'sinator, *n.* One who assassinates; an assassin.

Assas'sins, or Ismaili, a sect of religious fanatics who existed in the 11th and 12th centuries. They derived their name of *A.* originally from their immoderate use of *hasheesh*, which produces an intense cerebral excitement, often amounting to fury. Their founder and lawgiver was Hassan-ben-Sabah, to whom the Orientals gave the name of Sheikh-el-Jobelz, but who was better known in Europe as the *Old Man of the Mountain:* he was a wily impostor, who made fanatical and implicit slaves of his devotees, by imbuing them with a religious compounded of that of the Christians, the Jews, the Magi, and the Mohammedans. The principal article of their belief was that the Holy Ghost was embodied in their chief, and that his orders proceeded from the Deity, and were declarations of the Divine will. They believed assassination to be meritorious when sanctioned by his command, and courted danger and death in the execution of his orders. In the time of the crusades, they mustered to the number of 50,000. So great was the power of the Sheikh, that the sovereigns of every quarter of the globe secretly pensioned him; and Philip Augustus, king of France, hearing that the Sheikh had ordered his assassination, instituted a new body-guard, distinguished for their courage and activity, called *sergens d'armes*, who were armed with bows and arrows and brass clubs; and he himself never ventured in public without a club loaded with gold or iron. The Knights Templars alone dared bid defiance to this terrible and subtle foe. Among their victims was Conrad, Marquis of Montferrat, who was murdered in the market-place at Tyre, in 1192, although some historians have attributed the crime to Richard Cœur de Lion. For a long time this fearful sect reigned in Persia, and on Mount Lebanon. Holagoo, or Hulaka, a Mogul Tartar, in 1254, dispossessed them of several of their strongholds; but it was not till some years after that they were completely extirpated by the Egyptian forces sent against them by the great sultan Bibars.

Assault', *n.* [Fr. *assaut*, from O. Fr. *assault*, from Lat. *assilio*, *assultum*. See Assail.] An active and violent attack by words or deeds; a recourse to violence.

"Her spirit had been invincible against all *assaults* of affection."—*Shaks.*

"After some unhappy *assaults upon* the prerogative by the parliament."—*Clarendon.*

(*Law.*) An attempt or offer, with force and violence, to do a corporeal hurt to another; as by striking at him, with or without a weapon. Assault does not always necessarily imply a hitting or blow; because, in trespass for assault and battery, a man may be found guilty of the assault, and acquitted of the battery. But every battery includes an assault. If a person in anger lift up or stretch forth his arm, and offer to strike another, or menace any one with any staff or weapon, it is an assault in law; and if a man threaten to beat another person, or lie in wait to do it, if the other is hindered in his business, and receive loss thereby, an action lies for the injury. Any injury, however small, actually done to the person of a man, in an angry or revengeful, or rude or insolent manner, as by spitting in his face, or any way touching him in anger, or violently jostling him, is a battery in the eye of the law. To lay hands gently upon another, not in anger, is no foundation of an action of trespass and assault; the defendant may justify his so doing in defence of his person or goods, or of his wife, father, mother, or master, or for the maintenance of justice. If a master takes indecent liberties with a female scholar, without her consent, though she does not resist, it is an assault.

(*Mil.*) *To take or carry by assault*, signifies a sudden and determined onslaught on any strongly fortified place or position held by an enemy, by forces detailed for the express purpose. These troops are usually divided into those who lead the attack, who are the *stormers* or advance party; *supports*, or reserve party; and *sharpshooters*, or covering party; and a fourth body, but rarely employed, who are termed the *forlorn-hope* (q. v.). Some assaults are called "surprises;" as when a garrison, or intrenched troops, are secretly and momentarily assailed, which is most commonly effected by night. The forces employed on this service are always provided with scaling-ladders, and all needful accessories for the undertaking.—See Siege.

Assault', *v. a.* To assail; to fall upon by violence; to invade; to charge; to storm.

Assault'able, *a.* That may be assaulted.

Assault'er, *n.* One who violently assaults another.

Assay', *n.* [Fr. *essai*. See the verb.] Examination; proof; trial; determination.—See Essay.

"This cannot be
By no *assay* of reason. 'Tis a pageant,
To keep us in false gaze."—*Shaks.*

—Determination of the quantity of metal in an ore or alloy, &c., or of the quantity of gold or silver in coin or bullion.—See Assaying.

—The substance to be assayed.

"The *assays* are charged into the cupels."—*Ure.*

—Real value; ascertained purity.—*Worcester.*

"Of pearls and precious stones of great *assay*."—*Spenser.*

(*Law.*) The proof or trial of the purity or fineness of metals, particularly the precious metals gold and silver, by the method described under the word Assaying.—*Assay Office*, is an establishment or department in which the manipulations attending the assay of bullion and coins are conducted. Departments of this character are attached to the national Mint and each of its branches.

Assay', *v. a.* [Fr. *essayer*, from It. *assagiare*, to taste, to prove, to try; from L. Lat. *exagium*, a balance, a kind of weight appointed as a standard, from Lat. *exigo*, to weigh, to examine, to measure; L. Gr. *exagion*, a weighing.] To examine; to weigh accurately; to try; to determine the amount of a particular metal in an ore, alloy, or other metallic compound.

—*v. n.* To attempt, try, or endeavor. (o.) See Essay.

Assaye', or Assye', a town of Hindostan, prov. of Berar, in the Nizam's dominions, 28 m. N. of Jaulna. It is famous as being the spot where, on Sept. 23d, 1803, the Duke of Wellington, with 4,500 troops (of which only 2,000 were British), defeated the forces of Dowlut Rhow Sindia and the Rajah of Nagpoor, amounting to 30,000 men. The Anglo-Indian army's loss was 1,566 men killed and wounded.

Assay'er, *n.* One who assays metals.—*A. Master* is an officer of the mint, appointed to determine the proportion of gold or silver in coin or bullion.

Assay'ing, *n.* [Fr. *essayer*, to try.] (*Met.*) A quantitative analysis performed for the sake of discovering the amount of one particular constituent in a compound. The term is generally applied to the determination of gold and silver in alloys of these metals; but it is also used to denote any process for determining the commercial value of any substance by the separation of its valuable portion. Thus lichens and indigo are assayed for their coloring matter, galls and oak-bark for their tannin, and ores for their metal. The *A.* of gold and silver is generally performed by the process of *cupelling*. Bone-ash is mixed with water, made into a little cup, and dried. This is called the *cupel*, and has the property of absorbing oxides when they are combined with oxide of lead in a state of fusion. Silver is assayed by mixing it with a certain quantity of lead, determined by the amount of impurity suspected to exist in the alloy. The mixture is melted in the *cupel* in a current of air, until the whole of the lead is converted into oxide, which dissolves the other impurities, and carries them down with it into the cupel, the silver being left behind in a pure state. Silver alloys are also assayed by dissolving them in nitric acid, and precipitating the silver in the form of chloride by a standard solution of chloride of sodium. This method is now adopted in the English, French, and Belgian mints, as well as in those of the U. States. Gold is generally assayed by the process of *quartation*. It is mixed with three times its weight of silver, and nine times its weight of lead, and *cupelled* as above described. The whole of the impurities are thus got rid of, and an alloy of silver and gold remains. This is beaten into thin plates, which are thrown into nitric acid, which dissolves out the silver, and leaves the gold intact. The large amount of silver is added to prevent any particles of that metal existing in the gold from being protected by it from the action of the acid, and remaining undissolved.

Assche', a town of Belgium, prov. of S. Brabant, midway between Brussels and Dendermonde; *pop.* 6,492.

Asseerghur', Asserghur, or Asser, a town and fortress of Hindostan, prov. of Candeish, and pres. of Bombay, 215 m. E.N.E. of Surat; Lat. 21° 28′ N.; Lon. 76° 23′ E. The town stands at the foot of the rock on which the fortress is situated; the latter is one of the strongest fortifications in India, and was taken in 1803, and afterward in 1819, by the British, who have since held it. *Pop.* about 2,500.

Assem'blage, *n.* [Fr.] A collection, concourse, mass, or number brought together, whether of persons, ideas, or things.

"All that we amass together in our thoughts is positive, and the *assemblage* of a great number of positive ideas of space or duration."—*Locke.*

—The state of being assembled or brought together; the act of assembling or forming in mass.

"With innocence and meditation join'd
In soft *assemblage*, listen to my song."—*Thomson.*

(*Arch.*) See JOINERY.

Assem'ble, *v. a.* [Fr. *assembler*, from Lat. *ad*, and *simul*, together.] To bring, gather, or call together; to collect; to convene.

"He wondered for what end you have *assembled*
Such troops of citizens to come to him."—*Shaks.*

—(*Mech.*) To bring together the parts of any complex mechanism, as a locomotive, bicycle, built-up cannon, &c., for the purpose of joining them to form the complete device. In large factories and arsenals this is done in what is frequently termed the "assembling room."

—*v. n.* To meet or come together; to convene.

"These men *assembled*, and found Daniel praying."—*Daniel.*

Assem'bled, *p. a.* Collected into a body; congregated.

Assem'bler, *n.* One who assembles.

Assem'bly, *n.* [Fr. *assemblée.*] A company of persons gathered together in one place for a common object; as literary, social, political, and religious *assemblies*; a congregation; a meeting; a convocation; a convention.

"They had heard, by fame,
Of this so noble and so fair *assembly*,
This night to meet here."—*Shaks.*

(*Mil.*) *To sound the assembly.* To beat a certain tattoo upon the drum, or sound a call upon the bugle, in order to bring together scattered or detached troops.

Political assemblies are those required by the constitution and laws; for example, the general assembly, which includes the Senate and House of Representatives. The meeting of the electors of the President and Vice-President of the U. States may also be called an assembly.—*Popular* assemblies are those where the people meet to deliberate upon their rights; these are guaranteed by the constitution (U. S. Const., Amend., art. 1.)—*Unlawful* assembly is the meeting of three or more persons to do an unlawful act, although they may not carry their purpose into execution.

General Assembly, in the Presbyterian Church, is the name given in Scotland, and in the U. States, to a supreme ecclesiastical court, which holds its meetings annually, and consists of a certain number of ministers and ruling elders, delegated from the various presbyteries, according to the number of parishes contained in each.

Assembly, (National,) (of France and Germany.) See NATIONAL ASSEMBLY.

Assembly, (Primary.) See PRIMARY ASSEMBLIES.

Assem'bly-room, *n.* A public room for company.

Ass'enede, a town of Belgium, prov. of E. Flanders, and 13 m. N. of Ghent.—*Manf.* Wool and cotton; dye-works, &c. *Pop.* 4,726.

Ass'ens, a seaport-town of Denmark, on the W. coast of Fünen, an island on the Little Belt, 22 m. S.W. of Odensee; *pop.* about 4,000.

Assent', *n.* [O.Fr., from Lat. *assensus*, from *assentior*—*ad*, and *sentio*, to think.] Act of agreeing to anything.

"Without the king's *assent* or knowledge,
You wrought to be a legate."—*Shaks.*

—Agreement of opinion; harmony of sentiment; concurrence; consent; accord; compliance.

"The evidence of God's own testimony, added unto the natural *assent* of reason concerning the certainty of them, doth not a little comfort and confirm the same."—*Hooker.*

—In strictness, *assent* is to be distinguished from *consent*, which denotes a willingness that something about to be done, be done; *acceptance*, compliance with, or receipt of, something offered; *ratification*, rendering valid something done without authority; and *approval*, an expression of satisfaction with some act done for the benefit of another besides the party approving.

Assent', *v. n.* To be of the same mind or opinion with; to agree to; to acquiesce in; to yield to; to consent to; to admit as true.

"And the Jews also *assented*, saying, that these things were so." *Acts* xxiv. 9.

Assenta'tion, *n.* Compliance with the opinion or another out of flattery or dissimulation.

Assent'er, *n.* One who assents.

Assen'tient, *a.* Yielding assent.

—*n.* One who assents; an assenter.

Assent'ingly, *adv.* In an assenting manner.

Assen'tive, *a.* Giving assent.

Asseo'la, a Seminole Indian chief. See OSCEOLA.

Assert', *v. a.* [Lat. *assero, assertum*, from *ad*, and *sero*, to join, to knit.] To reiterate an opinion; to affirm; to maintain; to defend; to vindicate; to declare positively; to bind a statement on to a thing; to declare plainly, as to *assert* a right.

Asser'tion, *n.* Act of asserting; positive declaration or averment; affirmation.

Asser'tional, *a.* Containing assertion.

Asser'tive, *a.* Positive; dogmatical; peremptory.

Asser'tively, *adv.* Affirmatively.

Assert'or, *n.* One who asserts.

Asser'tory, *a.* Affirming; supporting; as, "the *assertory* oath."

Assess', *v. a.* [O.Fr. *assesser*, from *session*, name given to the assembly of officers who adjusted taxes; from Lat. *assideo, assessum*—*ad*, and *sedeo*, to sit.] To rate or fix the proportion that every person has to pay of any particular tax.—To tax.—To adjust the shares of a contribution by several persons toward a common beneficial object according to the benefit received.—To fix the value of; to fix the amount of.

Assess'able, *a.* That may be assessed.

Assessed', *p. a.* Charged with a certain sum; valued; set; fixed; ascertained.

Asses'sionary, *a.* Pertaining to assessors; as, "*assessionary* court."

Assess'ment, *n.* The act of determining the value of a man's property or occupation for the purpose of levying a tax.—The act of determining the share of a tax to be paid by each individual.—The sum assessed or levied; a tax; a rate.—In New York, the act of adjusting the shares of a contribution by several persons towards a common beneficial object according to the benefit received.

(*Law.*) *An A. of damages* is the fixing of the amount of damages to which the prevailing party in a suit is entitled.

Asses'sor, *n.* [Lat., from *assidere*, to sit by.] One who sits by another as an assistant or adviser.

"Minos, the strict inquisitor, appears;
And lives and crimes, with his *assessors*, hears."—*Dryden.*

Or, as next in dignity.

"To his son,
Th' *assessor* of his throne, he thus begun."—*Milton.*

—One appointed to make assessments.—The "*assessors* of taxes," so named in the U. States, are commonly termed *surveyors* in England. In this sense, *A.* derives from ASSESS.

(*Law.*) *A.*, in civil and Scotch law, are persons skilled in law, selected to advise the judges of the inferior courts.—This name is also applied in England to persons chosen to assist the mayor and aldermen of corporations in matters relating to elections.

(*Antiq.*) As, among the Romans, the consuls, prætors, governors of provinces, and judges, were often imperfectly acquainted with the law and forms of procedure, *A.* were appointed to sit with them on the tribunal. Their advice or aid was given during the proceedings, as well as at other times, but they never pronounced a judicial sentence.

Assesso'rial, *a.* Pertaining to assessors, or a court of assessors.

As'sets, *n. pl.* [O. Fr. *assetz*; Fr. *assez*, enough, sufficient; signifying originally the property of a deceased person, which is sufficient, in the hands of his executor and heir, for the payment of his debts and legacies.] All the stock in trade, cash, and all available property belonging to a merchant or company.

(*Law.*) The property of a deceased person, which is charged with, and applicable to, the payment of his debts and legacies. In the U. States, generally, by statute, all the property of the deceased, real and personal, is liable for his debts. The wearing-apparel of widows and minors is retained by them, and is not assets. A quarantine, *i. e.*, forty days of food and clothing, is also among the things reserved to a widow.

Assev'erate, *v. a.* [O. Fr. *asceverer*; from Lat. *assevero, asseveratus*, to assert earnestly; from *ad*, and *severus* serious.] To declare, affirm, or assert with solemnity or seriousness; to protest; to assure.

Assevera'tion, *n.* Positive affirmation or assertion; solemn declaration.

Ass'head, *n.* [From *ass*, and *head.*] One slow of apprehension; a blockhead; a dolt.

"Will you help an *asshead*, and a coxcomb, and a knave, a thin-faced knave, a gull?"—*Shaks.*

Ass'hur, the second son of Shem, and the founder of the Assyrian empire.

Assid'eans, *n. pl.* The name assumed by a section of the orthodox Jews, as distinguished from the Hellenizing faction. They appear to have existed as a party before the Maccabean rising, and were probably bound by some particular vow to the external observance of the law. Franckel has shown that both the *Essenes* and the *Pharisees* are sections of the *A.*; and that all three orders are frequently spoken of under the same name.—*Wm. Smith.*

As'sident, *a.* [From Lat. *as*, and *sedere*, to be seated.] (*Med.*) That which accompanies or is concomitant.—Applied to the accessory symptoms and general phenomena of disease.

Assidu'ity, *n.* [Fr. *assiduité*; Lat. *assiduitas, assiduus*, from *ad*, and *sedeo*, to sit.] Close or constant application; diligence; attention; perseverance; watchful care.

Assid'uous, *a.* [Lat. *assiduus.*] Constant in application; unceasingly diligent; unwearied; persevering.

Assid'uously, *adv.* With assiduity.

Assid'uousness, *n.* Quality of being assiduous; constant or diligent application.

Assien'to, *n.* [Sp. *asiento*, a treaty.] A term specially applied to a treaty between the Spanish government and some other nation, by which the former, in consideration of certain payments, granted the latter a monopoly of supplying the Spanish colonies in America with slaves from Africa.

Assign', *v. a.* [Fr. *assigner*; Lat. *assigno*—*ad*, and *signo*, from *signum*, a mark, token, or sign.] To mark out; to allot; to apportion.

"The last day will *assign* to every one a station suitable to his character."—*Addison.*

—To fix; to specify; to determine; as, to *assign* a day for trial; to *assign* a counsel for a prisoner, &c.

—To allege; to set forth as a reason.

(*Law.*) See ASSIGNMENT.

Assign', *n.* (*Law.*) An assignee. Now only used, in deeds, in this phrase; "Heirs, administrators, and *assigns.*"

Assign'able, *a.* That may be assigned.

Assignat, (*ăs'-seen-ya.*) *n.* [Fr., from Lat. *assignatus*, assigned.] The name of the paper currency issued by decree of the National Assembly of France, with the approbation of the king, April 1st, 1790, and so called from the national property being assigned as security. At first 400,000,000 francs were issued; but, a few months later, 800,000,000 more were issued, and subsequent issues increased the number to about 45,000,000,000 francs. The consequence was that they became of almost no value, and, at length, in 1796, they were withdrawn from the currency.

Assigna'tion, *n.* [Fr., from Lat. *assignatio.*] The act of assigning, as a particular name to a particular object; designation.—An appointment to meet; used generally of love appointments.

(*Law.*) The same as ASSIGNMENT, *q. v.*

Assignee', *n.* (*Law.*) A person appointed by another to do any act or perform any business; also, a person who takes some right, title, or interest in things by an assignment from an assignor. They are divided into *A.* by *deed*, as when a lessee of a term sells or assigns it to another; and *A.* by *law*, as, when property devolves upon an executor without any specific appointment, the executor is *A.* by law to the testator.—Assignees, however, are more specially those persons in whom the property of a bankrupt vests by virtue of their appointment. See ASSIGNMENT.

Assign'er, *n.* One who assigns or appoints.

Assign'ment, *n.* Act of assigning; the thing assigned; the appropriation of one thing to another thing or person.

(*Law.*) A transfer or making over to another of the whole of any property, real or personal, in possession or in action, or of any estate or right therein.—A transfer by writing, as distinguished from one by delivery.—The transfer of the interest one has in *lands* and *tenements*, and more particularly applied to the unexpired residue of a term or estate for life or years.—Every demand connected with a right of property is assignable. Every estate and interest in lands and tenements may be assigned, as also every present and certain estate or interest in incorporal hereditaments, even though the interest be future.—The most extensive class of *A.* are the general assignments in trust made by insolvent and other debtors for the discharge of their debts. In most of the U. States these are regulated by statutory enactments.—An instrument of *A.* must be of as high a character as the instrument transferred; nevertheless, a parol *A.* (usually written) may transfer a deed, if the deed be at the same time delivered.—The proper *technical* and *operative* words of *A.* are, "assign, transfer, and set over;" but "give, grant, bargain, and sell," or any other words which show the intent of the parties to make a complete transfer, will work an *A.*—During the continuance of the *A.*, the assignee is liable on all covenants running with the land, but may rid himself of such continuing liability by transfer to a mere beggar.—The assignee of a cause in action in a court of law must bring the action in the name of the assignor, in whose place he stands; and everything which might have been shown in defence against the assignor, may be used against the assignee.—*Assignment of Dower.* The act by which the share of a widow in her deceased husband's real estate is ascertained and set apart for her. The *A.* may be made by the heir or his guardian, or the devisee or other persons seized of the lands subject to dower: otherwise it may be made by the sheriff, after a course of judicial proceedings. The *A.* should be made within forty days after the death of the husband, during which time the widow shall remain in her husband's principal house. The share of the widow is usually one-third of all the real estate of which the husband has been seized during coverture.

Assignment of Errors. In practice, the statement of the case of the plaintiff in error, setting forth the errors complained of.

Assignor', *n.* (*Law.*) One who makes an assignment.

Assimilabil'ity, *n.* The quality of being assimilable. (R.)

Assim'ilable, *a.* That which may be assimilated.

Assim'ilate, *v. a.* [Fr. *assimiler*; Lat. *assimilo, assimilatus*, from *ad*, and *similis*, like or similar.] To make like or similar to; to bring to a likeness with; to cause to resemble; to turn to its own substance or nature by digestion.

—*v. i.* To grow or become similar to; to be converted or turned into the substance of the body.

Assimila'tion, *n.* The state of being assimilated, or becoming like something else; as, "to aspire to an *assimilation* with God." (*Decay of Piety.*)—The act or process of converting anything to the nature or substance of another.

(*Physiol.*) The substances introduced into the animal economy are there employed to support the respiratory combustion (see RESPIRATION), and to the formation of the different parts of the body itself. Before being adapted for nutrition, all substances must assume a liquid or gaseous form; this is the object of digestion. There exist three modes of ingress for the nutritive matter—the skin, the respiratory mucous membrane, and the alimentary canal; but, of the three, it is the intestinal or alimentary canal that is the great route by which the matter destined to assist in nutrition reaches the interior of the body.—These nutritive elements are at first mingled with the blood. This fluid, elaborated by processes not yet discovered, becomes rich in all the compound principles of which the tissues are, in their turn, formed; and it is out of this fluid that all the organs of the body draw the materials fitted for their growth and support, each choosing the molecules identical with its own nature. It is *this last act which constitutes assimilation.* But nothing is known as to the real nature of this act of *A.*, how it is brought out, how effected. Such questions touch too nearly the very essence of the principle of life, itself perfectly unknown in its nature. One thing is certain, that in all animals possessing a nervous system, the influence which this exercises over *A.* is distinct and undeniable.—The assimilating force possesses the property, especially in the

lower animals, of restoring parts which have been destroyed; bones are reunited by bone after being broken, and even large portions of them which have been lost have been restored. The limb of the lizard, when broken off, has grown again; a new foot has been reproduced in crabs and spiders; in salamanders, a new eye and portion of the head have been restored after the removal of the original parts by amputation. Finally, earth-worms and many other annelides can thus reproduce a great part of the body.—Moreover, various circumstances, which we have not the leisure to examine here, may modify the progress of the work of assimilation, render it active, retard it, or change its direction. It is in this way that in certain diseases we see nutrition to be almost entirely arrested, and that in others certain tissues change their nature. It is also to be observed, that this assimilative labor does not take place with the same rapidity in all parts of the body; to be assured of this, we have only to observe the changes in form often brought about by the progress of age; for these changes depend chiefly on this, that certain parts increase more rapidly than others. Thus, from the moment of birth to the adult condition, the members of the body of man grow more rapidly than the trunk; whence it follows that, in general, this latter is a portion the less considerable of the whole, as the growth is more prolonged.

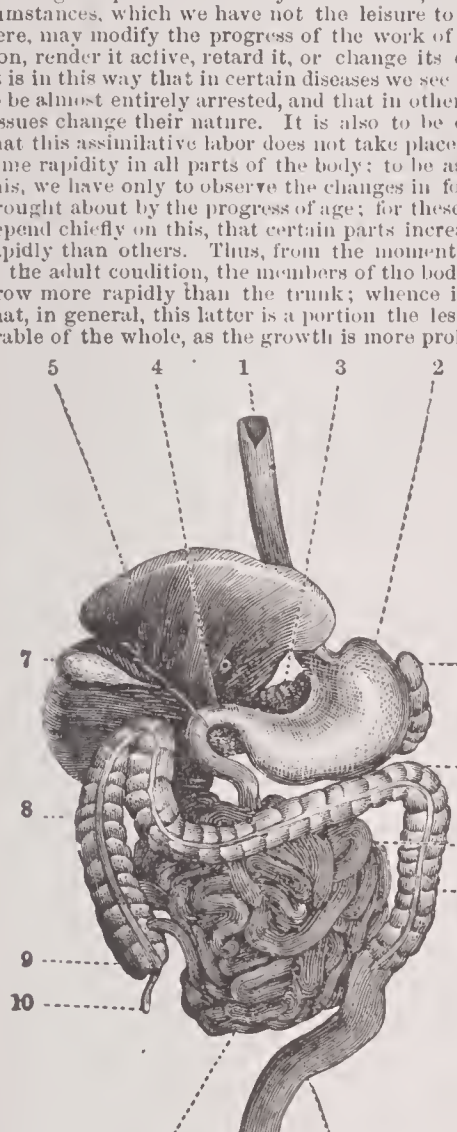


Fig. 218.—DIGESTIVE APPARATUS IN MAN.

1. Gullet.
2. Stomach.
3. Pancreas.
4. Pylorus.
5. Liver.
6. Spleen.
7. Gall-bladder.
8. Large intestine.
9. Cæcum.
10. Appendix of the cæcum.
11. Colon.
12. Small intestine.
13. Rectum.

Assim'ilative, *a.* Having power to assimilate; as, "an *assimilative* virtue."

Assim'ilatory, *a.* That tends to produce assimilation; as, "*assimilatory* organs."

Assine'go, *n.* [Port. *asinego*, a little ass.] An ass.—*Herbert.*

Assin'iboine, a river of British N. America, N.W. territory, flowing into the S. extremity of Lake Winnipeg. The Red river is its chief affluent, near the influx of which is the station Assiniboine.

Assin'iboine, a fort on the Athabaska river, British N. America; Lat. 54° 20′ N.; Lon. 114° 3′ W.

Assin'iboine Indians, a tribe of the great Sioux or Dakota family, who speak the language of most of the tribes found on the N. of the sources of the Mississippi. They live entirely by the chase, and are quite uncivilized. They are estimated to number about 4,000.

Assinie', a country of Africa, at the extremity of the Gold Coast. In 1843, the French took possession of the country, and founded a factory on the river Assinie or Gaboon.

As'sir-Uddin-Akhsikti, a Persian poet of the 12th century, the contemporary of Khakani and Anwari.

As'sir-Uddin-Umani, a Persian poet of the 13th century.

Assis'eunk Creek, in *New Jersey*, Burlington co. It falls into the Delaware river, above Burlington.

Ass'ish, *a.* Like an ass; stupid; as, "an *assish* phrase."

Assi'si, a town of Italy, 13 m. E.S.E. of Perugia, the birthplace of St. Francis, the founder of the order of Franciscans. *Pop.* 14,154.

Assi'sor, *n.* In Scottish law, a juror.

Assist', *v. a.* [Fr. *assister;* Lat. *assisto*, from *ad*, and *sisto*, to stand, to set, to place; from Gr. *histemi*.] To support: to aid; to help; to succor; to sustain.

"Receive her in the Lord . . . . and *assist* her in whatsoever business she hath need."—*Rom.* xvi. 2.

—To lend aid; to help; to contribute.

"She agreed to *assist* in the murder of her husband. *Broome.*

Assist'ance, *n.* [Fr.] Help; aid; support; succor.

Assist'ant, *a.* Helping; lending aid or support.

—*n.* One who assists or aids; a helper; a supporter; an auxiliary.

Assist'antly, *adv.* In a manner to give assistance.

Assist'er, *n.* An assistant; a helper. "Chief aiders and *assisters*."—*North.*

Assist'ing, *p. a.* Helping; aiding; supporting.

Assize', *n.*; *pl.* ASSIZES. [O. Fr. *assize* and *assise*; Fr. *assises;* from Lat. *assideo*—*ad*, and *sedeo*, to sit.] (*Law.*) In the middle ages, this name was given in France and other countries of Europe, to assemblies or courts for the administration of justice to vassals and freemen. After Godfrey of Bouillon had taken Jerusalem, in 1099, he adopted for his two courts of justice the ordinances established in these assemblies; hence this remarkable collection was styled *Assises of Jerusalem.*—After the conquest of England, the term was introduced from Normandy. It is still used to signify, 1, the sessions or sittings of the judges of the superior law-courts, held periodically in each county, for the purpose of administering civil and criminal justice; 2, a statute for regulating weights, measures, or prices; 3, the weight, measure, or price thus regulated. There are also assize courts (*cours d'assises*) in the judicial system of France, but they differ essentially from the English assizes. They are held at least once every three months in the capital of each department. They consist of a judge of the high court (*cour impériale*), of two judges of the local court (*tribunal de prémière instance*); and of a jury consisting of twelve jurors chosen by ballot from a list of the citizen-electors in each department. The *cours d'assises* try all criminal causes; the jury give their verdict, and the judges pronounce sentence.

Assize', *v. a.* To settle; to establish; to fix the weight, measure, or price of commodities.

Assiz'er, *n.* An officer who, in England, has the care or inspection of weights and measures.—In Scotland, a juryman;—also spelt *assisor* or *assizor*.

Ass'-like, *a.* Resembling an ass. "*Ass-like* braying."—*Sidney.*

Assoeiabil'ity, *n.* The quality of being associable; associableness.

Asso'eiable, *a.* That may be associated with; sociable; companionable.

Asso'eiableness, *n.* Sociableness; associability.

Asso'eiate, *v. a.* [Fr. *associer;* Lat. *associo*—*ad*, and *socio, sociatus*, from *socius*, a companion.] To join in company with, as a friend, companion, partner, or confederate.—To combine; to unite in the same mass.

"Language and fashion *associate* also affections."—*Sandys.*

—*v. n.* To unite one's self with another or others; to keep company with; to unite.

Asso'eiate, *a.* Joined to or with; conjoined; confederated; connected.

—*n.* One joined or united with another; a companion; a friend; a mate; a partner; a coadjutor.

"Sole Eve, *associate* sole, to me, beyond
Compare, above all living creatures dear."—*Milton.*

Asso'eiated, *p. a.* United in company or in interest; joined.

Assoeia'tion, *n.* [Fr.] The process, and also the result of bringing together into alliance or companionship. It is used of mental as well as of material things, and of two or more.—A society or body of persons joined together for the support or furtherance of some object.—Union; connection; conjunction; consortship; companionship; alliance; familiarity; friendship; community; membership; society; company.—Associations are usually divided into two classes, accordingly as the individuals who compose them have for their object the attainment of a spiritual end, or have in view the furtherance of a mere material interest. These two classes are again subdivided, as follows: The 1st embraces *A.* of a purely religious character, as *Orders, Congregations*, &c. The 2d comprehends political *A.*, as the *Secret Societies*, which have existed at all periods, and in all countries. The 3d, those *A.* which have for their object the advancement and cultivation of letters, arts, sciences, agriculture, or other industrial occupations; as, for instance, the "*American Association for the Advancement of Science.*" The 4th consists of those *A.* which aim at the propagation of morality and humanity; as the various *Temperance Societies*, and the *Magdalen Society*, the *Society for the Prevention of Cruelty to Animals*, &c. The 5th includes all the *A.* which may be termed *Benevolent*, and which tend to alleviate and succor distressed humanity. The second class of *A.* form two sections: in the first are found those *commercial and industrial* organizations which have for their object pecuniary gain; in the other, those *A.* or societies, as *Provident* and *Co-operative Societies*, and *Insurance Companies* of all kinds. The latter class of *A.* may be said to include all forms of fellowship and co-operation that tend to establish a certain homogeneousness and solidarity among men.

Assoeia'tional, *a.* Belonging to an association.—A word peculiar to America.

Asso'eiative, *a.* That has a tendency to association, or the faculty of being easily affected by sympathy.

Assoil', *v. a.* [From Fr. *souiller*.] To soil; to stain. (o.)

As'sonance, *n.* [Fr., from Lat. *ad*, to, and *sono*, I sound.] A term used in poetry and rhetoric to denote that the words of a phrase or verse have the same sound or termination, yet without making proper rhyme. This is commonly a fault in English, but the Romans sometimes used it with elegance; as, "*Militem comparavit, exercitum ornavit, aciem lustravit.*"

As'sonant, *a.* Having a resemblance of sounds.

As'sonant Rhymes, *n. pl.* (*Pros.*) A term applied to a kind of verse common among the Spaniards and Portuguese, where the vowels only are required to rhyme; as, *ligera, cubierta, tierra.*

Assort', *v. a.* [Fr. *assortir*, from Lat. *ad*, and *sors, sortis*, a lot.] To separate and distribute into classes or kinds, as things suited to one another;—generally applied to things, but sometimes to persons. To furnish with all sorts; as, a well-*assorted* store.

—*v. n.* To suit; to agree; to consort; to be in accordance.

Assort'ment, *n.* Act of assorting; a variety; a mass or quantity of things assorted; as, an *assortment* of goods.

Assouan', ASSUAN, or ASSWAN, (*anc. Syene,*) a town of Upper Egypt, on the E. bank of the Nile, near the borders of Nubia, 110 m. S. of Thebes, in Lat. 25° 4′ 30″ N., and Lon. 32° 55′ E. Few remains exist of the ancient city. The modern town is but a poor place, surrounded by sandy plains. Dates form the principal object of traffic.

Assuage', *v. a.* [A.S. *aswefian*, to soothe; or O. Fr. *assouager*, from Lat. *suavis*, sweet.] To soften; to allay; to mitigate; to soothe; to calm.

"Shall I, t' *assuage*
Their brutal rage,
The regal stem destroy?"—*Dryden.*

—*v. n.* To abate or subside.

"God made a wind to pass over the earth, and the waters *assuaged*."—*Gen.* viii. 1.

Assuage'ment, *n.* Mitigation; abatement.

"But all my days in pining languor spend,
Without hope of *assuagement* or release."—*Spenser.*

Assuag'er, *n.* One who assuages.

Assuapmoussoin', in *E. Canada*, a lake in Lat. 49° 22′ N., Lon. 73° 55′ W.; 8 to 10 m. in length, and about 4 in breadth.

Assua'sive, *a.* [From *assuage.*] Softening; mitigating; tranquillizing.

"If in the breast tumultuous joys arise,
Music her soft *assuasive* voice supplies."—*Pope.*

As'suetude, *n.* [Lat. *assuetudo.*] Custom; habit; habitual use. (o.)

Assume', *v. a.* [Fr. *assumer;* Lat. *assumo*, from *ad*, and *sumo*, to take.] To take to or upon one's self.

"Spectre and power, thy giving I *assums*."—*Milton.*

—To take for granted; to suppose.

"In every hypothesis, something is allowed to be *assumed*."—*Boyle.*

—To arrogate; to claim or seize unjustly; to put on with a view to deceive.

"*Assume* a virtue, if you have it not."—*Shaks.*

—To apply to one's own use; to appropriate.

"His majesty might well *assume* the complaint and expression of king David."—*Clarendon.*

—*v. n.* To be arrogant; to claim more than is due.

Assum'er, *n.* An arrogant man; one who claims more than his due.

Assum'ing, *p. a.* Taking or disposed to take upon one's self more than is just; haughty; arrogant; presumptuous.

"His haughty looks, and his *assuming* air,
The son of Isis could no longer bear."—*Dryden.*

—*n.* Presumption; arrogance; as, a vain *assuming*.

Assump'sit, *n.* [Lat. *assumpsit*, he undertook, from *assumo*, to take to one's self.] (*Law.*) An undertaking, either express or implied, to perform a parol agreement.—An action to recover a compensation in damages for the non-performance of a *parol* promise; that is, a promise, whether verbal or written, not contained in a deed under seal. For breach of a promise of the latter kind, assumpsit will not lie; but the proper remedy is by action of covenant or debt. The common law adopts the maxim, that a mere nude agreement and undertaking, without any *quid pro quo*, will not constitute a binding contract. This maxim is commonly said to have been borrowed from the civil law, where we find it laid down, that *exnudo pacto non oritur actio;* but this seems rather to have referred to agreements without certain formalities. What our law requires, in order to sustain a promise, is termed a *consideration;* and it must be either a benefit to the party promising, or to some third person, in whom he takes an interest; or detriment sustained by the party to whom the promise is made, *at the request* of the party making it. The degree of benefit or detriment, or its relative proportion to the thing promised, is immaterial. A promise of remuneration for an act which the party is bound to perform, as a promise to a sailor of extra pay for extraordinary exertion in extreme peril of the ship, is void. The law regards such exertion as the sailor's previous duty; the *consideration*, therefore, for the promise, fails. *A.* are of two kinds, *express* and *implied;* the former are where the contracts are actually made, in word or writing; the latter are such as the law implies from the justice of the case; as, for instance, if I employ an artificer to do any work for me, the obvious justice of my paying him a reasonable sum for that work, when done, raises an implication, in the understanding of the law, of a promise on my part to pay him.

Assump'tion, *n.* [Fr.; Lat. *assumptio*, from *assumo, assumptus.*] The act of assuming or taking anything to one's self.—The supposition of, or act of supposing anything without further proof.

"These, by way of *assumption*, under the two general propositions, are intrinsically and naturally good and bad."—*Norris.*

—The thing supposed; a postulate.

"Hold, says the stoick, your *assumption* 's wrong."—*Dryden.*

(*Logic.*) The minor or second proposition in a categorical syllogism. It is sometimes also applied to the con

sequence drawn from the propositions of which an argument is composed. Thus we say, the premises are true, but the *A.* is captious.

(*Eccl. Hist.*) The name of a festival celebrated by the Roman Catholic and Greek Churches on the 15th of August, in honor of the miraculous ascent of the Virgin Mary into heaven.

Assump'tion, or ASUNCION. See PARAGUAY.

Assump'tion, a small island of the Pacific ocean, in the Marianne archipelago; Lat. 19° 45′ N.; Lon. 154° 54′ E. It is of volcanic formation, and but a poor, desolate place.

Assump'tion, a village of Lower Canada, on a river of the same name which joins the St. Lawrence 14 m. N.N.E. of Montreal.

Assump'tion, in *Illinois*, a post-village and township of Christian co.

Assump'tion, in *Louisiana*, a parish in the S.E. of the State.

Assumption, in *Minnesota*, a post-office of Carver co.

Assump'tive, *a.* That is or may be assumed.

(*Her.*) *A. arms* are those which are borne without a right to them. — The name of *assumptive* was also given to arms assumed for a particular deed, with the approval of the sovereign and of the heralds.

Assump'tively, *adv.* By way of assumption.

As'saupink, Creek, in *New Jersey*, rises in Monmouth co., and runs N.W. and then S.W. till it enters the Delaware at Trenton.

Assur'ance, *n.* [Fr. See ASSURE.] Firm persuasion; certain expectation; full confidence or trust; freedom from doubt.

"A religious life gives the comfortable *assurance* of God's favor."—*Tillotson.*

—Ground of confidence; sufficient reason for trust or belief; certainty.

"Whereof he hath given *assurance* unto all men, in that he hath raised him from the dead."—*Acts* xvii. 31.

—Firmness of mind; undoubting steadiness. — Spirit; intrepidity.

"With all the *assurance* innocence can bring,
Fearless without, because secure within."—*Dryden.*

—Want of modesty; impudence; as, "his *assurance* is intolerable."

—Insurance; but only applied to a contract of indemnity for life contingencies.

(*Law.*) Any instrument which confirms the title to an estate. In a general sense, the word *assurance* includes all legal evidences of the translation of property, called *common* assurances, by which every man's property is secured to him, and controversies, doubts, and difficulties prevented and removed.

Assure', *v. a.* [Fr. *assurer;* from Lat. *securus*, sure or certain.] To give confidence by a firm promise.

"So when he had *assured* them with many words that he would restore them without hurt . . . . "—2 *Mac.* xii.

—To secure to another; to make firm.

"Those whose piety *assures* its favor to them."—*Rogers.*

—To make confident; to exempt from doubt or fear; to confer security.

"And hereby we know, that we are of the truth, and shall *assure* our hearts before him."—1 *John* iii. 19.

(*Law.*) To insure; to promise to indemnify for a loss. See INSURE.

Assured', *p. a.* Certain; indubitable; not doubted; as, "an *assured* experience." (*Bacon.*)—Certain; not doubting; confident.

"Young princes, close your hands,
And your lips too; for I am well *assured*
That I did so, when I was first *assur'd.*"—*Shaks.*

(*Law.*) Insured.

Assur'edly, *adv.* Certainly; indubitably.

Assur'edness, *n.* State of being assured; certainty.

Assur'er, *n.* One who assures or insures.

Assur'gency, *n.* The act of rising upward.

Assur'gent, *a.* [Lat. *assurgo*, to rise up.] (*Bot.*) That which rises up in a curve.

Assur'ingly, *adv.* In a way to create assurance.

As'sus, or ASSOS, an ancient city of Asia Minor, now in

Fig. 219. — RUINS OF THE ACROPOLIS OF ASSUS.

ruins. It is 35 m. W.S.W. of Mount Ida. It was colonized from Lesbos about 1000 B.C., and was, for a while, the residence of Aristotle. Leake says of the ruins here, that "the whole gives, perhaps, a more perfect idea of a Greek city than anywhere else exists."

Asswage', *v. a.* An obsolete spelling of ASSUAGE, *q. v.*

As'synt, in Scotland, a mountainous, moorish, and rugged parish, in S.W. Sutherlandshire; *area*, estimated at 100,000 acres. There are here a dozen mountains 3,000 to 3,500 feet high; and among them, Suil Veinn, a perfect sugar-loaf, towering nearly 2,000 feet above a rugged table-land of gneiss hills, 800 to 1,000 feet above the sea. In Ardbreck castle, on a promontory on the E. side of Loch *A.*, the famous Marquis of Montrose was confined in 1650. *Pop.* about 3,000.

Assyr'ia, a former great kingdom of Asia, renowned in early history. It probably derived its name from Asshur, the son of Shem (*Gen.* x. 22), who in later times was worshipped by the Assyrians as their chief god. *A.* was situated on the Tigris, and had for its capital Nineveh, *q. v.* Its boundaries differ greatly at different periods, but it was generally regarded as comprising the whole region between the Armenian mountains (Lat. 37° 30′) on the N., and the country about Bagdad (Lat. 33° 30′) on the S. The E. boundary was the high range of Zagros, or mountains of Kurdistan; the W. was, according to some, the Mesopotamian desert; according to others, the Euphrates. The greater part of the region embraced in ancient *A.* is now nominally subject to the Turkish sultan; and is peopled by Turks and Kurds, who both profess Mohammedanism, and by Christians, as Chaldeans, Nestorians, Armenians, &c. The most famous monarchs of *A.* were Ninus, and his widow and successor, Semiramis. In the time of Sardanapalus, about 820 B.C., Arbaces, governor of Media, conquered *A.* Herodotus fixes the duration of the Assyrian empire in Upper Asia at 420 years. It was then divided into 3 kingdoms, the Median, Assyrian, and Babylonian. Soon after, *A.* revived to a resemblance of its former splendor under Salmanassar, who made Nineveh his capital. About 606 B.C., Cyaxares, king of Media, formed an alliance with Nabopolassar, governor of Babylon, when they marched against Nineveh, and destroyed it. *A.* consequently became a Median province; and Babylon by the victories of Nebuchadnezzar was made a powerful kingdom. About 538 B.C., the three kingdoms were conquered by Cyrus, and annexed to the Persian empire.

Assyr'ia, in *Michigan*, a post-village of Barry co., about 16 m. S.E. of Hastings. *Pop.* (1894) 67.

Assyr'ian, *a.* Belonging or relating to Assyria.

—*n.* A native or inhabitant of Assyria.

Ast, GEORG ANTON FRIEDRICH, an eminent German philologist, B. at Gotha in 1778; D. at Munich in 1841. Professor *A.* published various works on philosophy and æsthetics, but his latest and most important works are the *Life and Writings of Plato*, published at Leipzig, in 1816; and his complete edition of the same author's works, published in 11 vols., 1819–32.

Asta'cian, *n.* (*Zoöl.*) A crustacean of the gen. *Astacus.*

Astac'olite, *n.* (*Pal.*) A fossil crustacean, resembling the lobster.

As'tacus, *n.* [Lat., from Gr. *astakos*, a lobster or crab.] (*Zoöl.*) A genus of long-tailed crustaceous animals, of the *Macroura* group. Its distinguishing character is derived from the antennæ, the two pairs of which are inserted in the same horizontal line. It includes the lobster, *A. marinus*, and the crayfish, *A. fluvialis.* — See LOBSTER, and CRAYFISH.

Astar'te, *n.* (*Myth.*) See ASHTAROTH.

(*Zoöl.*) A genus of shells. See CRASSINIDÆ.

Astasiæ'a, *n.* (*Zoöl.*) A family of microscopic animals belonging to the class *Infusoria.* Their body is of a spontaneously variable form, and they are insoluble in a solution of caustic potash.

Astat'ic, *a.* [Gr. *a*, priv., and *statikos*, causing to stand; from *histemi*, to make to stand, from obs. *stao*, to stand.] (*Electro-Magnetism.*) Being unstable; being without polarity. — Applied to a compound galvanometer needle of great sensibility, composed of two parallel magnetic needles of nearly the same strength, affixed to the same axis of suspension, and having their similar poles oppositely directed, so as nearly to neutralize the magnetic influence of the earth.

Astay', *adv.* (*Naut.*) The position of an anchor when, during heaving, the cable forms an acute angle with the surface of the water.

As'teism, *n.* [Gr. *asteismos*, a witty saying, from *asty*, the city.] (*Rhet.*) A genteel and pleasing irony; an urbane wit.

Asterabad', or ASTRABAD', a city of Persia, cap. of a prov. of same name, on the Gourgan; Lat. 36° 50′ N.; Lon. 53° 23′ E. Its bazaars are extensive, and situation picturesque, but it is a decaying place, and very unhealthy. *Pop.* 4,000.

As'ter-acan'thus, *n.* [Gr. *aster*, a star, *axantha*, a spine.] (*Pal.*) A genus of fossil placoid fishes discovered in the lias and oölitic formations.

As'ter, *n.* [Gr., a star.] (*Bot.*) The Star-Wort, a genus of plants, ord. *Asteraceæ*, sub-ord. *Tubulifloræ*, tribe *Asteroidæ.* A great number of species are described from all parts of the world, though about three-fifths of the number are from North America. Several are handsome, showy plants, such as the *A. Chinensis*, or China Aster, which was imported into France from China in the year 1728. Most of the species rank as ornamental plants; and yet comparatively few are cultivated in flower-gardens. Most of the best known kinds have a rank and coarse appearance in the stem and leaves, and a somewhat staring appearance in the flowers; and yet, except mere brilliance of tint, several might advantageously compare with some of the pet varieties of the fashionable cineraria. The species most commonly cultivated are those designated *amellus, alpina, hysopifolius, punctatus, acris, canus, rigidus, linarfolius, tenuifolius, dumosis, ericoides*, and *conifolius.* About 160 species, nearly all exotic.

Fig. 220.—ASTER DUMOSIS.

Astera'ceæ, COMPOSITES. *n. pl.* (*Bot.*) An order of plants, of the *Campanales* alliance. — DIAG. A 1-celled ovary, valvate corolla, syngenesious anthers, erect ovule, and no albumen. They are herbaceous plants or shrubs. Leaves alternate or opposite, without stipules, usually simples, but commonly much divided. Flowers (called florets) unisexual or hermaphrodite, collected in dense heads upon a common receptacle, surrounded by an involucre. Bracts, when present, stationed at the base of the florets, and called paleæ of the receptacle. Calyx superior, indistinguishable from the ovary: its limb either wanting or membranous, divided into bristles, paleæ, hairs, or feathers, called *pappus.* Corolla monopetalous, superior, usually deciduous, either ligulate or funnel-shaped. Stamens equal in number to the teeth of the corolla, and alternate with them; the anthers cohering into a cylinder. Ovary inferior, 1-celled, with a single erect ovule; style simple, stigmas 3; fruit, a small, indehiscent, dry pericarp, crowned with the limb of the calyx; seed solitary, erect; embryo with a taper inferior radicle.—This order, one of the most natural and extensive families of the vegetable kingdom, is divided into three sub-orders—*Tubulifloræ, Labiatifloræ, Ligulifloræ.* It includes 1,005 genera, and 9,000 species.—The uses to which *A.* or *Composites* have been applied are as numerous as their forms. They will be noted under the name of the principal genera.

Aste'ria, *n.* (*Min.*) See ASTERITE.

Asteri'adæ, *n. pl.* (*Zoöl.*) A family of animals belonging to the class *Echinodermata*, and known by the name of star-fishes or sea-stars, from the star-like form which they all have more or less. They have a coriaceous skin, in which are implanted spines or tubercles. Their body is expanded into arms of the same structure as itself. The under surface of these arms is marked with gutters or grooves, radiating from the centre, and pierced with several rows of small holes, through which issue tentacula, with expanded tips capable of contracting and elongating themselves. By means of these filaments acting as suckers, the animals are enabled to walk; their motion is, however, very slow. The animals belonging to this family vary much in form and structure. Most of the species have five rays or arms, but some have more, varying from eight to thirty. They have the

Fig. 221. — ASTERIAS, (*Star-fish.*)

power of reproducing these arms or portions of them, if they are accidentally broken off; and if an entire arm be torn off with a small portion of the body attached to it, other arms are reproduced, and a fresh perfect animal is formed. Their mouth is always placed in the inferior centre of the rays. They live chiefly on young shells, crustaceæ, and other marine animals. They are oviparous, and their spawn is said to be venomous to the

touch, and poisonous to the animals which eat them. Their larvæ or young are different in appearance from the adult animal. They are ciliated, and move with great quickness by means of their vibratile cilia, and swim rapidly, rotating round their axis. The species are numerous, and are arranged in a considerable number of distinct genera. In *Asterias*, or the typical star-fish, the rays or arms are five in number, and they much exceed in length the diameter of their disc. Several species are found on our coasts. In *Astropecten* the back of the rays or arms are thin and netted, and have numerous tubercles at the junction of each of the little bones, which are covered at their tips with many small movable spines. The genera *Pentaceros* and *Goniaster* have the body or skeleton formed of large roundish tubercles, the skin between which is pierced with small holes, the first having a convex back and a triangular arm, the latter being flat above and beneath, with five broad, short rays edged with larger pieces. *Asterina* has the skeleton formed of compressed pieces, placed one over the other like the tiles of a house, and have always a thin margin. The species are generally flat and pentagular. Some are many-rayed.

Aste'rias, *n.* [Gr. *aster*, a star.] (*Zoöl.*) The star-fish. See ASTERIADÆ.

Aste'riated, *a.* Radiated, as a star.

Aste'rina, *n.* (*Zoöl.*) A genus of the ASTERIADÆ, *q. v.*

As'terisk, *n.* [Gr. *aster*, a star.] A mark in the form of a small star (*), placed over a word or sentence, to refer the reader to the margin, or elsewhere, for an explanation, quotation, or the like.

As'terism, *n.* [Gr. *aster*, a star.] (*Astron.*) A group of stars, a term formerly applied to the collection of any heavenly bodies forming an entire constellation, and used instead of that expression. It is now taken to denote any small cluster of stars, whether forming part of a constellation, or a distinct group.

(*Printing.*) Three asterisks placed thus *⁂ for directing attention to a passage.

As'terite, ASTERITES, ASTE'RIAS, ASTROITE, ASTRITE, *n.* (*Min.*) The star-stone, or bastard opal, a variety of sapphire. This gem, when seen obliquely, emits a radiance which disappears in the direct light of the sun.

A-stern', *a.* [A.S. *a*, and *stearn.*] (*Mar.*) Any distance behind a ship, as opposed to *a-head*, which signifies before her; thus, if south is a-head, or on the line to which the stem is directed, north will be a-stern. It also signifies in or at the hinder part of a ship, or toward the hinder part; as, to go *a-stern*.

As'teroid, *n; pl.* ASTEROIDS. [Gr. *aster*, a star, and *eidos*, form, species.] (*Astron.*) Asteroids are a group of bodies or small planets (often called MINOR PLANETS and ZODIACAL PLANETS; but as they are not stars, PLANETOIDS is preferable to ASTEROIDS as being expressive of their planetary character), singularly insignificant in size, that revolve around the sun in planetary orbits, between Mars and Jupiter. The existence of a body or bodies between those two planets, seemed to be indicated by a remarkable *hiatus*. (See BODE'S LAW.) The celebrated Olbers, of Bremen, ventured to assert that the application of telescopes to the search for planets occupying that place would certainly be richly rewarded. Consequently, upon this suggestion, *Ceres* was discovered by Piazzi, of Palermo, on the first day of the 19th century, Jan. 1, 1801; Olbers himself soon after detected *Pallas* and *Vesta*, and Harding discovered *Juno*. Since then the number of *A.* has been increased to 425 in the beginning of 1897; but the probability is, that they count by many thousands, and that they form a stream or zone of small bodies occupying the place, and in so far performing the function, in the system, of the large planet which, according to Bode's law of distances, might have been expected in that locality. Believing it to be unimportant to give a particular account of discovery, size, distance, &c., of every one of these small bodies, that every year increase in number, we limit this article to the most interesting information relating to the character of the system. The mean breadth of the zone or ring within which the the *A.* lie, is 202 millions of miles. But in consequence of the great eccentricity of several of the orbits, some of these curious bodies can adventure much farther into space. The inclination of the orbit of several of the *A.* presents an extraordinary contrast with anything that prevails in our solar system. The greatest inclination known among the larger planets is that of Mercury, being 7° 0′ 5·9″; while the inclination of that of Pallas is 34° 42′ 37″. But their variations in this respect do not involve any deviation as to motion from what the law of gravitation would induce us to expect. Although the ellipses are eccentric, and the inclination large, every one of these minute orbs obeys the three harmonic laws of Kepler, and so constitutes no exception to the great harmonies of the solar system. From the observations of M. Leverrier it would appear that the sum total of the matter constituting the small planets lying between the mean distances 2·2 and 3·19 from the sun (that of the earth being 1), cannot greatly, if at all, exceed one-fourth of the mass of the earth. This restricted mass, however, is very considerable, being upwards of 20 times greater than the mass of our moon; and it doubtless includes within it multitudes of *A.* not yet discovered by the telescope. The contemplation of this very curious group gives rise to singular reflections. How odd the motions of masses of small orbs, within paths so near that they must often pass within hailing distance—like ships at sea! But whence came they? What means this extraordinary exception to that general law which has constituted the solar system for the most part an orderly arrangement of large orbs moving through spheres far apart from each other, and thus in all things independent? Reflecting on the fact that they occupy the precise place which, in conformity with Bode's law of distances, ought to have been filled by a large planet, Olbers threw out the conjecture that these *A.* may be the fragments of a planet once existing there, but which, in some mighty convulsion, had burst asunder. Nor, perhaps, if one considers that inherence in all planets known to us, of the same disturbing powers which originate volcanoes and mountain masses in the earth, can the conjecture be rejected *à priori* as entirely fanciful. But a fatal dynamical objection remains. If the groups are fragments arising from the bursting of one body, they would all, in the course of these revolutions, necessarily tend to return to the place where the primary explosion occurred. Laplace, on the other hand, regarded them as an indication that a primary or large planet had never been formed there, but that the ring of primary nebulous matter, out of which he imagined every planet to have sprung, had rather resolved itself, in this place, into a multitude of small knots or aggregations. It cannot escape observation, that this group of *A.*, strange though it may seem, may not, after all, occupy an isolated place, even within our own system. It may, indeed, turn out that our leading planets of the solar system are only the more visible parts; and that when we know our scheme better, its simplicity will no longer be recognized.

A large proportion of these minor planets bear mythological names. When but few were known and their profusion unsuspected, not only a name, but also a symbol, was given to each; but when their great number became apparent, a simpler method of symbolization was adopted, viz., a tiny circle in which, in the order of their discovery, the number of each is inclosed; thus, 50 enclosed in a circle would represent Urania, 117, Lomia, etc. As regards the size of *A*, they subtend no measurable angle; so estimates of their magnitudes must be deduced wholly from their brightness. But, according to Barnard, this manner of judgment fails in the case of Vesta—the most brilliant one of all, which is sometimes visible to the naked eye. The largest of the *A.* is Ceres, some 1,200 miles in diameter; that having the least mean solar distance is No. 380 (Adelherta)=2·09, *i.e.*, 2·09 times the Earth's distance from the Sun; that having the greatest is No. 279, (Thule) =4·26. Of these latter two, the former has the shortest period of revolution of all=3·05 years; the latter the longest—about 8 years. The one most inclined is Pallas=34° 42′ 37″; that with the least inclination is Massalia=41′. The least eccentric in form is Philomela =·005; the most so is Aethra=·38—that is, the distance from the center of its elliptic orbit to the focus occupied by the Sun is equal to ·38 of *half* the major axis. The perihelion distance of Medusa is almost exactly equal to the aphelion of Mars; and, as they revolve around the Sun in nearly the same plane, they must, when the little planet is in perihelion and Mars is in aphelion, both having the same longitude, approach near enough to cause the tiny planet to assume a new orbit and, possibly, for the bodies to collide. The greatest density of the group is found exactly at the distance indicated by Bode's law,=2·08. Of the twenty-three *A.* found in 1896, every one was photographically discovered. The telescope being for hours held upon a certain star, the negative plate reveals, by a trail thereon, the motion of the new object, and surely indicate its planetoidal character. See SOLAR SYSTEM STAR, NEBULÆ, PLANET, &c.

Asteroid'a, *n.* (*Zoöl.*) See ANTHOZOA.

Asteroid'al, *a.* Pertaining to the asteroids.

Asteroid'eæ, *n. pl.* (*Bot.*) A tribe of plants, sub-order *Tubuliflorœ*.—DIAG. Heads radiate, rarely discoid. Branches of the style more or less flattened and linear, equally pubescent above outside. Leaves mostly alternate. *Aster* is its principal genus.

Asterol'epis, *n.* [Gr. *aster*, a star, and *lepis*, a scale.] (*Pal.*) A genus of fossil fishes, 18 to 20 ft. long, found in the old red sandstone, and related to the genus *Amia*.

Asteroph'yllite, *n.* [Gr. *aster*, a star, *phyllon*, a leaf, and *lithos*, a stone.] (*Pal.*) The name given to fossil exogenous plants of the coal-measures. The species are very numerous, but they are of doubtful affinity, and till now their right place in the system has not been found.

Asthe'nia, As'theny. *n.* [Gr. *astheneia*, from *a*, priv., and *thenos*, strength.] (*Med.*) Want of strength; debility. —*Dunglison*.

Asthen'ic, *a.* Relating or belonging to asthenia.

Asthmat'ic, Asthmat'ical, *a.* Pertaining to, or affected by asthma. See ASTHMA.

Asthmat'ic, *n.* One affected with asthma.

Asthmat'ically, *adv.* In an asthmatical manner.

As'ti, a city of N. Italy, in Piedmont, 28 m. E.S.E. of Turin, on the railway to Genoa, is a fine and very ancient city, and was burned by the Emperor Frederic Barbarossa in 1154. From 1387 to 1529, it belonged to France; in the latter year it was ceded to the Emperor Charles V., who made it over as a marriage dowry to the House of Savoy.—*Manf.* Silks and stuffs. The vineyards furnish a celebrated white and red wine, called *Vino d'Asti*, and sparkling as *Champagne*. The poet Alfieri was born here in 1749. *Pop.* 20,223.—*A.* is the capital of a province of same name, bounded by the provinces of Turin, Alba, Alessandria, and Casale. *A.* is hilly and picturesque; *soil*, generally fertile. *Pop.* 125,335.

As'tible, *n.* (*Bot.*) A genus of plants, order *Saxifragaceæ*, q. v. The species possess no known properties. The *A. japonica* is cultivated as a garden ornament.

Astig'matism. *n.* [Gr. *a*, priv., and *stigma*, a point.] (*Med.*) An affection of the eye characterized by a decided difference of refraction, in the different meridional planes of the dioptric apparatus, and a consequent diminution of sharpness in vision.

Astir', *a.* [A. S. *on*, and *stir.*] Stirring; active; in motion.

As'ton, in *Pa.*, a township of Delaware co.

Aston'ied, *pp.* of the verb *astony.* (o.)

Aston'ish, *v. a.* [A. S. *stunian*, to stun; Ger. *staunen*, to be astonished; Lat. *attono*, to thunder at, to stupefy with sudden fear or wonder; O. Fr. *estonner*; Fr. *étonner.*] To strike dumb with sudden fear, terror, or wonder; to amaze; to surprise; to astonud.—See AMAZE.

> "*Astonish'd* at the voice, he stood amaz'd,
> And all around with inward horror gaz'd."—*Addison.*

Aston'ishedly, *adv.* In an astonished manner.

Aston'ishing, *p. a.* Tending to astonish; very wonderful; amazing; surprising: marvellous.

Aston'ishingly, *adv.* In a manner or degree to excite amazement.

Aston'ishingness, *n.* Of a nature to excite astonishment.

Aston'ishment, *n.* State of being astonished: amazement; confusion of mind; wonder; great surprise.

> "She esteemed this as much above his wisdom, as *astonishment* is beyond bare admiration."—*South.*

Aston'ville, in *Pennsylvania*, a mining village of Lycoming co., 18 m. N. of Williamsport.

Aston'y, *v. a.* To astonish. (o.)

As'tor, in *Wisconsin*, a village of Brown co., on Green Bay

As'tor, JOHN JACOB, B. at Walldorf, in Germany, in 1763, and emigrated to America in 1784, where he embarked in the fur trade, especially with the Mohawk Indians. Having gradually acquired considerable resources, he conceived the idea of forming a fur company in opposition to the Hudson's Bay Company. His project received the sanction of Congress in 1809, and the "American Fur Company" commenced operations with a capital of $1,000,000. Two expeditions, one by land, and one by sea, which were sent out to the shores of the Pacific, have been described by Washington Irving, in his "*Astoria*," and "*Adventures of Captain Bonneville.*" A fort was erected on the Columbia river, which, however, fell into the hands of the English in the war of 1812, and the whole project proved abortive. Meantime, *A.* acquired immense wealth in the trade to China. At his death he bequeathed funds for establishing and maintaining at New York, a public library of 100,000 volumes, largely increased in 1879 by his son, John Jacob *A.* D. 1848.

Astor'ga, an old town of Spain, prov. of Leon; Lat. 42° 27′ N., Lon. 6° 10′ W. *Pop.* 5,189.

Asto'ria, in *Illinois*, a post-village and twp. of Fulton co., about 50 m. W.N.W. of Springfield.

Asto'ria, in *Missouri*, a post-village of Wright co., 96 m. S. of Jefferson City.

Asto'ria, in *New York*, forms part of Long Island City, and extends N. of Brooklyn along the East River shore opposite New York.

Asto'ria, in *Oregon*, a city and port of entry of Clatsop co., about 10 m. from the entrance of the Columbia river. It was an established depôt for the fur trade as early as 1808, and was named after John J. Astor, its founder. *Pop.* (1897) about 9,200.

Astound', *v. a.* [A.S. *astundian*; probably allied to O. Fr. *estonner*. See ASTONISH.] To strike dumb with amazement; to astonish.

> "These thoughts may startle well, but not *astound*
> The virtuous mind, that ever walks attended
> By a strong siding champion, conscience."—*Milton.*

Astonnd'ing, *p. a.* Tending to astonish.

Astonnd'ment, *n.* The act of astounding..(R.)

Astrabad'. (*Geog.*) See ASTERABAD.

Astrae'anmite, *n.* (*Chem.*) A native sulphate of magnesium and sodium, $SO_4MgNa2H_2O$, occurring in white, opaque, prismatic crystals, together with ordinary sulphate of magnesium, in the bitter-salt marshes on the E. side of the mouth of the Volga.

As'traean. (*Geog.*) See ASTRAKHAN.

A-strad'dle, *adv.* [From *a*, and *straddle.*] Astride with the legs across a thing, or on different sides.

Astræ'a, (*Myth.*,) daughter of Zeus and Themis, or of Astræus and Aurora, was the Goddess of Justice, the last of all the goddesses who left the earth when the golden age had passed away, and men began to forge weapons and perpetrate acts of violence. She took her place in heaven as the constellation Virgo in the zodiac. —Greek art usually represents her with a pair of balances in her hand, and a crown of stars on her head.

(*Astron.*) The 5th asteroid, discovered by Hencke, at Driesen, in 1845.

(*Zoöl.*) A genus of polyps, family *Astrœidæ*, q. v.

Astræ'eea, *n. pl.* (*Zoöl.*) A sub-order of polyps, order *Madreporaria*. It contains polyps which are mostly compound by budding or fissiparity, with well-developed tentacles in multiples of six. It contains *Lithophyllidæ*, *Eusmillidæ*, *Caryophyllidæ*, *Stylinidæ*, *Astrœidæ*, *Oculinidæ*, and *Stylophoridæ*.

Astræ'idæ, *n. pl.* (*Zoöl.*) The Star-corals, a family of polyps, sub-order *Astræacea* (order *Zoantha* of Gray). It belongs to the stony corals, and receives its name from the star-shaped discs which cover the upper surface. They are lamellar and sessile, and each disc is the seat of a polyp resembling the actiniæ in general form, having a single row of numerous arms, with the mouth in the centre. The genus *Astræa* is the principal one. A number of species are described inhabiting the warm regions of the globe. Some have the discs separate from each other, leaving interstices between them; others have the starry discs contiguous.

As'tragal, *n.* [Gr. *astragalos*, a heel-bone.] (*Arch.*) A moulding, the section of which is a complete semicircle.

projecting from a perpendicular diameter, so called from its resemblance to the projection of the heel of the human foot. It is principally used at the upper ends and bases of the shafts of columns, and in the entablatures of the Ionic, Corinthian, and Composite orders of architecture, and also in Roman Doric. It is the most simple of all mouldings, being the only one that can project from a plane surface without the aid of a fillet. Its chief use seems to be to bind the different parts of columns and entablatures together, being generally found at the junction of the shaft of a column with the capital and base. The Egyptians sometimes divided their columns into sections by clusters of *A.* surrounding the shaft at intervals. It is generally plain, but sometimes carved to represent reeds bound together with a ribbon, leaves, and beads of various forms.

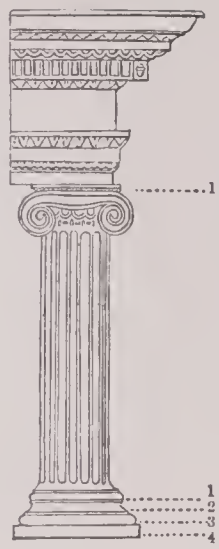


Fig. 222.
DORIC COLUMN.
1. Astragal.—2. Scotia.—3. Torus. — 4. Plinth.

(*Gunnery.*) A moulding encircling a cannon, about 6 inches from its mouth.

Astraga'lus, *n.* [Gr. *astragalos*, a die.] (*Anat.*) The ankle-bone, or first bone of the foot, upon which the tibia moves. It is so called from being shaped like the die used by the ancients in their games.

(*Bot.*) A very extensive and important genus of herbaceous plants, sub-order *Papilionaceæ*. Most of the species are popularly called Milk-vetches; and several have a close resemblance to the well-known forage plant sainfoin. An interesting species, known under the name of *Swedish coffee*, the *A. boëticus*, is cultivated to a considerable extent in Germany, and has been recommended for field cultivation as a substitute for coffee. It is a hardy trailing annual, usually grows to the height of about a foot, and produces cream-colored flowers in June and July. The mode of culture is precisely the same as for the pea, only the pods are gathered as they ripen. Two-thirds are mixed with one-third of coffee-beans, and the two ingredients are roasted together, preserved in well-corked bottles, or thoroughly closed vases, and taken out as they are wanted to be ground. The *A. boëticus* is probably the best substitute for coffee which has yet been tried, and is well worth experimental cultivation in either the garden or the field. The *A. tragacantha*, popularly called goat's thorn, yields the gum *tragacanth* of the drug-shops, and forms the type of one of several divisions of the *A.* genus. This species is an under-shrub, ranks as a medicinal plant throughout the East, and is called by the Persians *kûm*, and by the Arabs *kétâd* and *kussâd*. The *A. Canadiensis*, found from Canada to Florida, has a stem, bushy, 3 feet high, very leafy; flowers greenish-yellow, in short, dense spikes.

As'trakhan, or ASTRACAN, an extensive govt. of European Russia, lying along the N.W. of the Caspian sea, and divided by the Volga into two nearly equal portions. *Area*, 63,237 sq. m. *A.* is one of the least important provinces of the Russian empire. It consists almost entirely of sandy steppes and saline lakes; but in the delta of the Volga, agriculture and gardening are successfully practised. The heats in summer, and the frosts in winter, are equally extreme. Fisheries form the principal wealth of this government, and about 30,000 barrels of caviare are exported annually. The inhabitants are mostly nomads, and include a variety of races. *Pop.* 708,911.

ASTRAK'HAN, a city, and cap. of the above government, lies on the Volga, about 30 m. from its mouth; Lat 46° 27′ N.; Lon. 48° 6′ E. This "Alexandria of the Scythian Nile," as it is sometimes called, consists of three divisions:—the *Kremlin*, or citadel; the *Biclogorod* (white town); and the *Slobodes*, or suburbs. It has crooked streets, with the houses nearly all built of wood. *Manf.* Cottons, woollens, and silks; distilleries, tanneries, &c. *A.* is the entrepôt of the trade with countries E. of the Caspian, and it is the principal harbor of that sea. *A.*, besides being the residence of a Greek archbishop, possesses Moslem, Armenien, Hindoo and Protestant places of worship. *Pop.* (1897) est. 95,000

ASTRAKHAN, is also the name of a fine fur, the product of sheep found in Asia.

As'tral, *a.* [Lat. *astrum*; Gr. *aster*, a star.] Belonging to the stars; starry.

As'tralite, *n.* (*Chem.*) A glass flux resembling aventurin, but containing crystals of a cuprous compound, which by reflected light exhibits a dichroitic iridescence of dark-red and greenish-blue. To prepare it, a mixture of 80 parts of silica, 120 lead-oxide, 72 carbonate of soda, and 18 anhydrous borax, is fused either with 24 parts of scale oxide of copper, or 1 part of scale oxide of iron. The mixture is fused in a Hessian crucible, at the heat of an ordinary air-furnace, and left to cool slowly in the furnace. The first mixture melts more easily than the second, and yields larger crystals. The dichroitic iridescence is particularly beautiful on cut and polished surfaces.

As'tral Spirits, *n. pl.* Spirits that were supposed, by those who studied demonology and witchcraft in the 15th century, to hold the first place among demons and spirits of evil. The Chaldæans, and those who worshipped the stars and fire in the early ages of the world, believed that every object in the heavens possessed an animating spirit, as the human body possesses a soul. In the mediæval times the supposition arose that these spirits were either fallen angels, or the souls of the dead, or spirits deriving their origin from fire, whose location was the air. They were thought to exercise an influence for good or evil on every member of the human race. Paracelsus and the old alchemists believed that every one had an astral spirit peculiar to him.—See SPIRITISM.

Astray', *adv.* [A.S. *astræged*, strayed.] Out of the right way or proper place.

> "Like one that had been led *astray*
> Through the heav'us' wide pathless way."—*Milton.*

Astrict', *v. a.* [Lat. *astringo*, *astrictus*; from *ad*, and *stringo*, to bind fast, to draw tight.] To bind fast; to confine; to contract; to make strait or close.

> "The solid parts were to be relaxed or *astricted*, as they let the humours pass."—*Arbuthnot.*

Astric'tion, *n.* Act of binding close together; contraction.

(*Med.*) Action of an astringent substance on the animal economy.

(*Scottish Law.*) A servitude, by which grain growing on certain lands must be carried to a particular mill to be ground.

Astride', *adv.* [*a* and *stride*.] With the legs apart or across a thing.

> "I saw a place, where the Rhone is so straitened between two rocks, that a man may stand *astride* upon both at once."—*Boyle.*

Astringe', *v. a.* [Fr. *astreindre*; Lat. *astringo*. See ASTRICT.] To bind fast; to constrict; to contract.

Astrin'gency, *n.* Power of contracting; state of being astringent.

> "Acid, acrid, austere, and bitter substances, by their *astringency*, stimulate the fibres."—*Arbuthnot.*

Astrin'gent, *a.* Binding; contracting; strengthening.—*n.* (*Med.*) The name given to substauces which contract and strengthen the animal fibres. They are administered principally in cases of dysentery, diarrhœa, and fluxes. Their general effects are manifested by greater firmness of the muscular fibres, greater rigidity of the blood-vessels and diminution of their calibre, and contraction of the exhaling secreting orifices, whereby they check hemorrhage, and diminish exhalation and secretion. In the mouth they produce a styptic or astringent taste. In moderate doses, they are capable of producing the same constitutional effects as tonics. *A.* may be divided into two sections, the vegetable and mineral. The vegetable *A.* owe their peculiar properties to the presence of tannin or taunil, which is found in all of them. They differ only in the proportion of the latter principle, and in the other ingredients with which it is associated. The mineral *A.* have nothing in common but their property of astringency. To the former belong oak-bark, galls, kino, catechu, logwood, rhatany, geranium, tormentil, bistort, pomegranate-rind; to the latter, alum, the preparations of lead, zinc, and iron, and sulphuric acid.

Astrin'gently, *adv.* In an astringent manner.

As'trite, *n.* (*Min.*) See ASTERITE.

Astroca'rynm, *n.* (*Bot.*) See COCOEÆ.

Astrog'nosy, *n.* [Gr. *astron*, star, and *gnosis*, knowledge.] The science of the stars. (o.)

Astrog'raphy, *n.* [Gr. *astron*, and *grapho*, to describe.] A description of the stars.

As'troides, *n. pl.* (*Zoöl.*) A name applied by Milne-Edwards to the *Astræidæ*, q. v.

As'troite, *n.* [Fr., from Gr. *astron*, star.] (*Min.*) A name of the ASTERITE, *q. v.*

(*Pal.*) A genus of petrified madrepores, allied to the *Astræidæ*.

As'trolabe, *n.* [Gr. *astron*, star, and *lambanein*, to take.] (*Astron.*) An instrument somewhat similar in purpose and construction to the armillary sphere; used by the old Greek astronomers to take the altitude of the stars, as its name implies. The *A.* of the astrologers were merely a graduated circle, with sights attached, which they used for the same purpose. It was similar to the instrument, so called, which was used for taking altitudes at sea before the invention of Hadley's *sextant*. Hipparchus, an astronomer who flourished at Alexandria, in Egypt, about 150 B.C., is supposed to be the inventor of the *A.* He was also the first who joined circular rings together to represent the equator, the meridian, and the tropics; thus originating the armillary sphere. About the year 1500, the term was used to signify a projection of the circles of the sphere on a plane surface, which is now called a planisphere.—See PLANISPHERE.

Astrolithol'ogy, *n.* [Gr. *astron*, star, *lithos*, stone, and *logos*, discourse.] The science of aërolites.

Astrol'oger, *n.* [Fr. *astrologue*; Lat. *astrologus*; Gr. *astrologos*.] One versed in astrology.

Astrolog'ic, Astrolog'ical, *a.* Pertaining or relating to astrology.

Astrolog'ically, *adv.* In the manner of astrology.

Astrol'ogize, *v. n.* To practise astrology.

Astrol'ogy, *n.* [Fr. *astrologie*; Lat. and Gr. *astrologia*; from Gr. *astron*, a star, and *logos*, a word or discourse.] An expression meaning literally the doctrine or science of the stars, but especially taken to signify the art of foretelling future events, and the good or evil fortune likely to befall any man during his lifetime, from the aspect of the heavens and the relative position of the planets and other heavenly bodies at the time of his birth. This art, which is commonly understood by the term *A.*, is properly called *judicial A.*; for in the early ages of the world, *A.* included the science of astronomy, as well as the art of making predictions from the motions of the stars; the early astronomers, or rather astrologers, making astronomical observations entirely for the sake of acquiring an insight into futurity as they imagined. The history of the rise and progress of *A.* is nearly the same as that of astronomy. Its decline may be dated from the time of Copernicus, who showed that the sun was the centre of our solar system, and not the earth, as it had been formerly supposed; and although this is no argument against the truth of the science, yet the fact that all calculations with regard to the motion of the heavenly bodies had hitherto been based on erroneous suppositions, was mainly instrumental in disabusing the minds of men generally of any reliance that they had previously placed on the deductions derived from the exercise of the art. All astronomers, including Kepler himself, up to his time, had been more or less infected with the idea that their science gave them the power of foretelling events that were about to happen; and remarkable instances have occurred of the verification of astrological predictions; but no one, upon reflection, can assert in earnest that the aspect of the heavens at the time of birth can have the slightest influence on a man's character, disposition, and fortunes. The practice of *A.* was universal among the Oriental nations at a very early age; and although its origin is involved in obscurity, it may probably be attributed to the Chaldæans. The Hindoos and Chinese have always attached the greatest importance to it, and the Arabs sedulously cultivated the art, as well as the astronomers who flourished in Egypt before and after the birth of our Saviour, at which period it is considered to have been introduced into western Europe. The Jews practised it after the return from the captivity in Babylon. It appears that the Greeks were the only ancient nation that gave no credence to the revelations of its professors. We proceed to give a brief sketch of the outlines of this science, its leading principles, and mode of practice. The heavens above and below the horizon were divided by imaginary circles, drawn through its N. and S. points, into 12 equal parts, which were called the 12 houses of heaven. They were numbered, in order, from the division in the E. immediately below the horizon which contained the part of the heavens about to rise into view. The lines of division were supposed to remain immovable, so that every part of the heavens passed through each house successively once in 24 hours. The term *horoscope* was given to the point of the ecliptic about to rise. The 1st house was called the "ascendant;" it was the strongest, and also known as the house of *life*; the 2d was the house of *riches*; the 3d, of *brethren*; the 4th, of *parents and relatives*; the 5th, of *children*; the 6th, of *health*; the 7th, of *marriage*; the 8th, of *death*; the 9th, of *religion*; the 10th, of *dignities*, (this house ranked next in importance to the 1st;) the 11th, of *friends*; the 12th, of *foes*. To each division one of the heavenly bodies was assigned as its lord, who was most powerful in his own house. The position of a planet in any house was its distance from the boundary circle, or *cusp*, of the house measured on the zodiac; and the part of the zodiac which chanced to be in each house was a point which especially demanded the attention of the astrologer in his consideration of the aspects of the various divisions. The relative position of the heavenly bodies in the different houses at any particular moment was called a *theme*: and to cast the nativity of any one was to form a plan of the heavens, in the manner above indicated, at the moment of birth.

Astrometeorol'ogy, *n.* [Gr. *astron*, star, *meteoros*, lofty, and *logos*, discourse.] The act of foretelling the weather from the aspect of the moon and stars.

Astrom'eter, *n.* [Gr. *astron*, star, and *metron*, measure.] (*Astron.*) An instrument invented by Sir John Herschel for comparing the light of stars, one with another, in respect to intensity.

Astron'omer, *n.* One versed in astronomy.

Astronom'ic, Astronom'ical, *a.* Pertaining to astronomy.

Astronom'ically, *adv.* In an astronomical manner.

Astronomy, (*ăs-trŏn'o-me.*) [Gr. *astron*, a star, and *nomos*, a law.] That science which treats of the heavenly bodies, explaining the motions, times and causes of the motions, distances, magnitudes, gravities, light, &c., of the sun, moon, and stars; the nature and causes of the eclipses of the sun and moon, the conjunction and opposition of the planets, and any other of their mutual aspects, with the times when they did or will happen. Since the heavens may be considered either as they appear to the naked eye, or as they are discovered by the understanding, *A.* may be divided into Practical, Rational, and Physical. *Practical A.* enables us, by means of instruments, to determine the apparent positions and motions of the heavenly bodies. *Rational A.* teaches us the modes of ascertaining their real orbits and motions, and gives us the means of calculating their positions in advance. Various hypotheses have at different periods been invented to explain their apparent motions, and seemed sufficient to account for the phenomena known at the time of their adoption. But they were exploded in succession, by more accurate observations.—*Physical A.* is the application of mathematical science to the investigations of the laws which regulate the motions of celestial bodies, the nature of the forces which maintain them, and the effects produced by the action of one on another. This sublime science is founded on observation, but it receives its last perfection from calculation. Outrunning the cautious advances of observation, it descends from causes to phenomena, and on philosophical principles explains all the motions, magnitudes, and periods of revolution of the heavenly bodies. The generality of writers agree in assigning the origin of *A.* to the Chaldeans. The Egyptians also cultivated the science of *A.* abt. the same time, and there are some who ascribe to them the honor of being its real authors. The most ancient astronomical observations known to us are

Chinese: one, mentioned by Montucla, viz., a conjunction of Saturn, Jupiter, Mars, Mercury, and the Moon, was made almost 2,500 years before the Christian era! That the Indian Brahmins also made considerable advance in the science of *A.*, among the earliest people of antiquity, appears no less certain. Descending, however, to classic times, we find that *A.* made great progress in Greece, and that Thales calculated a solar eclipse about 600 years B. C. Pythagoras taught that the earth was not placed as the centre of the system, but revolved about the sun. Eratosthenes, a Cyrenian, who was born 276 B. C., measured the circumference of the earth; and being invited to the court of Ptolemy Energeses at Alexandria, he was made keeper of the royal library, and set up there the armillary spheres which Hipparchus and Ptolemy afterwards used so effectually. He also determined the distance between the tropics to be $\frac{11}{166}$ of the whole meridian circle which makes the obliquity of the ecliptic in his time to be 23 degrees, 51 minutes and one-third. Archimedes is said to have constructed a planetarium to represent the phenomena and motions of the heavenly bodies, and many others added to the stock of astronomical knowledge; but none so much as Hipparchus, who flourished abt. 140 years B. C., and surpassed all who had gone before him in the extent of his researches. He showed that the orbits of the planets are eccentric, and that the moon moves more slowly in her apogee than in her perigee. He constructed tables of the motions of the sun and moon; collected accounts of eclipses that had been computed by the Chaldeans and Egyptians, and calculated such as would happen for 600 years to come. He is, however, most distinguished for his catalogue of the fixed stars,

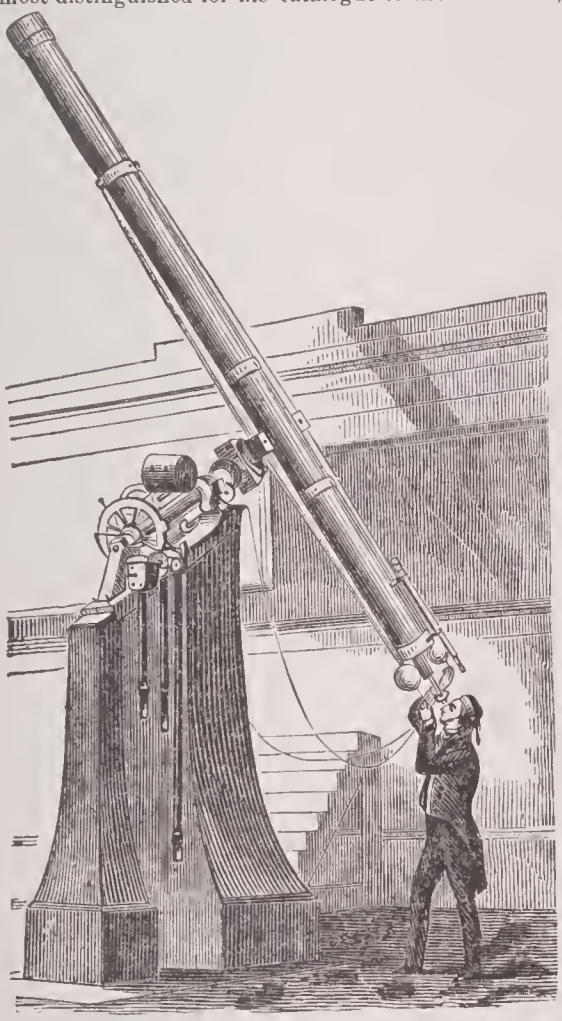


Fig. 225. — TELESCOPE AT CINCINNATI.
(Aperture of object-glass, 12 inches. Total length, 17 feet.)

to the number of 1,080, with their latitudes and longitudes and apparent magnitudes. From the time of Hipparchus, a chasm exists in the history of astronomy till the commencement of the 2d century after Christ, when Ptolemy compiled a complete system of astronomy, in 13 books, which is known under the name of *Almagest*—an appellation given it by the Arabians,
(CONTINUED IN SECTION II.)

As'troscope, *n.* [Gr. *astron*, a star, and *skopeo*, to see.] An instrument out of use, consisting of two cones, on which the constellations, with their stars, are delineated.

As'tro-theol'ogy, *n.* [Gr. *astron*, a star, and *theologia*, theology.] Natural theology, founded on the observation of the celestial bodies.

Astrut', *adv.* In a strutting manner.
"Inflated and *astrut* with self-conceit."—*Cowper.*

As'tur, *n.* [Fr. *autour.*] (*Zoöl.*) The Goshawk and its allies, a gen. of birds, fam. *Falconidæ*. The goshawk is 21–23 inches in length; the bill and cere are blue; crown, black, bordered on each side by a line of white, finely speckled with black; upper parts, slate, tinged with brown; legs feathered half-way down, and, with the feet, yellow; the breast and belly white, with a number of wavy lines or bars of black; the tail long, of an ash color, and crossed with four or five dusky bars; wings much shorter than the tail. The goshawk frequents the deep solitudes of forests, preying upon hares, squirrels, and the larger ground-birds. It plucks the birds very neatly, and tears them into pieces before it eats them, but swallows the pieces entire. It is extremely destructive to game, darting through the woods after its prey with great impetuosity. The goshawk, abundant in the forest districts of continental Europe, was formerly used in common with the falcon, gerfalcon, &c. in the once celebrated royal pastime of falconry; and it is said to be still used by the emperor of China in his hunting excursions.—The *A. atricapillus*, or goshawk of N. America, is nearly identical with the European species, *A. palumbarius*.

Astu'ra, in *Italy*, a maritime village, at the mouth of a river of the same name, 40 m. from Rome. In its little harbor, a high tower is said to stand on the site of the villa of Cicero, where he was slain by order of Antony, B. C. 43. Here also, in 1268, after the battle of Tagliacozzo, Conradin, the last of the Hohenstauffen family, was betrayed.

Astu'rias, an ancient principality of Spain, now forming the prov. of Oviedo, and lying along the Bay of Biscay, between 4° 30′ and 7° 10′ W. Long. It is bounded on the E. by Santander, S. by Leon, and on the W. by Galicia. *Area*, 3,686 sq. m.—*Desc.* Its surface is much diversified, having on its S. border a chain of high mountains which descend gradually toward the coast, along which are found tracts of fertile land. It is watered by numerous rivers, and possesses several seaports as Aviles, Gijon, and Cudillero.—*Climate*, generally mild and humid; except about the mountains, where it is frequently severe.—*Prod.* and *Ind.* Maize, escanda, chestnuts, and a few fruits. Iron, copper, lead, jet, antimony, marble, and coal are found; and there is a considerable exportation of cattle and horses into the interior.—*Manf.* Trifling. The inhabitants are very temperate, living mainly on fruits and unfermented bread.—*Prin. Towns.* Oviedo, Navia, and the sea-ports before mentioned.—*Pop.* 540,586.—*A.* may be called the cradle of the Spanish nation. The Saracens, having absorbed the rest of Spain, could not accomplish the conquest of this province, which elected Pelayo as king, in 718, and whose successors became, in after-ages, the kings of Leon. In 1388, *A.* was erected into a principality, and became an appanage of the kings of Spain, whose heirs-presumptive henceforward bore the title of *Prince of Asturias.*

Astute', *a.* [Lat. *astutus; astus*, craft.] Sagacious; shrewd; ingenious; wary; cunning; sly; crafty; penetrating.

Astute'ly, *adv.* Shrewdly; sharply; subtly.

Astute'ness, *n.* Quality of being astute; shrewdness; cunning.

Asty'ages, the last king of the Medes, was a contemporary of Alyttas, king of Lydia, whose daughter he married; 7th century B. C.

Asty'lar, *a.* [Gr. *a*, priv., and *stylos*, a column.] (*Arch.*) Without columns or pilasters.

Asun'der, *adv.* [A.S. *asundrian.*] Apart; into parts; separately; in a divided state.
"Two indirect lines, the further that they are drawn out, the further they go *asunder.*"—*Spenser.*

Asy'lum, *n.*; Eng. *pl.* ASY'LUMS; Lat. *pl.* ASYLA. [Lat. *asylum*; Gr. *asylon*, from *asylos*, inviolable — from *a*, priv., and *sylē*, the right of seizure; Fr. *asyle*; Sp. and It. *asilo.*] A sanctuary, or place of refuge to which criminals might flee for safety, and from which it was considered the greatest impiety to take them by force. The Israelites by God's own appointment set apart 6 cities as cities of refuge, to which those guilty of any unpremeditated crime might flee and obtain protection. The altar of burnt-offering was also considered as a place of refuge. Among the Greeks, Thebes and Athens each claimed to have established the first *A.*; that at Thebes by Cadmus, that at Athens by the descendants of Hercules. Romulus established an *A.* at Rome, between the two groves on the Capitoline Hill. The temples, altars, statues, and tombs of heroes were also anciently regarded as asylums, the temples being held as the most sacred and inviolable refuge. Under Constantine the Great, all churches were made asylums; and by the younger Theodosius, the privilege was extended to all courts, gardens, walks, and houses belonging to the churches. In 681, the synod of Toledo extended the limits to 30 paces from every church. At length these *A.* led to such abuses, that they were generally abolished. (See SANCTUARY.)—The term *A.* is now applied to certain institutions whose object is to alleviate the condition of the blind, deaf and dumb, lunatics, and the destitute.

Asy'lum, in *Pennsylvania*, a post-township of Bradford co., on the Susquehanna, 38 m. N.W. by N. of Wilkesbarre.

Asymmet'ral, Asymmet'rical, *a.* Wanting symmetry; incommensurable. (R.)

Asym'metry, *n.* [Gr. *a*, priv., and *symmetria*, symmetry.] The want of symmetry or proportion between the parts of a thing.

Asymp'tote, *n.* [Gr. *a*, priv., *syn*, with, and *ptōtos*, apt to fall, from *piptō, peptōka*, to fall.] (*Geom.*) A line which approaches continually nearer and nearer to some curve, whose *A.* it is said to be, without ever meeting it. It is a property appertaining to the hyperbolic curve.—It is only with regard to *mathematical* lines that the proposition is true; and the truth of it has to be conceived by an effort of pure reason, for it cannot be represented. See LINE.

Asymptot'ic, Asymptot'ical, *a.* Belonging or relating to asymptote, *i. e.* approaching, without ever meeting.

Asyn'deton, *n.*; *pl.* ASYN'DETA. [Gr. *a*, priv., and *syndetos*, bound together, from *syndeō*, to bind together.] (*Rhet.*) The omission of the small connecting particles of speech, in order to render the expression more lively and impressive. This is particularly the case when a series of actions, quickly following each other, is to be represented; *e. g.*, in Virgil:
"Ferte celo flammas, date vela, impellite remos."

At, *prep.* [A.S. *æt*; Lat. *ad.* to, at; O.H.Ger. *az.*] A figure in grammar which primarily denotes presence, nearness, or direction towards.

—Before a place it denotes nearness; as, one is *at* the house before he is *in* it.
"This custom continued among many to say their prayers *at* fountains."—*Stillingfleet.*

—Before a word in relation to time it assumes coincidence; co-existence with: as, "*at* the same time."
"We thought it *at* the very first a sign of cold affection."—*Hooker.*

—In the state of: denoting that the event accompanies or immediately succeeds the action of the cause; as, "*at* peace;" "*at* war;" "*at* rest."
"Much *at* the sight was Adam in his heart dismay'd."—*Milton.*
"*At* his touch,
Such sanctity hath Heav'n giv'n his hand,
They presently amend."—*Shaks.*

—Before a superlative adjective it is used in application to state or condition; as, *at* best, *at* the most perfection.
"Consider any man as to his personal powers, they are not great; for *at* greatest, they must still be limited."—*South.*

—Before a person: generally used in a ludicrous sense; as, to long to be *at* another.
"Sir Richard, longing to be *at* 'em,
Stood waiting for the Earl of Chatham."

—Furnished, or supplied with.
"And make him, naked, foil a man *at* arms."—*Shaks.*

—Before a substantive: implying employment or design.
"But she, who well enough knew what,
Before he spoke, he would be *at*
Pretended not to apprehend."—*Butler's. Hudibras.*
"The creature's *at* his dirty work again."—*Pope.*

—The place where any thing is, or is acted.
"To all you ladies now *at* land,
We men *at* sea indite."—*Lord Dorset.*

—In immediate consequence of anything.
"Impeachments *at* the prosecution of the House of Commons." *Hale.*

—From; dependence on.
"The worst authors might endeavor to please us, and in that endeavor deserve something *at* our hands."—*Pope.*

At all. In any manner: in any degree.
"Nothing more true than what you once let fall:
Most women have no characters *at all.*"—*Pope.*

At first. In the first place; firstly.
At last. Finally; in the last place.
At once. All together; at the same instant.

At'abal, *n.* [Sp., from Ar. *at-labl*, the drum.] A kind of tabor used by the Moors.
"Children shall beat our *atabals* and drums." — *Dryden.*

Ataba'po, a river of S. America, in Venezuela; Lat 3° 10′ N.; Lon. 66° 44′ W. After a W. and N. course of 140 m., it falls into the Orinoco at San Fernando. Its waters are clear, cool, and singularly pure.

Ataca'ma, a large district of Bolivia, lying along the Pacific ocean, between 21½° and 25¾° S. Lat. The greater part of its surface is an arid desert, but toward the N. there are fertile valleys. Cobija is its principal port. *A.*, W. of the Andes, was ceded to Chili in 1884, and is now the dep. of Antofagusta, it is rich in minerals.

Ataca'mes, in S. America, a small seaport of Ecuador.

Atac'amite, *n.* (*Min.*) A mineral of orthorhombic form. Adamantine lustre — vitreous. Color, various shades of bright green, a little darker than emerald; and, sometimes, blackish-green. Streak, apple-green. Translucent. — *Comp.* Oxide of copper 53·6, chloride of copper 30·2 (chlorine 16·0, copper 14·3), water 16·2 = 100. This species was found originally in the prov. of Atacama, in Chili. It occurs in different parts of S. America, Africa, and Europe.

Ataghan', *n.* See YATAGHAN.

Atahual'pa, the last INCA OF PERU, was the son of the 11th inca, Manco Capac. His mother was of royal lineage, and through her he inherited the kingdom of Quito. With his elder brother Huascar, who succeeded to the throne of the incas in 1523, he remained at peace for 5 years: but on his being summoned to acknowledge the dependency of his kingdom on that of Peru, he prepared for war, entered the dominions of Huascar with 30,000 men, defeated him in a pitched battle, and thrust him into prison. Three years afterwards, Pizarro captured the island of Puna, and Huascar, hearing in prison of the victorious stranger, sent ambassadors to Puna requesting assistance. The inca also proposed an interview with the Spaniard, and thus was brought about for Pizarro the long-desired opportunity of meddling in the affairs of Peru. By an act of base treachery, he succeeded in obtaining possession of the person of the inca. His subsequent procedure was summary in the extreme. Huascar had been put to death by order of his brother, and now *A.* was declared guilty of treason to the Spanish crown, and sentenced to be burned alive, in 1533. The sentence was commuted to strangulation, in consideration of his professing Christianity and receiving baptism.

Atalan'ta, (*Myth.*) Daughter of Jasus and Clymene, and celebrated for her skill in archery, was a native of Arcadia. She slew the Centaurs, Rhœcus and Hylæus, who were about to offer violence to her; sailed to Colchis with the Argonauts, and was afterwards present at the chase of the Calydonian boar, which she was the first to wound; hence Meleager awarded to her the prize. — Another *A.*, daughter of Schœneus, king of Scyros, was renowned for her beauty, and swiftness in running. She required each of her lovers to run a race with her. Her admirer was to run before, unarmed, while she followed him with a dart. If she could not

overtake him, she was his own; but if he were outrun, he was doomed to death, and his head to be set up at the goal. Many had fallen victims in the attempt, when Hippomenes, the son of Mægareus, by the aid of Venus, overcame her. The goddess gave him three golden apples, which he threw behiud him, one after the other, as he ran. *A.* stopped to pick them up, and Hippomenes reached the goal before her. Her former reserve now gave place to such ungovernable passion, that the chaste Ceres, becoming offended, changed both the parties into lions, and compelled them from that time to draw her chariot.

Atalan'ta, *n.* (*Astron.*) The 38th of the asteroids, discovered by Goldschmidt, in Paris, in 1855.

Atalay'a, in S. America, a town of Brazil, at the mouth of the Alagoas river, 15 m S.S.W. of Alagoas; *pop.* about 2,100.

Atalay'a, in S. America, a fort of Brazil, on the Atlantic, near the mouth of the Para river, 80 m. N.E. of Para.

Atalis'sa, in *Iowa*, a post-village of Muscatine co., 13 m. N.W. of Muscatine;

At'aman, *n.* See HETMAN.

Ataraipu', [the "devil's rock,"] a remarkable granitic mountain of British Guiana, of pyramidal form. It is wooded for 350 feet from its base, from which limit a bare cone forms its summit.

Atar'gatis. See DERCETO.

Atasco'sa, in *Texas*, a S. county whose settlements have assumed some importance since 1863. A creek of the same name, running through the county, is remarkable for the purity of its freestone water, from its source to its discharge into the Rio Frio. The county is also watered by the streams Borego and San Miguel. The soil is generally sandy, and the timber-growth is principally post-oak and live-oak. *Cap.* Pleasanton. *Pop.* in 1890, 6,459; in 1897 (est.) 7,500.

Ataui', ATOOI', ATUI', and TAUAI', one of the Sandwich isles, about 240 m. from Hawaii; Lat. 22° 8′ N.; Lon. 159° 20′ W. *Area*, about 700 sq. m. *Pop.* about 7,000.

Ataunt', ATAUNTO', *a.* [*a* and *taunt.*] (*Naut.*) High or tall; taunt; fully rigged, as the masts of a vessel.—*All-a-taunto* is when a vessel has all her light and topgallant masts and spars aloft.

Atax'ia, *n.* [Gr. *a*, priv., and *taxis*, order.] (*Med.*) A term used to denote the state of disorder that characterizes nervous fevers, and the nervous condition. — *Dunglison.*

Atax'ic, *a.* Having the characteristics of **ataxia.**

Atba'ra, a territory and river of Nubia; the former sometimes called the island of Meroe. Its surface is rocky and for the most part barren. The river *A.* joins the Nile, and has a length of about 270 m. It is the *Astaboras* of Plato and Strabo.

Atchafalay'a Bayou, in *Louisiana*, an outlet of Red river, at the N. extremity of Pointe Coupée parish. It flows a S. course, and enters the bay of the same name in the Gulf of Mexico. Its length is about 250 m. and is navigable for steamboats.

At'char, *n.* A condiment used in India; formed of garlic, ginger, mustard, and pimento, pickled in vinegar.

At'che, *n.* (*Com.*) A Turkish coin; an ASPER, *q. v.*

Atch'ison, in *Kansas*, a N.E. county, bounded E. by Missouri, from which it is separated by the Missouri river. *Area*, about 400 sq. m.; soil, rich, and well wooded. The county is drained by Grasshopper and Stranger creeks. *Cap.* Atchison. *Pop.* (1898) 29,250.

—A city, cap. of the above co., on the Missouri, 25 m. N. of Leavenworth; Lat. 39° 34′ N.; Lon. 95° 10′ W. It is a picturesque place and enjoys considerable trade. *Pop.* (1898) 14,150.

Atch'ison, in *Missouri*, a county in N.W. part of the State, with an area of about 560 sq. m. The Missouri divides it on the W. from Nebraska. It is also drained by the Tarkio and Nishnabatona rivers. *Cap.* Rockport.

Atch'ison, in *Pennsylvania*, a post-office of Washington co.

Atch'ison's Point, in *Texas*, a small village of Tarrant co.

At'co, in *New Jersey*, a post-office of Camden co.

Ate. (*Gram.*) One of the preterites of the verb EAT, *q. v.*

A'te, (*Myth.*,) daughter of Jupiter, and the goddess of evil. She raised such jealousy and sedition in heaven among the gods, that Jupiter dragged her away by the hair, and banished her for ever from heaven. She then dwelt on earth, where she incited mankind to wickedness, and promoted discord among them.

At'elene, *a.* [From Gr. *a*, priv., and *telos*, end.] (*Min.*) Not having the regular forms of the genus; imperfect.

At'eles, *n.* [Gr., imperfect.] (*Zoöl.*) The spider-monkey, a genus of sapajous, family *Cebidæ*, inhabiting S. America, and corresponding to the *Semnopitheci* of Asia and the *Colubi* of Africa. They are remarkable for their very long tails, strongly prehensile and callous at the extremity, their very slender limbs, and for their anterior hands having only four fingers. They are generally mild, timid, grave-looking creatures. They live in troops on lofty trees; and by means of their long prehensile tails, which act as a fifth member, they swing themselves from one tree to another with great facility. They are said even to cross rivers in this manner. Mounting to the top of the highest tree on the bank of the stream, they attach themselves to each other in a chain, by their tails. This chain is allowed to swing to and fro till it has obtained sufficient momentum to enable the last of the chain to catch hold of a branch on the opposite side. This done, it ascends to the top of the tree; the other end of the chain is then allowed to swing, and the whole troop is thus passed over. *A. paniscus*, Quata or Coaita monkey, is very common in the woods of Surinam and Brazil; and is very intelligent, active, and gentle. *A. Belzebuth*, or Marimonda (*Fig.* 224), is, on the contrary, very slothful, but of a gentle, timid, and melancholic temperament.

Fig. 224. — ATELES BELZEBUTH, OR MARIMONDA.
(Taken from Tenney's Manual of Zoölogy.)

Atelier', *n.* [Fr.] A workshop; a studio; more especially applied to an artist's work-room.

ATELIERS NATIONAUX, or NATIONAL WORKSHOPS (*a-tel-e-ai' năs'-i-o-no*), *n. pl.* (*Hist.*) Since the year 1845, it was the custom in France, during severe winters, or in times of distress caused by stagnation of trade, to open temporary workshops, in order to give employment to mechanics who were out of work. These workshops were called *Ateliers de Charité*, until 1848, when the provisional government of the republic reopened a vast number of these establishments under the name of *A.* They were under the control of a department called "The Committee of the Government for the Workmen;" they were all, however, badly organized, and failed calamitously. The principle on which they were conducted was, that every workman should have a living provided for him on a fixed scale. The result was, that workmen soon left private employers, and entered the national workshops. The numbers who flocked in soon became alarming. More than 100,000 men enrolled themselves, and insubordination soon began to show itself. Danger was imminent, and the National Assembly ordered the dissolution of the *A.*; an act which became the pretext for the terrible insurrection which ensanguined Paris in June, 1848.

Atel'lan, *a.* Relating to the atellanæ, *q. v.*

Atel'lanæ (Fabulæ), (also styled *Ludi Osci* or *Oscan Plays.*) (*Dram. Lit.*) A kind of light interlude between tragedy and comedy, which in ancient Rome was not performed by the regular company of actors, but by free-born young Romans. This kind of play is said to have originated from the ancient *Atella*, a city of the Oscans, between Capua and Naples. The favorite characters of the *Macchus* and *Bucco* of the *F. A.* may be considered the origin of the modern Italian *arlecchino* (harlequin), and other characters of the same stamp.

At'elo. [Gr. *ateles*, imperfect.] In composition, defective. A prefix found in many compound medical words, as *atelo-cardia*, imperfect development of the lip; *atelo-prosopia*, imperfect development of the face, &c.

A Tem'po, or **A Temp',** *n.* [It., *in time.*] (*Mus.*) A similar signification with *battuta*, and, like that expression, seldom used but when the regular measure has been designedly interrupted. When there has been some short relaxation in the time, *A.* denotes that the performer must return to the original degree of movement.

A Tem'po Gius'to. [It., *in equal and just time.*] (*Mus.*) An expression generally applied to the manner of performing a steady, sound movement, a movement less directed to the feelings than to the judgment, more scientific than impassioned.

Atesh'ga (the "place of fire"), a place on the peninsula of Apsheron, on the W. coast of the Caspian sea. It is a goal of pilgrimage for the *Guebres*, or Fire-worshippers, who regard as sacred the fire which is caused by the ignition of the naphtha with which the soil is altogether impregnated. Petroleum works have been erected.

Ates'sa, a town of S. Italy, prov. of Chieti, 14 m. W. of Vasto d'Amusone. The birthplace of the poet Cardoue. *Pop.* 11,518.

Ateu'chus, *n.* (*Zoöl.*) A genus of dung-eating, coleopterous insects, family *Scarabæidæ*. Two species, *A.* (*scarabæus*) *sacer*, and *A. Ægyptorum*, were worshipped by the ancient Egyptians. — See BEETLE, and SCARABÆUS.

At'fa, in *N. C.*, a post-office of Johnston co.

At'fieh, a town of Egypt, cap. of a prov. of the same name, near the right bank of the Nile, 42 m. S.S.E. of Cairo. It is supposed to be on the site of the ancient *Aphroditopolis*. *Estim. pop.* 4,000.

Ath. [Ir.] A prefix found in many geographical names of places in Ireland, signifying a ford; as, *Ath*lone ("ford of the rapids"); *Ath*boy ("yellow ford"), &c.

Ath, or AATH, a town of Belgium, prov. of Hainault, on the Dender, 14 m. N.N.E. of Mons. It is a well-built and flourishing place. *Manf.* Linens, woollens, cotton stuffs, hats, and gloves. *A.* was fortified by Vauban, and it has, since 1815, been materially strengthened. *Pop.* 10,125.

Ath'a, a daring impostor in the reign of the Caliph Mehedy, or his predecessor, Al-mansur. He taught the doctrine of metempsychosis, and claimed to be himself an incarnation of divinity. He had lost one of his eyes, on account of which he always wore a veil, whence he received the epithet of *Mokanna*. *A.* is the hero of Moore's "Veiled Prophet of Khorassan," in *Lalla Rookh.*

Athabas'ka, or ATHAPES'COW, [Ind., swampy,] a great lake of N. America, about 200 m. long, and averaging 15 m. broad. Fort Chippewayan, at its S.W. end, lies in Lat. 58° 42′ N.; Lon. 111° 15′ W. This lake receives a river of the same name, and the Slave river flows thence into Great Slave lake, lying about 170 m. to N.E. It is sometimes called the "Lake of the Mountains," from the rocky aspect of its northern banks.

Athal'amous, *a.* [Gr. *a*, priv., and *thalamos*, a bridal bed.] (*Bot.*) Applied to lichens whose thallus are without shields or beds for the spores.

Atha'lia, in *Ohio*, a post-office of Lawrence co.

Athali'ah, daughter of Ahab, king of Israel, and wife of Jehoram, king of Judah, was born about 927, and d. about 878 B. C. She was a woman of abandoned character, and fond of power: who, after the death of her son Ahaziah, opened her way to the throne by the murder of 42 princes of the royal blood. She reigned 6 years; in the 7th, the high-priest Jehoiada placed Joash, the young son of Ahaziah, on the throne of his father. This prince had been preserved and brought up secretly in the temple by Jehosheba, the sister of Joram and wife of Jehoiada. *A.*, attracted by the noise of the people, who were crowding to the coronation of Joash, entered with them into the temple, where the ceremony was going on. At the sight of the new king, surrounded by priests, Levites, great officers of the kingdom, and the joyful people, she was beside herself; she tore her hair, and cried out "Treason!" Jehoiada ordered her to be immediately led from the temple by the officers, and commanded that all who should offer to defend her be slain; and she was put to death, at the gate of her palace, without opposition. The altars of Baal, which she had erected, were thrown down, and the worship of the true God restored. (2 *Kings* xii. 13-18.)—On this story, Racine has written his best tragedy, considered as the *chef-d'œuvre* of the French school of tragic poetry.

Athaman'ta, *n.* (*Bot.*) The spicknel, a genus of herbaceous plants, order *Apiaceæ*. The seed and roots of the *A. aureoselinum*, or black mountain parsley, are aromatic, and are considered attenuant and aperient. The seeds of the *A. Cretensis*, or Cretan carrot, are acrid and aromatic. They have been used as carminatives and diuretics.

Athaman'tine, *n.* (*Chem.*) A crystalline fatty substance obtained from the root *Athamanta aureoselinum*. *Form.* $C_{24}H_{30}O_7$.

Athana'sia, *n.* (*Bot.*) A genus of ornamental, tender, evergreen, shrubby plants, sub-order *Tubuliflorœ*. They are of the kind popularly called *everlastings*, from the durable nature of their flowers; but they suffer some depreciation by sharing that name with the genera *gnaphalium* and *antennaria*. The name *A.* is a mere Greek synonym of "everlasting," and literally means "deathless." Upwards of 15 species of *A.* have been introduced from the Cape of Good Hope, and 10 or 12 more are known to botanists.

Athana'sian Creed, *n.* (*Eccl. Hist.*) A formulary or confession of faith, said to have been drawn up by Athanasius, bishop of Alexandria, in the 4th century, to justify himself against the calumnies of his Arian enemies. That it was really composed by this father seems more than doubtful; and modern divines generally concur in the opinion of Dr. Waterland, that it was written by Hilary, bishop of Arles, in the 5th century. It is certainly very ancient; for it had become so famous in the 6th century as to be commented upon, together with the Lord's Prayer and Apostles' Creed, by Venantius Fortunatus, bishop of Poitiers. It was not, however, then styled the *A. C.*, but simply the *Catholic Faith.* It is supposed to have received the name of Athanasius on account of its agreeing with his doctrines, and being an excellent summary of the subjects of controversy between him and the Arians. The true key to the *A. C.* lies in the knowledge of the errors to which it was opposed. The Sabellians considered the Father, Son, and Holy Spirit as one in person; this was "confounding the persons:" the Arians considered them as differing in essence; this was "dividing the substance;" and against these two errors was the creed originally framed. This creed was used in France about the year 850; was received in Spain about a hundred years later, and in Germany about the same time. It was both said and sung in England in the 10th century; was commonly used in Italy at the expiration of that century, and at Rome a little later. This creed is appointed to be read in the Church of England. — See CREDO.

Athana'sius, (commonly called the GREAT,) one of the most distinguished of the Greek fathers, was B. at Alexandria, probably in the year 296. Of his early life and education hardly anything is known. We only know that he was received into the family of Alexander, bishop of Alexandria, and appointed his secretary. During the session of the Council of Nice, *A.* was the life and soul of the party opposed to Arius; and he so distinguished himself there by his zeal and ability, that Alexander proposed him as his successor in the See of Alexandria, an office to which he was appointed, A. D. 326. He thereupon labored to promote Christianity in Abyssinia until A. D. 331, in which year Arius regained the favor of the Emperor Constantine, and sought re-admission into the Church at Alexandria. This was refused by *A.*, although the emperor himself issued an edict for his admission. A long and severe struggle ensued, in which *A.* conducted his own part with the utmost courage, constancy, and resolution. All sorts of charges were brought against him, but *A.* had no difficulty in triumphantly refuting them. In presence of the emperor at Psammethia, in 332, he boldly confronted his Arian accusers, and extorted from Constantine a testimony to his innocence, and to his worth. Subsequently, in 335, a council held at Tyre, presided over by Eusebius of Cæsarea, his

determined enemy, acquitted *A.* of some of the charges brought against him, but referred others to the investigation of a committee, who obtained from the emperor an edict that *A.* be exiled to Treves, in Gaul. In 338, after the death of Constantine, his son, Constantine II., who had obtained the western part of the empire, restored *A.* to his See. On his return, his enemies resumed their machinations, and having prejudiced the mind of the new emperor against *A.*, they, in a council held at Antioch, caused him to be superseded by Pistus. Another council, however, convoked at Antioch, in the emperor's presence, revoked this decision, condemned *A.*, and appointed Gregory, a native of Cappadocia, bishop in his stead. On the publication of this edict at Alexandria, the most violent scenes occurred, and *A.* fled to Rome, where he was protected by the emperor Constans. The influence of the latter was afterward employed to induce his brother Constantius to restore *A.* to his See, and the Eastern potentate was at last induced to comply. The death of his patron Constans, and the energy with which *A.* after his return to Alexandria proceeded against the Arian party, brought Constantius once more to their aid; and in the councils of Arles, and Milan, (A. D. 353, and A. D. 355,) the expulsion of *A.* was again decreed. *A.* escaped to the desert, and there remained until the death of Constantius, and accession of Julian, enabled him to return for a brief time. Again incurring imperial resentment, the harassed prelate once more escaped to the desert, where he stayed until the death of Julian. During the reign of Jovian, and the earlier portion of that of Valens, *A.* enjoyed a period of peace and influence; but, in 367, he was again sent for a fifth time into exile, and again recalled, and with this his persecution ended. D. 2d May, A. D. 373. With little in his outward appearance to command admiration, *A.* was endowed with qualities of mind and spirit which justly entitled him to be called great. To much acuteness he added great depth and force of intellect; his temper was earnest, constant, and fearless, and his moral life seems to have been blameless. His zeal for truth was such as to overcome all considerations of self, and make him willing to endure toils, privations, and dangers, rather than yield one tittle of what he believed to be God's truth. His name is identified chiefly with the defence of the doctrine of the Trinity, including that of the supreme divinity of Jesus Christ and of the Holy Spirit; these doctrines he maintained against the Arians, but his arguments have been found of equal avail, in more recent times, against the Socinians and Humanitarians; indeed it is remarkable how little the learning, the reflection, and the disputations of subsequent ages have been able to add to what the writings of *A.* contain on this subject. The best edition of his works is that published at Padua in 1774, in 4 vols. folio.

Ath'anor, or **Aca'nor,** *n.* (*Chem.*) A kind of furnace, which has long since fallen into disuse. The long and tedious operations of the ancient chemists rendered it a desirable requisite that their fires should be constantly supplied with fuel in proportion to the consumption. The *A.* furnace was peculiarly adapted to this purpose.

Ath'ar, AT'TAR, or OT'TO, *n.* The Indian name of the volatile oil of roses. — See ATTAR OF ROSES.

Ath'boy, a town of Ireland, co. Meath, prov. of Leinster, 31 m. N.W. by W. of Dublin. It is an ancient place, now in decay; but a good corn-market is still held. *Pop.* (1895) 881.

A'theism, *n.* [Gr. *a*, without, *Theos*, God.] (*Theol.*) A word of comparatively modern invention as applied to that system of belief which professes to discard the existence of a deity. Many persons, both in ancient and modern times, and on very various grounds, have had the name of *atheist* applied to them; but it may justly be questioned whether any sane man ever adopted such a principle. No doubt many men have repudiated altogether the ordinary ideas of the Deity, both as to his character, and as to the methods of establishing the proof of his existence; and in a comparatively ignorant age, or among a comparatively ignorant race of people, such persons would very likely be set down as atheists by those who did not understand their peculiar tenets. Again, such atheists as those among the Greek philosophers, as Leucippus, Democritus, and Protagoras, who went mainly upon the assumption that they had no proper idea of such an existence, were not really so far from certain Christians as might be imagined. From Kant to Dr. Mansel, of Oxford, philosophers like Sir William Hamilton have maintained what is commonly called *speculative A.*; but this, as is well known, is only a name invented by their opponents, who profess to hold on by the dogmatic view of the existence of Deity, and who believe they can *demonstrate* his being. Everybody at all conversant with the question knows that no demonstration—no *à priori* proof—of such an existence is possible, inasmuch as no notion can be formed of a higher generality than infinitude, to serve as the major premise on which this alleged syllogism can rest. And hence, while no demonstration of such a being can be offered, ample speculative proof of his existence can be inductively reached. Without doubt, vulgar prejudice has had much to do with the *A.* of many eminent thinkers, from Socrates downward; but the French encyclopedists of the 18th century made a boast of this creed, and vaunted it openly in the streets, as well as advocating it secretly in the closet. The remark of Lord Bacon was quite true, that, although a smattering of philosophy might lead a man into *A.*, a deep draught of it will assuredly bring him back to the belief in a God, and in a Divine Providence.—See MATERIALISM; PANTHEISM.

A'theist, *n.* [Fr. *athéisme*; Gr. *atheos*, from *a*, priv., and *Theos*, God.] One who disbelieves in the existence of God.

Atheis'tic, Atheis'tical, *a.* Pertaining to atheism or atheists; impious; godless.

Atheis'tically, *adv.* In an atheistic manner.

Atheis'ticalness, *n.* The quality of being atheistical.

A'theize, *v. a.* To render some one atheistic.

Ath'el, Ad'el, Æth'el. [From A.S. *œdel*; Ger. *adel*, noble.] A prefix in many Saxon names. So, *Æthelred* is noble for counsel; *Æthelard*, noble genius; *Æthelbert*, eminently noble; *Æthelward*, a noble protector.

Ath'eling, ÆTH'ELING, ETH'ELING. The same as ADELING, *q. v.*

Ath'elney (ISLE OF), a tract of England in the co. of Somerset, 7 m. S.E. of Bridgewater, and formerly an island. Here Alfred the Great sought refuge during the Danish invasion, and founded an abbey, about A. D. 888.

Ath'elstan, AD'ELSTAN, ÆTH'ELSTAN, or EAL'STAN, an Anglo-Saxon king, the son and successor of Edward the Elder, and grandson of Alfred the Great. B. 895, and, on Edward's death in 925, was chosen king by the people of Marcia, and Wessex. Northumbria, Scotland, and the British states of Cumberland, Wales, and Cornwall, acknowledged him as their superior lord, and his alliance was courted by all the princes of Western Europe. Louis IV. of France was protected by *A.* during the usurpation of Raoul, and recovered the throne by his aid. The emperor Otho the Great married his sister Elgiva. In 937, Constantine of Scotland, and other princes, formed a league against *A.*, who totally defeated them. He died at Gloucester, A. D. 941.

Athenæ'um, ATHENE'UM, *n.*; *pl.* Lat. ATHENÆA; *pl.* Eng. ATHENEUMS. [Lat.: from Gr. *Athenaion*, the temple of Minerva at Athens; from *Athenai*, Athens.] (*Antiq.*) A public place frequented by professors of the liberal arts, and where rhetoricians declaimed, and the poets read aloud their works. At Athens these assemblies first took place in the temple of Minerva, whence the name. The *A.* at Rome was founded upon the Capitoline Hill, by the Emperor Adrian. It was a school or college, furnished with a complete staff of professors for the several branches of study. Like its Athenian prototypes, this establishment was frequented by the Roman orators, poets, and other learned men, who there declaimed their compositions, the emperors themselves frequently honoring the assemblies by their presence. At a subsequent period, another celebrated *A.* was erected at Lyons. These institutions, generally, appear to have retained their high reputation until the 5th century. At the present time, the term has been revived as a name for certain establishments connected with learning, as well as for clubs and libraries. It is also the not inappropriate title of several literary journals published in various countries.

Athenæ'us, a Greek grammarian, of Naucrates, Egypt, who wrote a work entitled *Table-Talk of the Sophists*, published by Casaubon, in 1657.

Athenag'oras, one of the Greek fathers, is the author of two works, an *Apology for Christians*, and a treatise on the *Resurrection of the Dead*. There is no reliable information as to his history, but he is believed to have flourished about A. D. 170.

Athena'is. See EUDOCIA.

Athen'ian, *a.* Pertaining to Athens.

—*n.* A native or inhabitant of Athens.

Athenodo'rus, the son of Agesander, a Greek sculptor of the Rhodian school, who, with his father, and Polydorus, executed the celebrated group of the *Laocoon*, the best specimen now extant of the 3d stage of sculpture in Greece, during which the highest display of execution was successfully coupled with the utmost pathos of conception. *A.* is supposed to have lived about 220 B. C.

Fig. 225. — MARBLE GROUP OF THE LAOCOON.
(Vatican, Rome.)

Ath'enry, a decayed town of Ireland, co. Galway. It was once important, and boasted of a university. *Pop.* 1,283.

Ath'ens, ["City of Minerva," from Gr. Ἀθήνη, Minerva, or Pallas, the tutelary deity of the city.] One of the most famous cities of antiquity, the chosen seat of literature, philosophy, and the arts, and the capital of the modern kingdom of Greece, is situate on the W. side of the province or *nomarchie* of Attica, about 4 m. from the Gulf of Ægina, in N. Lat. 37° 58′ 8″; E. Lon. 23° 43′ 54″. The city is built on an abrupt eminence rising out of an extensive plain bounded N. by mounts Pentelicus and Parnes; N.E. by Mount Anchesmus, E. by Mount Hymettus; and W. by Lycabettus. During the revolutionary war, 1820–7, the city was laid in ruins; but when the seat of government was transferred thither, in 1834, its resurrection began. It now contains several good streets, and some fine pub-

Fig. 226. — ATHENS.

lic buildings. Its aspect is somewhat bizarre: European shops elbow Eastern bazaars, a Christian chapel is vis-à-vis to a Turkish mosque, an ancient Grecian portico opens on a modern residence, and so on. Its population, too, is more heterogeneous than that of any other place of its size in Europe. A good road connects the city with its harbor, the Piræus, distant 5 m. *P.* (1897) est. 110,000. The ancient city of *A.* considerably exceeded the modern in extent, and, unlike the latter, encircled the Acropolis. It was enclosed in a sort of peninsula formed by the confluence of the Cephisus and Ilyssus. At the time when *A.* had attained its greatest magnitude, it was surrounded by a wall surmounted at intervals by strongly fortified towers. *A.* had three great harbors, the Piræus, Munychia, and Phalerum. These ports formed a separate city larger than *A.* itself. The harbor of the Piræus was a spacious basin embraced by two arms of rocky land which formed gigantic natural piers. Even now it is considered a safe port, and in former times it constituted at once the harbor, arsenal, and dockyard of *A.* At its zenith, *A.* contained about 10,000 houses, (*Xen. Mem.* iii. 36, 14,) which were, for the greater part, mean habitations; and it was to its public edifices alone that its attractions were owing. Its population has been variously estimated at from 116,000 to 180,000. The opulence, prosperity, and power of *A.* are fully portrayed by Thucydides, (*lib.* ii. 13.) The most striking object of *A.* is the *Acropolis*, or old Cecropian fortress. (See ACROPOLIS.) The Acropolis alone formed the primitive city; it was founded by Cecrops, about anno 1556 B. C. It was of the Doric order, and its central pediment was supported by 6 fluted marble columns. On the right wing stood the Temple of Victory, and on the left was a building decorated with paintings by the pencil of Polygnotus, of which Pausanias has left us an account. But the chief glory of the Acropolis was the *Parthenon*, or Temple of Minerva. Dilapidated as it is, it still retains an air of inexpressible grandeur and sublimity; and it forms at once the highest point in *A.*, and the centre of the Acropolis; (see PARTHENON.) On the N.E. side of the Parthenon stood the *Erectheium*, a temple dedicated to the joint worship of Neptune and Minerva. Considerable remains of this building still exist. In the modern city of *A.* itself there are still many monuments of antiquity to be found. Of these the principal are 3 exquisite Corinthian columns crowned by architraves, the Temple of the Winds, and the monument of Lysicrates, called by the modern Greeks the "lantern of Demosthenes." Beneath the S. wall of the Acropolis, near its extremity, was situated the Athenian or Dionysiac theatre; Plato affirms that it was capable of containing 30,000 persons. On the N.E. side of the Acropolis stood the *Prytaneum*, where citizens who had rendered good service to the state were maintained at the public expense. Opposite to the W. end of the Acropolis was the *Areopagus*, or "Hill of Mars," where stood the celebrated court of the AREOPAGUS, *q. v.* Outside the modern city are the ruins of the temple of *Jupiter Olympius*; (see JUPITER.) Not far from it is the temple of Theseus, built by Cimon, shortly after the battle of Salamis; (see THESEUS.)—Athenian history did not assume a definite form until B. C. 1550, when Cecrops, a native of Egypt, by marrying the daughter of Actæon, obtained the sovereignty. He collected the hitherto scattered inhabitants of Attica, divided them into tribes, and founded the Acropolis. The sovereignty descended in his family until B. C. 1068, when an aristocratical was substituted for the monarchical form of government, and the title of "king" was exchanged for that of "archon." In B. C. 624, Draco was appointed lawgiver; and in 594, Solon was made archon. In 560, Pisistratus assumed regal power, and from this time the constitution of Solon was gradually absorbed into a pure democracy. With rapid strides the Persian monarchy had been encroaching upon Grecce, and most of the Grecian states had already sworn fealty to Darius, when *A.* and Lacedæmon raised the banner of defiance, and the battle of Marathon (A. C.

490) at once achieved the liberty of Greece, and covered *A.* with glory. Then followed the invasion of Greece, the seizure and burning of *A.* and its citadel, the memorable battles of Salamis, Platæa, and Mycale; and, lastly, the defeat of the Persians. Among other consequences that resulted to *A.* from the Persian invasion, was the impetus given to its naval affairs. Themistocles caused (B. C. 479) a new and more commodious harbor to be built at the Piræus, which in process of time was joined to the city by the celebrated "Long Walls." This precaution gave *A.* the command of the sea, and raised her commercial and military marine to an unexampled pitch of prosperity. Her spirit hitherto had been decidedly martial; but her peaceful glories now followed, and outshone those of her victories and political ascendency. After the termination of the Persian war, literature and the fine arts began to gravitate toward Athens as their most favored seat; for here, during the age of Pericles, above all other parts of Greece, genius and talents were fostered by an ample field of exertion, and by public sympathy and applause. It was during this age that painting, sculpture, and architecture reached the highest degree of perfection; and that Greek poetry was enriched with a new kind of composition, the Drama, which exhibited all the grace and vigor of the Athenian imagination, together with the full compass and highest refinements of the Attic language. The drama was indeed the branch of literature which peculiarly signalized the age of Pericles; and the intellectual character of the Athenians is vividly portrayed by the sublimely impassioned strokes of Æschylus, the graceful and elegant touches of Sophocles, the elaborate philosophy of Euripides, and the caustic raillery and moral power of Aristophanes. And though time has effaced all traces of the pencil of Parrhasius, Zeuxis, and Apelles, posterity has assigned them a place in the temple of fame beside Phidias and Praxiteles, whose works are, even at the present day, unrivalled for classical purity of design and perfection of execution. But the advantages that flowed to *A.* from the administration of Pericles were not without alloy. The splendor which he introduced exhausted the public revenues; and to supply deficiencies, recourse was had to rigorous imposts upon the allied states. Hence a spirit of disaffection was engendered; and Sparta, who had long viewed with jealousy the magnificence of her rival, seized the opportunity of fanning the discord into a flame. This broke forth in the Peloponnesian war, in which, after a struggle of 27 years, the Spartans were victorious, and the Athenians were obliged to submit to the dominion of the "Thirty Tyrants." It was reserved, however, for the skill of Thrasybulus (B. C. 403) to restore to *A.* its former constitution: a revolution which was effected with little effusion of blood. *A.* now became the head of a confederacy numbering 75 cities; the Ægean isles were among her colonies, Lacedæmon recognized her dominion of the sea, and she was once more, and without a rival, the first of the Grecian communities. From this time began a new era in the history of *A.* Philip, king of Macedon, by dissimulation and bribery, contrived first to embroil the different states of Greece, and then to trample upon their independence. The Athenians, roused by the thunders of Demosthenes, made a vigorous defence, (B. C. 338;) but the battle of Chæronea annihilated the supremacy of *A.* She made repeated but unsuccessful efforts to release herself from Macedonian thraldom, until B. C. 86, when Sylla proclaimed her a tributary of Rome. But while *A.* thus saw every trace of her political existence vanish, she rose to an empire scarcely less flattering, to which Rome itself was obliged to bow. Her conquerors looked to her as the teacher and arbiter of taste, philosophy, and science: and all the Romans who were ambitious of literary attainments, flocked to *A.* in order to acquire them. Under Adrian, (B. C. 117,) *A.* regained much of her former splendor. In 398, *A.* was taken and sacked by Alaric, king of the Goths, and after this dreadful visitation sank into insignificance. We are indeed told that the walls of *A.* were put into a state of defence by Justinian; but from the time of this emperor, a chasm of nearly 7 centuries ensued in her history. *A.* again emerged from her oblivion in the 13th century, under Baldwin and his crusaders, at a time when it was besieged by a general of Theodore Lascaris, the Greek emperor. In 1427, it was taken by Sultan Murad; but was afterwards recovered from the Turks by another body of crusaders, under the Marquis of Montserrat, who bestowed it on Otto de la Roche, one of his followers. For a considerable time *A.* was governed by Otto and his descendants, with the title of duke; but this family was afterwards displaced by Walter de Brienne. The next rulers of *A.* were the opulent family Acciaoli of Florence, who possessed it till 1455, when it was taken by Omar, a general of Mohammed II., who incorporated it completely with the Turkish empire. In 1687, it was captured by the Venetians under Morosini, after a short siege, during which the Parthenon, then in an almost perfect state, and the other buildings of the Acropolis, were greatly damaged. After a short interval, *A.* was again taken by the Turks, under whose jurisdiction it remained until the treaty of Adrianople in 1829, when the new kingdom of Greece was established, of which *A.* has since been the capital.

Ath'ens, in *Alabama*, a township and village, cap. of Limestone co., 154 m. N.N.E. of Tuscaloosa, and 25 m. W. by N. of Huntsville.

Ath'ens, in *Arkansas*, a village of Izard co., on the N. bank of White river, 6 m. N. by E. of Mount Olive.

Ath'ens, in *Georgia*, a city, capital of Clark co., on the Oconee river, 92 m. W.N.W. of Augusta, and 71 m. N. of Milledgeville. This is a prosperous place, and the centre of a fine cotton-growing country. *Pop.* in 1890, 8,639.

Ath'ens, in *Illinois*, a post-village of Menard co., 12 m. N.N.W. of Springfield.

—a village of Cook co., about 25 m. S.W. of Chicago.

—a village of St. Clair co., on the Kaskaskia river, 33 m. S.E. of St. Louis.

Ath'ens, in *Iowa*, a township of Ringgold county.

Ath'ens, in *Kentucky*, a post-village of Fayette co., 11 m. S.E. of Lexington.

Ath'ens, in *Louisiana*, a post-village of Claiborne parish.

Ath'ens, in *Maine*, a post-township of Somerset co., 45 miles north of Augusta, on a branch of the Kennebec river.

Ath'ens, in *Michigan*, a post-township of Calhoun co., 20 m. S.W. of Marshall.

Ath'ens, in *Minnesota*, a village of Dakota co., about 14 m. S. of St. Paul, and 3 m. W. of the Mississippi river.

Ath'ens, in *Mississippi*, a village of Monroe co., 170 m. N.E. of Jackson, in the centre of a fertile and prosperous country.

Ath'ens, in *Missouri*, a post-village of Clarke co., 25 m. from the mouth of the Des Moines river. Here, during the civil war, a severe skirmish took place on the 5th of August, 1861, the result of which was in favor of the national army.

Ath'ens, in *Nebraska*, a village of Richardson co.

Ath'ens, in *New York*, a village of Greene co., on the Hudson river, 29 m. below Albany.

Ath'ens, in *Ohio*, a S.E. county, joining the Ohio river to the E., and intersected by the Hockhocking river. The surface is hilly and well wooded, and the soil generally fertile. Iron ore and coal abound, and the manufacture of salt is an important branch of industry. *Area*, about 430 sq. m. Cap. Athens.

—A post-township and village of the above county. The village, which is the cap. of the county and the seat of Ohio University and of a State asylum for the insane, is 72 m. S.E. of Columbus.

—a township of Harrison co.

Ath'ens, in *Pennsylvania*, a township of Crawford co., about 20 m. E.N.E. of Meadville.

—a post-borough of Bradford co., on the Tioga river. It is a flourishing place.

Ath'ens, in *Tennessee*, a district and post-village, cap. of McMinn co., 55 m. N.E. of Dalton, and 154 m. E.N.E. of Nashville.

Ath'ens, in *Texas*, a district and town, capital of Henderson co., 220 m. N.E. of Austin city, and 20 m. E. of Trinity river.

Ath'ens, in *Vermont*, a post-township of Windham co., 100 m. S. of Montpelier.

Ath'ens, in *Wisconsin*, a post-office of Marathon co.

Ath'ensville, in *Illinois*, a post-village of Greene co.

Ath'ensville, in *Pennsylvania*, a village of Delaware co., about 8 m. W. of Philadelphia; now ARDMORE.

Atheri'na, *n.* [From Gr. *ather*, a spine.] (*Zoöl.*) A genus of fishes, order *Acanthopterygii*. They are very abundant in the Mediterranean, and form a considerable fishery there. They are salted and sold as sardines. They abound also on the coasts of S. America.

Ather'manous, *a.* [Gr. *a*, priv., and *thermaino*, to heat.] (*Chem.*) Opposed to *diathermanous*, and applied to substances which do not suffer radiant heat to pass through them.

Athero'ma, *n.* [Gr., from *athera*, pap or pulp.] (*Med.*) A tumor formed by a cyst containing matter like pap or *bouillie*, or plaster.

Atherom'atous, *a.* Having the nature of atheroma.

Atheropo'gon, *n.* [Gr. *ather*, chaff, and *pogon*, beard; a characteristic term.] (*Bot.*) A genus of plants, order *Graminaceæ*. The name signifies a "bearded awn;" and alludes to one prominent character of the genus. Though upwards of 15 species are known to botanists, only one, *Atheropogon apluloides*, exists in the U. States. It is a hardy, half-beautiful perennial, grows 9 inches high, and produces its apetalous flowers in August. Some botanists call it *Chloris curtipendula;* and others, *Dinebra curtipendula*.

Atherosperma'ceæ, *n. pl.* [Gr. *ather*, a point, and *sperma*, seed.] (*Bot.*) An ord. of plants, alliance *Menispermales*. — DIAG. Anthers opening by recurved valves. They are trees, with leaves opposite, without bracts. Calyx tubular, divided at the top into several segments. Stamens numerous, in the bottom of the calyx, but arising from the orifice of the calyx in the staminate flowers; anthers adnate; ovaries several; styles and stigmas simple; seed solitary, erect; embryo minute, erect, at the base of soft, fleshy albumen. — This order includes but four species in three genera: *Atherosperma* and *Doryphora*, belonging to Australia; and *Laurelia*, to Chili. The wood of *Doryphora sassafras*, called sassafras in Australia, is said to smell like fennel. — The nuts of Laurelia are described as possessing the fragrance of the nutmeg. — *L. Atherosperma moschata* is a very beautiful tree, attaining to a height of 150 feet; a decoction of the bark is used in the colony as a substitute for tea.

Ath'erstone, a town of England, in Warwickshire, 12½ m. N. of Coventry; *pop.* about 4,000.

Ath'erstone, EDWIN, an eminent English poet, B. at Nottingham, 1788. His principal works are, *The Last Days of Herculaneum* (1821); *Fall of Nineveh*, his greatest work (1828–1847); and *Sea-kings of England*, published in 1830.

Ath'erton, a township of England, in Lancashire, 7 m. N.E. of Newton. It has extensive collieries, iron-works, and cotton factories. *Pop.* about 7,000.

Athirst', *a.* [From *a*, and *thirst*.] Thirsty; wanting drink.

"With scanty measure then supply their food,
And, when *athirst*, restrain 'em from the flood."—*Dryden.*

Ath'is, a town of France, arrond. of Domfront, dep. of Orne; *pop.* 4,768.

Ath'lete, *n.* [Fr. *athlète;* Lat. *athleta*, *pl. athletæ;* from Gr. *athletes*, from *athlein*, to contend for a prize, from *athlon* a prize.] One who competes for a prize in any muscular contest; an exhibitor of gymnastic skill; a prize-fighter; a wrestler.

(*Antiq.*) A term applied to those persons who, among the Greeks and Romans, contended for prizes at the public games, in boxing, wrestling, running, leaping, and throwing the disc, or quoit. Unlike the Agonistes, who only pursued gymnastic exercises as a means of improving their health and bodily vigor, the athletæ devoted their whole lives to preparing for the contests at the public games. For these they were trained with the greatest care. They were constantly undergoing a course of the most severe exercise, in a gymnasium set apart for the purpose, under the superintendence of the gymnasiarch. At first the *A.*, when struggling for the prize, wore a girdle round their loins; but afterward they contended in a nude state. Before commencing wrestling encounters, their bodies were covered with sand, that they might grasp each other the more firmly. In other games they were anointed with oil by the aliptæ. An athlete who gained the prize at either of the 4 great public games, viz., the Olympian, Isthmian, Nemean, or Pythian, was received by the state to which he belonged with the greatest honors; he was absolved from the payment of taxes, and, often, his statue was set up in a public spot. *A.* were, it is stated, introduced from Greece into Rome, by M. Fulvius, at the close of the Ætolian war, 186 B. C. They speedily became highly popular: and under the emperors, their contests were admired by the nation to a degree bordering upon passion. Under Nero, an enormous number of *A.* lived in Rome, where they formed a distinct corporation. The *A.* were an entirely different class from the GLADIATORS, *q. v.*

Athlet'ic, *a.* Belonging to wrestling, boxing, running, and other muscular exercises. — Strong; robust; vigorous.

"Science distinguishes a man of honor from one of those *athletick* brutes, whom undeservedly we call heroes."—*Dryden.*

Athlet'ically, *adv.* In an athletic manner.

Athlet'icism, Ath'letism, *n.* The act of contending in a public game; muscular strength.

Ath'lone, an inland garrison-town of Ireland, in the counties Westmeath and Roscommon, on the Shannon, 65 m. W. of Dublin. It carries on a considerable trade. In 1641, *A.* was besieged by the Irish army; and in 1689, was taken by storm by De Ginkell, (*q. v.*) During the war with France, *A.* was strongly fortified. *Pop.* about 6,500.

Ath'lone, EARL OF. See GINKELL (DE).

Ath'lone, in *Michigan*, a village of Monroe co.

Ath'ol, ATH'OLE, or ATH'OIL, a district of Scotland in Perthshire. It is very picturesque and mountainous. The forest of *A.* comprises 100,000 acres, and belongs to the Duke of *A.*, head of the house of Murray.

Ath'ol, in *Massachusetts*, a post-township of Worcester co., about 65 m. W. N. W. of Boston; *pop.* (1890) 6,319.

Ath'ol, in *New York*, a former township of Warren co., now divided into Stony Creek and Thurman townships.

Ath'ol Center, in *Massachusetts*, a post-village of Worcester co., 33 m. W. of Fitchburg.

Ath'os (Mount), AGION-OROS, or MONTE-SANTO, a famous mountain of Turkey in Europe, on a peninsula projecting into the Ægean sea, between the gulfs of Contesa and Monte-Santo; Lat. 46° 16′ N.; Lon. 24° 10′ E. It rises abruptly from the water to a height of 6,349 feet above sea-level, and in its lower parts is covered with forests of pine, oak, chestnut, &c., above which towers a bare conical peak. *A.* has been famous both in ancient and modern times. Herodotus states that the fleet of Mardonius, the Persian general, in attempting to double this mountain, was reported to have lost more than 300 ships and 20,000 men. When Xerxes invaded Greece, he determined to guard against the recurrence of a similar disaster by cutting a canal across the peninsula of such dimensions as to admit of two triremes passing abreast (*Herod.* lib. vii. s. 24): of which great work the traces still remain. In modern times, *A.* has been occupied from a remote period by a number of monks of the Greek Church, who live in a sort of fortified monasteries, in number about 20, of different degrees of magnitude and importance. These, with the farms or *metochis* attached to them, occupy the whole peninsula: hence it has derived its modern name of Monte-Santo. These monasteries are situated in positions of strikingly romantic beauty. Some of them belong to Russians, others to Bulgarians and Servians. Except the produce of their own farms and vineyards, and the sale of crosses and beads, they depend chiefly on the oblations of pilgrims, and on the alms collected by their brethren in other parts. They pay an annual tribute to the Porte, and admit no females upon the peninsula. Most of these monasteries possess valuable MSS.; and they suffered severely from the exactions of the Turks during the Greek revolution. *Pop.* about 4,000.

Athwart', *prep.* [From *a* and *thwart*.] Across; from side to side; transverse.

"Execrable shape!
That dar'st, though grim and terrible, advance
Thy miscreated front *athwart* my way."—*Milton.*

(*Mar.*) Across the line of a ship's course; as, "a fleet was discovered standing *athwart* our course," that is to say, steering across our way.—*Athwart-hawse* is the situation of a ship when she is driven by the wind, tide, or other accident, across the stem of another, whether they bear against or are at a short distance from each other.—*Athwart the fore-foot* is a term usually applied

to the flight of a cannon-ball, as fired from one ship across the line of another's course, but ahead of her, as a signal for the latter to bring to.—*Athwart-ships* signifies reaching across the vessel from side to side, or in that direction.

—*adv.* Crossly; wrong; wrongfully.

"All *athwart* there came
A post from Wales, loaden with heavy news."—*Shaks.*

"The babby beats the nurse, and quite *athwart* goes all decorum."—*Shaks.*

Ath'y, a town of Ireland, co. Kildare, prov. of Leinster, on the Barrow, 38 m. S.W. of Dublin; *pop.* about 4,200.

Athym'ia, *n.* [Gr., from *a*, priv., and *thymos*, heart, conrage.] (*Med.*) Despondency: the prostration of spirits often observable in the sick.—Melancholy.

A'tia, daughter of Marcus Atius Balbus and Julia, the yonngest sister of Julius Cæsar; D. 43 B. C. By her first husband, Caius Octavius, she was the mother of Octavius Augustus.

Atiba'ia, a town of Brazil, in the prov. of São Paolo, on a river of the same name, 110 m. S.S.E. of Santos.

Atilt', *adv.* [A.S. *tealtian*, to tilt.] In the manner of a tilter; with the action of a man making a thrust at an antagonist.

"In the city Tours
Thou ran'st *a tilt* in honor of my love,
And stol'st away the ladies' hearts of France."—*Shaks.*

—In a raised posture: in the posture of a barrel raised or tilted behind, to make its contents run out.

"Such a man is always *atilt:* his favors come hardly from him."—*Spectator.*

Ati'na, a town of S. Italy, prov. of Caserta, lying among some of the highest summits of the Apennines, 12 m. S.E. of Sora. It is principally notable for its Cyclopean remains. This is one of the oldest Italian cities, having been, according to Virgil, a considerable place even in the days of the Trojan war. It was taken from the Samnites, B. C. 313, by the Romans. *Pop.* (1897) estimated at 6,360.

Atit'lan, in Central America, a lake, town, and volcano of Guatemala, 80 m. N.W. of Guatemala. The town, Santiago de Atitlan, is on the S. side of the lake, which is 24 m. long by 10 broad. The volcano of *A.* has an altitude of 12,500 feet.

At'kinson, in *Illinois*, a post-village and township of Henry co., 30 m. E. of Rock Island.

At'kinson, in *Maine*, a post-township of Piscataquis co., about 80 m. N.E. of Augusta.

At'kinson, in *New Hampshire*, a post-township of Rockingham county, about 35 miles S. S. E. of the city of Concord.

At'kinson Depot, in *New Hampshire*, a post-office of Rockingham co.

At'kinson's Mills, in *Pennsylvania*, a post-office of Mifflin co.

At'kinsonville, in *Indiana*, a post-office of Owen co.

Atlan'ta, *n.* (*Zoöl.*) A genus of gasteropodons mollusca, with a very thin, transparent, fragile shell. The animals swim on the surface of the ocean, and are sometimes found in great abundance far from land. They swim with great rapidity.

Atlan'ta, in *Georgia*, a fine city of Fulton co., and the cap. of the State, about 7 m. S.E. of Chattahoochee river, 101 m. N.W. of Macon, and 171 W. of Augusta. Being the terminus of the principal railroads of the State, *A.* is a place of active trade, and a depot for the cotton and cereals of the surrounding country. *A.* was laid out in 1845, and incorporated in 1847, and has now become one of the most important places in the State. *A.* was strongly fortified by the Confederates during the campaign of 1864, and was the scene of a great battle, fought on the 22d of July of that year, between the Union army commanded by Sherman, and the Confederates under General J. B. Hood. It was a sanguinary action, the national loss being estimated at 3,722, of whom about 1,000 were prisoners, while Sherman estimated the Confederate loss "at full 8,000 men." Among the Confederates killed was Gen. W. H. T. Walker, of Georgia. A second battle followed on the 28th, in which, after a desperate conflict, the Confederates were worsted with a loss of about 5,000 men. The Union loss did not exceed 600. On the first of September, the Confederates evacuated *A.*, and on the next day it was entered by Sherman's corps. *Pop.* in 1890, 65,533; on Jan. 1, 1897 (est.), 100,000. See ATLANTA EXPOSITION.

Atlanta, in *Illinois*, a city and township of Logan co., situated 20 miles southwest of Bloomington.

Atlan'ta, in *Iowa*, a post-village of Buchanan co., near the Wapsipinicon river, about 58 m. W.S.W. from Dubuque.

Atlan'ta, in *Louisiana*, a post-office of Winn parish.

Atlan'ta, in *Missouri*, a village of Harrison co., about 70 m. N.E. of St. Joseph.

—A post-office of Macon co.

Atlan'ta, in *Ohio*, a post-office of Pickaway co.

Atlanta City, in *Idaho*, a village of Alturas co.

Atlan'tal, *a.* (*Anat.*) Relating to the vertebra *atlas.*

Atlante'an, *a.* [Lat. *atlanteus;* from Gr. *atlas, atlanthos*, a giant.] Resembling Atlas; gigantic.

Atlan'tic, in *New Jersey*, a county in the S.S.E. part of the State. *Area*, 620 sq. m. It is bounded on the N. by Little Egg Harbor river, S.E. by the Atlantic ocean, and is intersected by Great Egg Harbor river. Its shores are prolific of oysters and other shell-fish. *Soil*, light and sandy. *Pop.* (1890), 28,836. *Cap.* May's Landing.

Atlantic City, in *New Jersey*, a flourishing city and fashionable sea-bathing resort of Atlantic co., 58 m. S. E. of Philadelphia, with which it is connected by 3 railroads. Is the most popular summer resort on the Atlantic coast. *Pop.* (1897) abt. 20,000; transient *pop.* (May–Aug.), from 40,000 to 100,000.

Atlan'tes, *n. pl.* [From Gr. *Atlas.*] (*Arch.*) A name given by the Greeks to male figures used instead of columns or pilasters to support entablatures. The name was derived from the idea of Atlas bearing the heavens on his shoulders. The Egyptians were in the habit of attaching colossal figures of this kind to the columns of their temples, which probably suggested the use of them to the Greeks. These figures are sometimes called *Telamones* or *Persians.* In the modern architecture of Italy, *A.* are frequently to be seen supporting the entablature above the entrance of a great building. When female figures are made use of for the like purpose, they are termed caryatides.—See CARYATIDES.

Fig. 227.—ATLANTES. (From the Baths at Pompeii.)

Atlan'tic, *a.* [Gr. *Atlantikos*, from Mount *Atlas*, the shores of which this ocean washes.] Pertaining to the Atlantic ocean.

"The gilded car of day
His glowing axle doth allay
In the steep *Atlantic* stream."
Milton.

—Relating to the giant Atlas, or to Mount Atlas. (o.)

—*n.* The ATLANTIC OCEAN, *q. v.*

Atlan'tic Ocean, *n.* [Gr. *Atlantikos pelagos*, the sea beyond Mount Atlas.] One of the great divisions of that watery expanse which covers more than three-fourths of the surface of the globe. It lies between the Old and the New worlds, washing the E. shores of the Americas, and the W. shores of Europe and Africa; extending lengthwise from the Arctic to the Antarctic seas. Where narrowest, between Greenland and Norway, it is about 930 m. across; but between N. Africa and Florida, where it attains its maximum breadth, the distance from shore to shore is about 5,000 m. *Area*, about 25,000,000 sq. m. On one side of the equator the *A.* is called the N. Atlantic Ocean, and on the other, the S. Atlantic Ocean. Its coasts are of unequal elevation, exhibiting in some places immense banks to within a few fathoms of the surface, and in others sinking to almost immeasurable depths.—An important feature of the North Atlantic is its connection with mediterranean, or *close* seas of great extent. Such are the Baltic sea and the Mediterranean sea in the Old Continent, and Hudson's Bay and the Gulf of Mexico, with the Caribbean sea, in the New World. These seas doubtless form part of the Atlantic ocean; but they cannot be considered as bays or gulfs, the connection between them and the Atlantic being effected by narrow straits, and not by an open sea; and, besides, they extend so far into the continents, that some of them, as the Mediterranean sea, afford a navigation of 3,000 geographical miles.—The greatest depth that has been discovered in the N. Atlantic is about 4¾ miles. The temperature of the water is greater in the Northern than in the Southern hemisphere. In the seas north of the equatorial current, the thermometer indicates 80° or 81°, and S. of it, 77° and 78°, at the time when the sun approaches the line. This difference may, perhaps, be satisfactorily accounted for by the sun's remaining annually 7 days longer to the N. than to the S. of the equator.—According to Capt. Scoresby, the spec. grav. of the sea-water near the coasts of Greenland varies between 1·0259 and 1·0270. Between the tropics, it has been found 1·0300, and near the equator even 1·0578; but this last statement is, with reason, regarded as doubtful. *Winds.* The *A.* is in parts subject to the *perpetual* or *trade* winds, *q. v.*; in others, to the *variable* winds; and along some of its coasts, between the tropics, the winds are subject to a regular change according to the seasons; or, in other words, *monsoons*, q. v., are there prevalent. *Principal currents.* The current crossing the *A.* near the line, is called the *Equatorial Current*, q. v.; it runs from E. to W. The current which, in a direction from W. to E., traverses the North *A.* between 36° and 44°, bears the name of *Gulf Stream*, q. v.; and that which runs in the same direction, through the South *A.*, between 30° and 40° S. Lat., is called the *South A. Current.* Other currents pass the shores of both continents between 40° N. Lat. and 30° S. Lat. Along the Old Continent they run toward the equator; but on the shores of America, they flow from the line toward the poles. These latter kinds of currents are intimately connected with the equatorial current; but very slightly, if at all, with the gulf-stream or the S. current. The trade-wind region is the saltest part of the *A.*, it having been ascertained that the heaviest water in all this ocean is found between the parallels 17° N. and S. of the equator.—See CALM, CURRENT, DRIFT-CURRENT, GULF-WEED, GULF STREAM, ICE, ICEBERG, SARGASSO SEA, OCEAN, &c.

Atlan'tic Tel'egraph, *n.* [Lat. *atlanticus;* Gr. *telos*, far, distant, and *graphein*, to write.] The success of various attempts to send messages by electric agency through cables lying under water, for short distances, induced Professor Morse, of New York, to suggest the possibility of uniting Great Britain and America by a submarine cable, laid from shore to shore throughout the Atlantic ocean. In 1845, Mr. J. W. Brett registered an association, under the name of the *General Oceanic Telegraph Company*, to carry out the object above mentioned, and to connect England with the continent of Europe in various parts. The latter part of his design was successfully accomplished in 1851, and public attention, in England, was, in consequence, again directed to the junction of Great Britain and America by similar means of intercommunication. Newfoundland had already been united to the main-land of America by a submarine cable; and, in 1856, the *Atlantic Telegraph Company* was formed, with the design of laying a cable between St. John's, Newfoundland, and Valentia, in Ireland, along the bottom of the Atlantic in its shallowest part, which had been pointed out for the purpose by Captain Maury, and called by him the *Telegraphic Plateau.* Pecuniary assistance was guaranteed to the company by the respective governments of Great Britain and the United States; and both powers agreed to furnish ships for taking out the cable and placing it in its destined bed. After different attempts made to accomplish this great object, which all terminated without practical result, the cable was at last successfully laid, when, on the 5th of August, 1865, it broke, about 88 m. from Heart's Content, in Newfoundland. Nothing daunted, the operators in this mighty scheme again set to work for the fourth time, and on the 28th July, 1866, the telegraphic junction was at last successfully achieved, and came into practical business use, as it has since remained. In addition, the last expedition recovered the lost cable of 1865, which has also since been brought into active operation. The wires in the U. States having been joined up for experiment from Heart's Content to California, a message was sent from Valentia, (Ireland,) at 7·21 A.M., Feb. 1, 1868, and the acknowledgment of its receipt was received in Valentia, at 7·23; the whole operation having occupied two minutes. The distance travelled was about 14,000 miles; and the message arrived, according to San Francisco time, at 11·20 P.M. on Jan. 31, or the day preceding that on which it left England. A reduced tariff of rates was issued by the company, Sept. 1, 1868.—The accompanying figure, in which the successive gradations in size represent the materials of which they are composed, gives a fair idea of a deep-sea cable. The upper and smaller end is the annealed steel wire centre, and the next gradation shows the small copper wires spirally laid around it, forming a conductor of great strength and conductivity. This is insulated with pure gutta-percha, nine-sixteenths of an inch in diameter, laid on in three successive coatings, so as to insure perfect insulation. The core thus made is subjected to a test by a very sensitive galvanometer, so that there may be no doubt of its perfection. Then, to protect the covering of gutta-percha, a coating of Manilla yarn, short spiral lay, is put on, and over this a second of Manilla yarn, long spiral lay, is laid on in the reverse direction. The annealed steel wire weighs 330 pounds per mile; the copper wires, 475; the gutta-percha insulation, 475; and the outside protection, 750 pounds. The total of 1 m. of cable was 2,030 pounds. In later cables the weight of the wire employed has been considerably increased, though the method of manufacture is practically the same. It may further be said that the laying of the first cable was almost wholly due to the persistent endeavors of Cyrus W. Field, to whose labors were due the laying of the unsuccessful cable of 1858 and the successful one in 1866. Since the latter date a number of other lines have been laid, the first being a French line, laid in 1869, from Brest to the Island of St. Pierre, south of Newfoundland. In 1873 a line was laid from Lisbon to Pernambuco, in South America, by means of which Europe and this country were brought into direct communication with that continent. In 1874 and 1875 two other cables were laid from Valeutia to Trinity Bay, Newfoundland, the latter weighing only 880 pounds per mile. A line was laid from Penzance to St. Pierre in 1879, one from England to Panama in 1882, and in 1884 the Bennett and Mackay line was laid from Valentia to Torbay in Nova Scotia. Up to the present date 12 lines of telegraph cable have been laid between Europe and this country, with a total length of over 27,000 miles, while under the seas of the whole world there are no less than 310 cables, with a total length of 139,754 miles. This total includes all those along the shores, and in the bays, gulfs and estuaries of rivers, but not those in lakes and interior water courses. The rates for messages over the first line was $100 for 20 words of 5 letters each, and $5 for every 5 letters extra. These rates were reduced one-half the next year, and have since been greatly cut down. The rate for a word of 10 letters from New York to England, France and Germany is now 25 cents, and to other countries at a proportionate increase. See TELEGRAPH.

Fig. 228.—DEEP-SEA CABLE.

Atlan'tis, (THE NEW,) the title of an allegorical fiction by Lord Bacon, and the name of an island described therein as being placed, like the *Atlantis* of early writers, in the middle of the Atlantic ocean.

At'las, (*Myth.*) One of the Titans, son of Iapetus and Clymene. Jupiter, the conqueror of the Titans, condemned him to bear the vault of heaven; which fable arose from his lofty stature. By Pleione, the daughter of Oceanus, he had seven daughters, who, under the name of *Pleiades* or *Atlantides*, shone in the heavens

At'las (Mount), an extensive and lofty chain of mountains in N.W. Africa, extending through the greater part of Barbary, from Tunis to Morocco; and dividing the latter countries, and Algeria, from the great southern desert of Sahara. The mountains which form the E. boundary of the empire of Morocco are the highest of the chain, one of them rising to an elevation of 11,000 ft. above the sea. Our knowledge of the roads traversing this mountain-system is very scanty. It is believed that only two passes, Bebawan and Belavin, exist between the province of Suse and the country N. of the *A.* Farther E., between 5° and 4° W. Lon., lies the great caravan route, by which the commerce between Fez in Morocco, and Timbuctoo, in Soudan, is carried on. It traverses the districts of Tafilet and Drah, and connects with the great caravan road to Mecca. Copper, iron, lead, antimony, saltpetre, and rock-salt, are among the mineral productions of *A.* The inhabitants are called Berbers (*q. v.*).—*A.* gave its name to the Atlantic ocean.

At'las, *n.*; *pl.* ATLASES. [From the giant Atlas: perhaps from Gr. *a*, euphonic, and *tlenai*, to bear.] (*Anat.*) The name of the first vertebra. It differs from the other vertebræ in having its body small and thin, and its foramen very large, being in form somewhat like a ring. It is connected above with the condyles of the occipital bone, and receives the tooth-like process of the second cervical vertebra from below; the former admitting of moving the head up and down, the latter, from side to side.

(*Geog.*) A name given to any number of maps collected in the form of a volume, probably because old works of the kind had a figure of Atlas bearing the world on his shoulders, engraved on the title-page. Boucher imagines the name to be derived from the German *atlass*, satin, because maps were printed on soft paper with a glossy surface like satin. The name is also applied to any folio vol. of engravings, illustrating a particular subject.

(*Com.*) A kind of silk cloth fabricated in the East Indies.

At'las, in *Illinois*, a post-village of Pike co., 12 m. S.W. of Pittsfield.

At'las, in *Michigan*, a township of Lapeer co.

—A post-township of Genesee co., about 10 m. S.E. of Flint.

At'las, in *Ohio*, a post-office of Belmont co.

At Law, a legal term, meaning, according to the course of the common law; in the law.

Atlix'co, a town of Mexico, state of Puebla, 20 m. S. of Pueblo de los Angelos, and situated in a fine and salubrious country.

Atmid'oscope, *n.* (*Chem.*) An instrument invented by Babinet, to measure the rate of evaporation.

Atmolog'ical, *a.* Relating or belonging to atmology.

Atmol'ogist, *n.* One who is versed in atmology.

Atmol'ogy, *n.* [Gr. *atmos*, vapor, and *logos*, discourse.] (*Phy.*) That part of science which treats of the laws and phenomena of aqueous vapor.

Atmom'eter, *n.* [Gr. *atmos*, vapor; *metron*, a measure.] (*Phy.*) An instrument for measuring the quantity of water evaporated under given circumstances. If it were not for the variety of causes which influence the process of evaporation at the earth's surface, an *A.* would be a simple instrument. A quantity of water, after being weighed, would have to be exposed in a measured vessel to the action of the atmosphere; the difference in weight, after the experiment, would give the amount of evaporation. But, meteorological and other causes so affect vaporous exhalations at the surface of the earth, that no accurate *A.* has hitherto been constructed.

At'mosphere, *n.* [Fr. *atmosphère;* from Gr. *atmos*, vapor, and *sphaira*, sphere.] (*Phy.*) The whole body of air or other mixture of gases which envelops a planet. We shall here devote ourselves exclusively to that which surrounds the earth, merely observing, that we have more or less reason to suppose that an *A.*, in density comparable to that of the earth, envelops the sun, Venus, Mars, Jupiter, and Saturn; but does not affect the moon. (See these several names.)—The subject of the *A.*, treated in all its extent, would lead us much too far. Its chemical composition and weight have been already spoken of in the article AIR, and we shall confine ourselves here to the description of its average state. The *A.* must be considered as a body of air revolving with the earth. This gives its several strata an increasing velocity as we recede from the earth's axis. For instance, at the equator, the air (if any), which is twice as distant from the centre of the earth as the surface, must revolve with double the actual velocity of the air at the surface. This consideration shows positively that the *A.* which really accompanies and revolves with the earth, certainly cannot extend in the smallest quantity above 20,000 miles from the surface. For at that height the tendency to recede from the centre, known by the name of *centrifugal force*, would counterbalance the weight, or tendency of particles toward the earth, and at a higher distance would overcome it entirely. But we are not therefore to conclude that there must be air, more or less, *revolving with the earth* up to so great a height. Forty or fifty miles is supposed to be the limit which it attains, except in a state of extreme rarefaction. Yet observations on meteorites give reason to believe that the upper limit of the atmosphere is not less than 500 miles from the surface of the earth. Though the upper atmosphere is in a state of very great tenuity, it still offers sufficient resistance to rapidly moving meteorites to raise them to the temperature of incandescence, and from the height at which this occurs that of the *A.* is estimated. Near the earth, even at great elevations above the level of the sea, we cannot say that observed temperatures correctly represent the law of the atmosphere: for example, we cannot say that the average temperature of Quito, which is more than 9,000 feet above the sea-level, is the average temperature of the air 9,000 feet above, *and over*, the sea. The only observation worthy of any confidence is that of Gay-Lussac, taken during his celebrated ascent, at a height of 6,980 metres, or 7,634 yards, above the sea-level. The difference of temperature between air at the surface and at the height just mentioned was 40¼° C., or nearly 72½° F. This, if the decrease of temperature be uniform, gives a diminution of 1° F. for every 105 yards, or of 1° C. for every 173 metres of elevation. The following table was deduced by Humboldt from various observations. It will serve to show how far the temperatures of elevated regions on the earth agree with those of the same height in the atmosphere, as deduced from the preceding. The first column is the height of the land above the level of the sea; the second, the mean temperature at and near the equator; the third, the same in about 45° of lat. (+) means above, and (—) below the freezing point.

Elevation in Yards.	Equator. Mean Temp. Centig.	Lat. 45°. Mean Temp. Centig.
0	+ 27° ·5	+ 12° ·0
1065	+ 21° ·8	+ 5° ·0
2131	+ 18° ·4	— 0° ·2
3197	+ 14° ·3	— 4° ·8
4265	+ 7° ·0	
5328	+ 1° ·5	

From the preceding table, it appears that at the equator, on the average of 5328 yards, a rise of 205 yards gives a fall of 1° C. But the fall is more rapid in the higher regions than in the lower. From 0 to 2131 yards of elevation, an elevation of 234 yards produces a fall of 1°; but from 3197 to 5328 yards, an elevation of 166 yards does the same. The argument in favor of the finite extent of the atmosphere, derived from the preceding, is as follows: If we suppose an elevation of 200 yards to produce a fall of 1° F., it follows, that, at a height of forty miles above the level of the sea, the temperature of the air must be 350° F. below that of the sea, or certainly more than 300° below the freezing-point. This calculation is based on the conception that the air would be condensed into the liquid state at that low temperature, but recent experiment seems to show that pressure would also be necessary, while the observations on meteoric incandescence negative the deductions here made.—The *pressure* of the *A.* is one of its most important properties. We owe the determination of the weight of our *A.* to an invaluable instrument, the *Barometer*. The action and management of this instrument are explained under BAROMETER; suffice it here, that the corrected height of the mercurial column represents the height of an envelope of mercury, at the temperature of 32° F., which would equal in *weight* the entire envelope of the earth. In so far as this element goes, our actual *A.* might be supplanted by a liquid mercurial ocean of the average depth of 29·97 inches. A mercurial column 29·97 inches in height, and 1 square inch in section, weighs 14·73 lbs.; which gives us the equivalent height of a column of atmospheric air of the same section. The word *atmosphere* is often employed to express this weight of pressure on a square inch of surface, so that when we speak, *in Mechanics*, of the pressure of steam on a boiler as amounting to three *A.*, we mean a pressure of about 45 lbs. on the square inch. The pressure on a square inch being thus ascertained, we have merely to multiply it by the number of square inches on the earth's surface to obtain the total weight of the *A.* It amounts to 11·67085 trillions of lbs., or about $\frac{1}{1\,880\,000\,00}$ of the earth's mass.—It appears, from observation, that the height of the mercurial *A.* is not the same in all latitudes, nor in any locality at all seasons, or at all hours of the day. The pressure of the *A.* in the northern hemisphere increases as we recede from the equator, reaching a maximum at 30° N. Lat., and decreasing from 30° to 65°, where it again begins to rise. The greater height at 30° is said to be due to the accumulation of air at that latitude by the action of the *trade-winds*, q. v. As the heat of the earth's surface increases the rarity of the air above it, and causes the air at the top of the heated column to overflow, we would expect that, during the year, the barometer would stand at a minimum in summer, and a maximum in winter. In reality, however, although the barometer is highest in midwinter, there is another maximum in midsummer, making thus two minima—one in spring, the other in autumn. This arises from the part which watery vapor plays in the pressure of the atmosphere. The heat of midsummer introduces into the air a large quantity of moisture, in the form of elastic vapor, which, adding its pressure to that of the dry air, raises what would otherwise be the minimum barometric column to a higher point than that at which it stands in spring and autumn. Similar causes affect the pressure of the *A.* during the 24 hours of the day. There are two maxima—one at 10 A. M., the other between 10 and 11 P. M.; and two minima—at 4 A. M. and 4 P. M. Very slight variations indicate the existence of atmospheric tidal waves; but this subject is still involved in some obscurity. The pressure of the *A.* exercises a most important influence on the organism of the human frame. A man of ordinary stature is exposed to a pressure of about 14 tons: but as the air permeates the whole body, and presses equally in all directions, no inconvenience is found to result from it. From experiments instituted by the brothers Weber in Germany, it has been ascertained that the heads of the thigh and arm bones are kept in their sockets by the pressure of the *A.*; and in balloon ascents the aëronaut often suffers from bleeding at the nose, lips, and even eyes—a fact that would seem to indicate that the strength of the blood-vessels has been adjusted with reference to atmospheric pressure.—In respect to its form, the *A.* may be considered as a spheroid, elevated to the equator, on account of the diurnal motion of the earth, and also of the great rarefaction of the air by the sun's rays, which there exert a powerful influence.—For the general subject of the *A.*, as connected with the weather, see HYGROMETRY, METEOROLOGY, TEMPERATURE; and articles on particular subjects, as AURORA BOREALIS, DEW, EVAPORATION, ELECTRICITY (ATMOSPHERIC), HEAT, RAIN, WIND, &c.—For the *A.* as a medium of communication (taking this word in its widest sense), see AERODYNAMICS, AËRONAUTICS, BALLOON, SAIL, SOUND, VIBRATION, WINDMILL.—For its effects upon animal and vegetable life, see DECOMPOSITION, RESPIRATION, VEGETATION; and, *vice versâ*, for the effects of the imponderable substances upon it, see ELECTRICITY, HEAT, REFRACTION. For instruments used to measure its state, see BAROMETER, THERMOMETER, EUDIOMETER, HYGROMETER, MANOMETER. For the history of atmospherical researches, see the following names: HERO, CTESIBIUS, GALILEO, TORRICELLI, PASCAL, BOYLE, MARIOTTE, PRIESTLEY, SCHEELE, BLACK, LAVOISIÈR, CAVENDISH, &c.

(*Elect.*) The name of *A.* is given to a certain medium or electrical influence, supposed to be diffused around an electrical body.

—Figuratively and morally, a pervading influence; as, an *atmosphere* of virtue.

Atmospher'ic, Atmospher'ical, *a.* Pertaining to the atmosphere, or dependent on it; as, *atmospheric* engine (see ENGINE); *atmospheric* railway (see RAILWAY); *atmospheric* tide (see TIDE), &c.

Atmospherol'ogy, *n.* [Gr. *atmos*, vapor, *sphaira*, sphere, and *logos*, discourse.] A treaty or discourse on the atmosphere.

Ato'ka, in *Indian Territory*, a post-office of the Choctaw nation.

Atoll', Atol'lon, *n.* [A Maldive word.] (*Geog.*) An island of coral, consisting of a circular reef or ring of coral, surrounding a lagoon of the ocean.

Atol'mia, *n.* [Gr. *a*, priv., and *tolma*, confidence.] (*Med.*) Want of confidence; discouragement. A state of mind unfavorable to health, and injurious in disease; it is the antithesis of *Eutolmia*.

At'olph, AD'OLPH, AT'AULPH, or AD'AULPH, the first king of the Goths. He appears to have been a brother-in-law of Alaric, whom he joined during the siege of Rome, with an army raised in Pannonia, and whom he succeeded. He defeated some pretenders to the empire, but was unable to take Massilia. In 414, he married Placidia, the sister of the Emperor Honorius. He assumed the manners of the Romans, and having conquered Spain, was assassinated at Barcelona in 415.

At'om, *n.* [Fr. *atome;* Lat. *atomus;* Gr. *atomos*, from *a*, priv., and *temno*, to cut.] A particle of matter so small that it cannot be cut, or divided into smaller particles; the smallest component part of a body; anything extremely small.

(*Phys.*) The term *A.* expresses theoretically the smallest particle of matter, which is believed to be incapable of division into parts. A discussion has been carried on from ancient times relative to the finite or infinite divisibility of matter, and although the development of the atomic theory was supposed to give the strongest evidence of its limited divisibility, yet it may be fairly doubted whether the question can be decided. The divisibility of matter apparent to the naked eye, and ascertained by calculation, is almost beyond conception. Thus, according to Kane, 0·01 of a cubic line of silver, dissolved in nitric acid, will produce a distinct milkiness in 500 cubic inches of clear water containing a trace of common salt, so that a particle of silver must be much less than the billionth of a cubic line in size. It will give a more tangible idea of a billion to say that a man counting seconds by a watch day and night would require 31,675 years to arrive at that number. Dr. T. Thomson has shown that the size of a particle of lead cannot amount to so much as the 888,490,000,000,000th part of a cubic inch. The apparent infinite divisibility of matter is more clearly shown in the minuteness of the smallest living organized beings, of which millions would be required to constitute a point visible to the naked eye. Yet each of these creatures possesses some diversity of structure, and must be made up of a great number of atoms. The mind is lost in attempting to conceive the limit in minuteness thus evidently attained by the chemical atom of matter. By observations upon gases some insight into structure of matter has been gained, it being fairly well known that a gas is not a continuous substance, but is made up of an enormous number of distinct and independent particles, each in active motion, and coming into collision with others at the rate of some eight thousand million times a second. The number of such separate particles in a cubic inch of air is almost inconceivably great, it being expressed by a unit followed by 21 ciphers. And those particles by no means fill the space thus allotted them, but have a free area of movement, each occupying probably less than the five hundredth part of this very minute area. Yet those particles are not atoms, but what are known as molecules (*q. v.*), each of which is made up of at least two and perhaps many atoms. As to the constitution of the atom, various hypotheses have been advanced, none of which has proved fully satisfactory to modern scientists. The original idea, that entertained by the Greek atomic philosophers, was that the atom is a perfectly hard and solid body, incapable of separation into parts, and that infinite divisibility, while theoretically possible, is practically impossible. Of modern

theories of the atom, that of Boscovich maintains that each atom is an indivisible point, having position but not extension in space. It is capable of motion, and has a degree of resisting force aiding it to maintain its line of motion. It is also endowed with attractive and repulsive energy, any two atoms attracting or repelling each other with a force dependent on their distance apart. At very minute distances repulsion takes the place of attraction, and by its action prevents the junction of any two atoms. In this theory the atom has no parts or dimensions. It has no extension in space, and exists as a mere geometrical point. As a result, as it occupies no measureable space, two atoms may occupy the same place. It is practically a mere centre of force, itself withdrawn from contact, its force ever acting throughout a certain area. There is only one other definite theory of atoms to which we need allude, that known as the Vortex Atom theory, propounded by Sir William Thomson. In this view an atom is a vortex ring, consisting of a vortical motion set up in the indivisible ether, or basic substance of the universe, and maintaining its formation through infinite duration from the absence of frictional force to overcome or dissipate it. Many experiments have been made on smoke rings or vortices, and various interesting deductions are made from these, the principal being that the substance of such a vortex in a frictionless fluid must be invariable in volume, and each vortex unchanging in shape and infinite in duration. This theory, however, is surrounded by difficulties, the principal being that it renders the existence of attraction and repulsion impossible, and requires a secondary explanation of these phenomena. It may be said, therefore, that no satisfactory theory of the atom has yet been devised.

Atom'ic, Atom'ical, *a.* Pertaining to, or consisting of atoms; extremely minute.

Atom'ically, *adv.* In an atomical manner; in accordance with the atomic philosophy.

Atom'ic Philosophy. Leucippus, a philosopher of Abdera, who flourished about 450 B. C., is generally regarded as the original propounder of what has been called the *Atomic Philosophy*. It was adopted by Democritus, in his *Cosmogony*, and afterwards by Epicurus, to whom its celebrity is chiefly owing. The following account of this doctrine is taken from Dr. Good's *Book of Nature*, and is a clear and concise sketch of the theory contained in the writings of Epicurus and his followers:—"The *A. P.* of Epicurus, in its mere *physical* contemplation, allows of nothing but matter and space, which are equally infinite and unbounded, which have equally existed from all eternity, and from different combinations of which every visible form is created. These elementary principles have no common property with each other; for whatever matter is, that space is the reverse of; and whatever space is, matter is the contrary to. The actually solid parts of all bodies, therefore, are matter; their actual pores, space; and the parts which are not altogether solid, but an intermixture of solidity and pore, are space and matter combined. Anterior to the formation of the universe, space and matter existed uncombined, or in their pure and elementary state. Space, in its elementary state, is absolute and perfect void; matter, in its elementary state, consists of inconceivably minute seeds or atoms so small that the corpuscles of vapor, light, and heat are compounds of them; and so solid that they cannot possibly be broken or abraded by any concussion or violence whatever. Every atom is possessed of certain intrinsic powers of motion. Under the old school of Democritus, the perpetual motions hence produced were of two kinds: a descending motion, from the natural gravity of the atoms; and a rebounding motion, from collision and mutual clash. Besides these two motions, Epicurus supposed that some atoms were occasionally possessed of a third, by which, in some very small degree, they descended in an oblique or curvilinear direction, in this respect resembling the oscillations of the magnetic needle. These infinite groups of atoms, flying through all time and space in different directions, and under different laws, have interchangeably tried and exhibited every possible mode of rencontre, sometimes repelled from each other by a concussion, and sometimes adhering to each other from their own jagged or pointed construction, or from the casual interstices which two or more connected atoms must produce, and which may be just adapted to those of other figures, as globular, oval, or square. Hence the origin of compound and visible bodies; hence the origin of large masses of matter; hence, eventually, the origin of the world itself. When these primary atoms are closely compacted, and but little vacuity or space lies between, they produce those kinds of substances which we denominate solids, as stones and metals; when they are loose and disjointed, and a large quantity of space or vacuity is interposed, they exhibit bodies of lax texture, as wool, water, and vapor. The world, thus generated, is perpetually sustained by the application of fresh tides of elementary atoms, flying with inconceivable rapidity through all the infinity of space, invisible from their minuteness, and occupying the places of those that are as perpetually flying off. Yet nothing is eternal or immutable but these elementary seeds or atoms themselves. The compound forms of matter are continually decomposing and dissolving into their original corpuscles. The world itself is a compound, though not an organized being; sustained and nourished, like organized beings, from the material pabulum that floats through the void of infinity. The world itself must, therefore, in the same manner, perish; it had a beginning, and it will have an end. Its present crasis will be decompounded; it will return to its original, its elementary atoms, and new worlds will arise from its destruction. Space is infinite, material atoms are infinite, but the world is not infinite. This, then, is not the only world, nor the only material system, that exists. The cause that has produced this visible system is competent to produce others; it has been acting perpetually from all eternity, and there are other worlds and other systems of worlds existing around us."—During the most flourishing periods of the Greek philosophy, this doctrine of matter consisting of an assemblage of indivisible particles seems to have kept its ground under various modifications; the idea of one elementary matter deriving its form and properties from the shape and union of the particles composing it, is a simplification of the doctrine of Anaxagoras.

Atom'ic Theory, *n.* (*Chem.*) Every body is supposed to consist of atoms of unknown size, form, and weight, which, being infinitely hard, cannot be further subdivided. The atoms of elements are simple, those of compounds are compound. No atom has ever been seen, even by the most powerful microscopes, although particles of bodies less than $\frac{1}{300000}$ of an inch in diameter have been discerned by their aid; the forms of atoms are, therefore, unknown. Although the *actual* size and weight of the ultimate atoms of bodies cannot be ascertained, it is easy to discover their relative size and weight. For instance, it is found by experiment that 1 grain of hydrogen combines with 80 grains of bromine to form a definite compound, and never in any other proportion; it is therefore supposed that the *number* of atoms of each body is the same, but that the weight of each atom is as 1 to 80. This is borne out by the fact that bromine is exactly 80 times as heavy as hydrogen, a cubic inch of the one uniting with exactly 1 cubic inch of the other. The numbers 1 and 80, therefore, represent the weight of the atoms or the *atomic weights* of these bodies; and it follows that 81 is the atomic weight of the compound formed by their union. These numbers are also termed the *chemical equivalent* or *combining proportion* of these substances. All the other elements have their *combining proportions* or *atomic weights*, and are subject to the same laws as hydrogen and bromine. It often happens that double, treble, and quadruple atoms of one element will unite with a single atom of another element to form a compound; for instance, the following compounds of nitrogen and oxygen occur:—

Nitrogen,	14	grains; Oxygen,	8 grains.
"	14	" "	16 "
"	14	" "	24 "
"	14	" "	32 "
"	14	" "	40 "

Here we find one atom of nitrogen uniting with a single, double, treble, quadruple, and quintuple atom of oxygen, and *never in any other proportion*—as N15 to O8, or N14 to O7, for example. This is called the *doctrine of definite proportions*, and is a consequence of the theory of atoms of a constant size and weight laid down above. It was first put forth by John Dalton, of Manchester. It has been said above, that the atoms of the same body are of constant size; but it happens in several cases that the atoms of different bodies are of different sizes. Thus, though it is found that one cubic inch of hydrogen unites with one cubic inch of bromine, it by no means follows that equal volumes of carbon and iron unite in chemical combination. There is great diversity in the relative sizes of elementary atoms, those of carbon being only half the size of those of iron. The weight of an atom of carbon would be 12, and that of an atom of iron would be 56; but the quantity of carbon would only take up half the space of the quantity of iron. It has been found that bodies of the same *combining volume* agree strongly in their properties. Iodine, chlorine, and bromine are very similar in their reactions; and there are several other groups of elements formed on the same basis: (see Atomic Volume.) To sum up, atomic weight is the relative weight of the atoms of bodies, or, which is the same thing, the proportion in which they unite. Reasoning on this theory, tables have been constructed of the atomic weights of all the elements; the atomic weights of compounds being evidently the sum of the atomic weights of their constituents. Hydrogen has been taken as the unitary body by certain chemists, from being the lightest of all known substances. Others have taken 100 parts of oxygen as the standard. This latter arrangement, by increasing the figures, renders it less convenient to work.

Atomic Weights, Combining Proportions, or Chemical Equivalents of the Elements.

Elements.	Symbol.	Hydrogen = 1.
Aluminium (or Aluminum)	Al	27·
Antimony (*Stibium*)	Sb	120·
Arsenic	As	75·
Barium	Ba	137·
Beryllium	Be	9·
Bismuth	Bi	208·
Boron	B	11·
Bromine	Br	80·
Cadmium	Cd	112·
Cæsium	Cs	133·
Calcium	Ca	40·
Carbon	C	12·
Cerium	Ce	140·
Chlorine	Cl	35·4
Chromium	Cr	52·
Cobalt	Co	58·6
Copper (*Cuprum*)	Cu	63·
Didymium	D	142·
Erbium	E	166·
Fluorine	F	19·
Gallium	Ga	70·
Germanium	Ge	72·3
Gold (*Aurum*)	Au	196·5
Hydrogen	H	1·
Indium	In	113·4
Iodine	I	126·5
Iridium	Ir	192·5
Iron (*Ferrum*)	Fe	56·
Lanthanium	La	138·
Lead (*Plumbum*)	Pb	206·4
Lithium	Li	7·
Magnesium	Mg	24.
Manganese	Mn	55·
Mercury (*Hydrargyrum*)	Hg	200·
Molybdenum	Mo	96·
Nickel	Ni	58·6
Nicobium	Nb	94.
Nitrogen	N	14·
Osmium	Os	195·
Oxygen	O	16·
Palladium	Pd	106·
Phosphorus	P	31·
Platinum	Pt	194·4
Potassium (*Kalium*)	K	39·
Rhodium	Rh	104·
Rubidium	Rb	85·
Ruthenium	Ru	103·5
Samarium	Sa	150·
Scandium	Sc	44·
Selenium	Se	79·
Silicon	Si	28·
Silver (*Argentum*)	Ag	108·
Sodium (*Natrium*)	Na	23·
Strontium	Sr	87·5
Sulphur	S	32·
Tantalum	Ta	182·
Tellurium	Te	125·
Thallium	Tl	204·
Thorium	Th	232·
Tin (*Stannum*)	Sn	118·
Titanium	Ti	48·
Tungsten (*Wolfram*)	W	183·6
Uranium	U	240·
Vanadium	V	51.
Ytterbium	Yb	173·
Yttrium	Y	89·
Zinc	Zn	65·
Zirconium	Zr	90·

These atomic weights have not been decided upon without great difficulty. They have been fixed by various kinds of evidence, obtained by very numerous and often greatly varied experiments. The result has been to make important changes in the tables of atomic weights formerly given; many of the weights now accepted being double those formerly used, while some are three and others four times the old numbers. Many efforts have been made to deduce some regular relation between the numbers and the properties of elementary atoms, the most successful of these being that made by Mendeleëff, who formulated what is known as the Periodic Law, which states that the properties of an element are a function of its atomic weight. He, and others before him, found that when the elements are arranged in progressive order of their atomic weights a certain regularity is observable in the succession of elements with analogous chemical properties. So well marked is this, that tables of the elements can be formed based on their double relation of numbers and properties, and in these tables certain gaps appear which it was predicted would yet be filled by elements of certain given weights and properties. It is interesting to be able to state that these predictions have been fulfilled in the discovery and character of certain elements new to science, notably Gallium and Germanium. This adds greatly to the standing of the theory.

Atom'ic Volume is the relative *size* of the combining proportions or atoms of bodies, just as atomic weight is the relative *weight* of their combining proportions or atoms. It is determined by dividing the atomic weight by the specific gravity. As the principal researches on atomic weights have been made in Germany, the oxygen standard is generally used in calculating them. As before stated (see Atomic Theory), substances fall into several well-marked groups, possessing analogous properties, and giving isomorphous compounds. The following table will be sufficient to show this fact:—

	Equiv. O=100.	Atom. vol.	Sp. gr.
Cobalt	369	44	8·39
Iron	350	44	7·95
Nickel	369	44	8·39
Iridium	1232	57	21·6
Osmium	1244	57	21·8
Platinum	1232	57	21·6
Gold	2458	128	19·2
Silver	1350	128	10·53
Tellurium	800	128	6·25
Bromine	1000	320	3·12
Chlorine	443	320	1·38
Iodine	1587	320	4·95

It has been shown, by Kopp, that those elements which are isomorphous possess the same atomic size. This is true of numerous isomorphous compounds. Sulphate of magnesia and sulphate of zinc crystallize in the same forms, and have the same atomic size; although the atomic size of magnesium and zinc are different. The mysterious relations existing between the atomic volumes of different compounds and elements has lately received particular attention from many chemists, great light having been thrown on the subject by the researches of Kopp, Schröder, Felhol, Playfair, and Joule.—See Specific Gravity.

Atom'ic Weight, *n. pl.* (*Chem.*) See Atomic Theory.

At'omism, *n.* [Fr. *atomisme.*] The doctrine of the atomic philosophy.

At'omize, *v. a.* To make speculations respecting atoms. —*v. a.* To reduce to atoms.

Atomol'ogy, *n.* [Gr. *atomos*, atom, and *logos*, discourse.] The doctrine of atoms.

Atou'do y Antil'lon, Don Isidoro, a Spanish admiral of the 16th century, represented to be the first Spaniard who took possession of California. With 2 ships and 100 men, *A.* sailed from Chacala, Mexico. After undergoing many privations, and fighting many battles with the Indians, he made, in Oct., 1583, for the large bay in 26° 30′ Lat., to which he gave the name of St. Bruno. Here he took ceremonial possession of the prov. of Lower California, in the name of the Spanish government.

Atone', *v. n.* [*at* and *one*, as in Lat. *ad*, to, and *unus*, one; *i. e.*, to be as one, to reconcile, which is the primary meaning of the word.] To stand as a substitute or an equivalent for; to stand for; to make expiation.

"The murderer fell, and blood *atoned* for blood."—*Pope.*

—*v. a.* To make reconciliation; to expiate; to satisfy, or render satisfaction.

"Or each *atone* his guilty love with life."—*Pope.*

Atone'ment, *n.* A substitution of something offered, or of some personal suffering, for a penalty which would otherwise be exacted; expiation; satisfaction; reconciliation.

"Surely it is not a sufficient *atonement* for the writers, that they profess loyalty for the government."—*Swift.*

"He seeks to make *atonement*
Between the Duke of Glo'ster and your brothers."—*Shaks.*

(*Theol.*) In theology, *A.* has respect to offences committed against the Deity; it is partly connected with that of *sacrifice*, q. v.; but it is not identical with it; for it is not certain that all sacrifices had *A.* for their object; and sacrifice, as commonly understood, was only one among other methods of *A.* — The practice of *A.* is remarkable for its antiquity and universality, proved by the earliest records that have come down to us of all nations, and by the testimony of ancient and modern travellers. In the oldest books of the Hebrew Scriptures, we have numerous instances of expiatory rites where *A.* is the prominent feature, occupying, in fact, a large portion of the four last books of the Pentateuch. In some cases the *A.* was made for a specific offence (*Lev.* iv.; *Num.* xvi. 46); in others it had reference to a state of transgression, as especially in the case of the scape-goat, on the day of expiation. (*Lev.* xvi.) — The offender again either atoned by his own personal act, or received the benefit of *A.* by the act of another. (*Lev.* iv.) At the earliest date to which we can carry our inquiries by means of the heathen records, we meet with the same notion of *A.*—The practice of *general* atonement among the heathen nations, whatever may have been its origin, must have been greatly encouraged by a certain article in the popular creed, which is probably expressed pretty accurately by the saying put into the mouth of Solon by Herodotus, that "the Deity is altogether a jealous being, and fond of troubling the even course of affairs." — An instance of *A.* meets us in the very opening of the Iliad. Agamemnon having offended Apollo in the person of his priest, by refusing a ransom for his daughter, is not content with restitution, but proceeds to atone for his fault by an offering, the purpose of which is declared by Ulysses (*Il.* i. 442): "Agamemnon sent me to sacrifice a sacred hecatomb to Apollo in behalf of the Danai, that we may appease the Sovereign God."—Among the many other instances which will readily occur to a reader of the ancient classics, the sacrifice of Iphigenia by her father, to appease the wrath of Diana, is distinguished by the remarkable circumstance of the substitution of one victim for another by the offended goddess. — If we pursue our inquiries through the accounts left us by the Greek and Roman writers of the barbarous nations with which they were acquainted, from India to Britain, we shall find the same notion and similar practices of *A.* It shows itself among the various tribes of Africa, the islanders of the South seas, and even that most peculiar race, the natives of Australia, either in the shape of some offering, or some mutilation of the person. — It is all but universally acknowledged by the believers in revelation, that the Levitic *A.* were, in part at least, typical of that one great sacrifice on which the Christian doctrine of the atonement is founded. The nature of this publication does not allow us to consider this part of the subject at a length and in a manner suited to its importance. We can do little more than state what is understood by the Christian when he speaks of the *A.* He does not consider man, according to the heathen notion already mentioned, to be the object of a capricious and vengeful enmity, but through a sinful nature, and practices and affections conformable to that nature, to have come into a state of alienation from God; in other words, he believes that God is just and holy, that man has sinned, and must therefore be punished. This being his condition, he further believes that the Divine Being, revealed to us under the title of the Son of God, interposed between the sentence and its execution, suffered in our stead, and atoned by his death for our sin; that the immediate consequences were, remission of the original sentence, and restoration to a state which is still probationary, but in which man is made capable of a permanent reunion with his Maker. The believer in the doctrine of the *A.* supposes that the sacrifice was necessary according to a law fixed in the counsels of God (which law he also supposes to be revealed to us) that sin must be atoned for before it can be pardoned; but he distinguishes between the necessity of the sacrifice itself, and the further purpose of God in causing it to be publicly made, and providing that it should be universally known. He supposes the knowledge of the fact to be necessary to the formation of the Christian character, and its moral consequences to be a deeper sense of the turpitude of sin; whereas there might otherwise be danger lest that should be lightly accounted of which appeared to have been lightly forgiven; and also a new and powerful motive to a love of the Supreme Being, supplying a remedy for that selfish principle which might prevail, if the only motives to obedience were the hope of reward and the fear of punishment. — We have endeavored to state the doctrine of the *A.* in such terms as may be accepted by all who accept the doctrine itself on the authority of Scripture. — We have also without qualification called the doctrine in question a doctrine of the Christian religion; though we are well aware that there are some whose views of the gospel dispensation and interpretation of Scripture have led them, while fully admitting the divine origin of Christianity, to reject as unscriptural the doctrine of the *A.* But our space being limited, we are obliged, with due deference to all religious thinkers, to limit ourselves to the general belief.

Aton'er, *n.* One who atones.

Aton'ic, *a.* [Gr. *a*, priv., and *tonos*, tone.] (*Med.*) Wanting tone.

(*Gram.*) Unaccented.

—*n.* (*Med.*) A medicine capable of allaying organic excitement or irritation.

(*Gram.*) An unaccented word.

Aton'ing, *p. a.* Reconciling; making amends or satisfaction.

At'ony, *n.* [Gr. *a*, not, and *tonos*, tone.] (*Med.*) A term used to denote deficiency in power or tone; generally applied to muscular power.

A'tooi, one of the largest of the Sandwich Islands, in the South Pacific Ocean. *Area*, 500 sq. m.; Lat. 21° 57′ N.; Lon. 159° 39′ W. *Pop.* 55,000.

Atop'. [*a* and *top.*] On the top: at the top.

"*Atop* whereof, but far more rich, appeared
The work as of a kingly palace-gate." — *Milton.*

Atos'sa, daughter of Cyrus, 530 B.C.; was successively married to Cambyses, Smerdis, one of the Magi, and, Darius, son of Hydaspes, the last of whom she incited to invade Greece. — A poetical name given by Pope, in his *Moral Essays*, to Sarah, Duchess of Marlborough.

Atouqui'a, a seaport of Portugal, in the prov. of Estremadura, 42 m. N. by W. of Lisbon.

Atrabila'rian, Atrabila'rious, *a.* [Lat. *ater. atra*, black; *bilis*, bile.] Melancholy; full of bile.

Atrabila'riousness, *n.* The state of being melancholy.

Atrabil'iary, *a.* (*Med.*) Melancholic; hypochondriac; from the supposed predominance of an imaginary acrid substance named *atrabilis*, said to be secreted by the pancreas or by the supra-renal capsules. Hence the epithet of *A.* was given to the renal capsules, arteries, and veins.

Atrabil'ious, *a.* Melancholic or hypochondriac.

Atra'gene, *n.* (*Bot.*) A genus of plants, tribe *Ranunculaceæ.* The whorl-leaved Virgin's Bower, *Clematis verticillaris*, is a handsome climber, found in highland woods in the U. States. Stem ascending trees 15 ft. by means of its twisting petioles. At each node is a whorl of four 3-foliate leaves, and 2 large purple flowers, blossoming in May and June.

Fig. 229.
VIRGIN'S BOWER.

Atrament'al, Atrament'ous, *a.* Inky; black; as, an *atramentous* quality.

Atrament'um, *n.* [Lat.] (*Antiquity.*) This term was applied to any black coloring substance, for whatever purpose it might be used. The inks of the ancients seem to have been more durable than our own; they were thicker and more unctuous, in substance and durability more resembling the ink now used by printers. An inkstand was discovered at Herculaneum, containing ink as thick as oil, and still usable for writing. *Fig.* 230 represents an inkstand found at Pompeii, and the mode of reading an ancient book. The ancients used inks of various colors. Red ink, made of *minium* or vermilion, was used for writing the titles and beginnings of books. So also was ink made of *rubrica*, "red ochre;" and because the headings of *laws* were written with rubrica, the word rubric came to be used for the civil law. So *album*, a white or whited table, on which the prætors' edicts were written, was used in a similar way. A person devoting himself to *album* and *rubrica*, was a person devoting himself to the law.

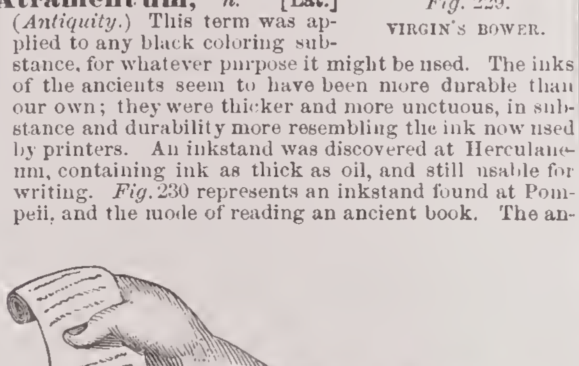


Fig. 230.

Atra'ni, a small seaport of S. Italy, prov. of Principato Citra, on the Gulf of Salerno, near Amalfi; *pop.* about 2,200.

Atra'to, a river of S. America, in the United States of Colombia, dep. of Choco, which after a course of 200 miles northerly, enters the Gulf of Darien. Small vessels can ascend it as far as Citara, 140 m. from its source. It was purposed to connect this river with that of the San Juan, and thus form a canal which will join the Atlantic and Pacific.

Atre'us, (*Myth.*) son of Pelops and Hippodamia. He and his brother Thyestes murdered their half-brother Chrysippus, from jealousy of the affection entertained for him by their father. Thereupon, they fled to Eurystheus, with whose daughter, Ærope, *A.* united himself, and, after the death of his father-in-law, became king of Mycene. Thyestes, yielding to an unlawful passion for the wife of his brother, dishonored his bed, and had two sons by her. *A.*, after the discovery of this injury, banished Thyestes with his sons. Thirsting for revenge, Thyestes conveyed away secretly a son of his brother, and instigated him to murder his own father. This design was discovered, and the youth, whom *A.* thought to be the son of his brother, was put to death. Too late did the unhappy father perceive his mistake. A horrible revenge was necessary to give him consolation. He pretended to be reconciled to Thyestes, and invited him, with his two sons, to a feast; and after he had caused the latter to be secretly slain, he placed a dish made of their flesh before Thyestes, and, when he had finished eating, brought the bones of his sons, and showed him, with a scornful smile, the dreadful revenge which he had taken. At this spectacle, the poets say, the sun turned back in his course, in order not to throw light upon such a horrible deed.

A'tri, or **A'tria** (*anc. Atrium*), a town of S. Italy, prov. of Teramo, 5 m. from the Adriatic, on a steep mountain; *pop.* about 11,000.

At'ridæ. See Agamemnon.

A-trip', *adv.* (*Naut.*) An anchor is said to be *a-trip* at the moment it is drawn out of the ground in a perpendicular position. A top-sail is *a-trip* when it is just started from the cap.

Atripal'da, a town of S. Italy, prov. of Avellino, on the Sabbato; *pop.* 5,175.

At'riplex, *n.* (*Bot.*) A genus of plants, ord. *Chenopodiaceæ.* The species *A. hortensis*, Garden or Golden Orache, sparingly naturalized in cultivated grounds, is an annual plant; stem erect, herbaceous, 3 ft. or more high, with thick leaves of a uniform color on both sides; flowers green, in terminal, interrupted racemes or spikes, blossoming in July. It is sometimes cultivated as a potherb. — The species *Patula, Arenaria, Laciniata*, and *Alimus*, are also found in our country.

A'trium, *n.*; *pl.* Atria. [Gr. *aithrios*, exposed to the air.] (*Arch.*) The entrance-hall and most splendid apartment of a Roman house. It consisted of a large covered court, with an opening in the centre of the roof, termed the *compluvium*, through which the rain-water descended into a cistern let into the floor beneath. It was the most highly decorated apartment in the whole house. Upon the walls were drawings representing ancient mythological incidents, surrounded by borders formed of elegant arabesques. Even the floors were frequently enriched with pictures executed in mosaic. The owner of the house here received his morning visitors; and here the mistress superintended the labors of her female slaves, while engaging in weaving or other occupations. The temples also had atria, where the senators and others sometimes held meetings.

Fig. 231. — ATRIUM OF THE VILLA OF DIOMEDES AT POMPEII.

Atro'cious, *a.* [Fr. *atroce;* Lat. *atrox, atrocis*, from

ater, black, dark, gloomy.] Extremely heinous, criminal, or cruel; enormous; flagitious; horrible; frightful.

Atro'ciously, *adv.* In an atrocious manner.

Atro'ciousness, *n.* Quality of being atrocious.

Atro'city, *n.* [Fr. *atrocité.*] Enormous wickedness; enormity; horrible cruelty.

At'ropa, *n.* [Gr. *atropos*, inflexible; the name of one of the Parcæ, *q. v.*] (*Bot.*) A genus of plants, order *Solanaceæ*. — *A. belladonna*, the Deadly Nightshade, is very common in Europe, and happily not naturalized in our country. All parts of the plant are narcotic, and the berries, which are of a black shining color like black cherries, are very attractive, often fatally so, to children. It owes its poisonous quality to the presence of an alkaloid called *atropine*, which exists in the plant in combination with malic acid. Belladonna is much used in medicine to allay pain and spasmodic action, &c., to cause dilatation of the pupil, and as a prophylactic against scarlatina.

At'ropal, At'ropous, *a.* (*Bot.*) The same as Orthotropous, *q. v.*

At'rophied, *p. a.* Affected with atrophy; wasted away.

At'rophy, *n.* [Fr. *atrophie;* Lat. and Gr. *atrophia;* from Gr. *a*, priv., and *trophē*, nourishment.] (*Med.*) A term which denotes a wasting, from deficient nutriment, either of a part, or of the whole body. In order to maintain a healthy state of the body, or of any of its organs, a certain supply of nutrition is required to meet the waste that is constantly going on. When, from any cause, the supply of nutrition is not able to meet this waste, the natural dimensions of those parts are reduced. In a healthy condition of body, an exact balance is maintained between the waste and the supply; but in every morbid condition this balance is more or less disturbed, in consequence of which the whole body, or certain parts of it, receive too little or too much nourishment. The first state, from whatever cause it arises, is termed *atrophy;* the latter, *hypertrophy*. *A.* may thus arise from a vast variety of causes. It may be occasioned by merely withholding the necessary supply of nutritious food, without any actual disease. Among the diseases capable of producing *A.*, the most common are those of the digestive organs, by which the aliment is taken up and prepared for assimilation. Disease of the organs of assimilation may produce *A.* as effectually as disease in the primary organs of digestion. A frequent instance of this is in consumption, when the lungs become so diseased as not to be able to receive a sufficient quantity of air. *A.* may result also from a want of activity in an organ, or in the whole body; so that when the nutritive particles are conveyed to them in the blood, they have not power to appropriate a sufficient quantity of them. When the vital activity of an organ is small, the nutritive particles are taken up slowly and languidly; while, the affinity existing between them being also weak, they are sooner removed by the process of absorption than in health, and the parts thus circumstanced are rapidly wasted. Hence, a due supply of nervous stimulus is necessary to the vital activity of an organ, while the cessation of action in any organ is invariably followed by *A.* The first change that takes place in an atrophied organ, from whatever cause, is diminution of the quantity of blood sent to it; and next to this, and chiefly owing to it, is greater paleness of color. Subsequently, the organization becomes more completely changed, so that frequently all traces of its original conformation are lost, and, in some cases, it at last disappears altogether. In all cases, *A.* arises from the diminution or perversion of the vital energies, generally the former; and hence, by exciting the natural vital energies of an organ, we tend to remove *A.* In order to its cure, it is necessary to discover in what organ or organs the deficiency or perversion exists. The discovery of this is often difficult, and the removal of it, when discovered, is often more difficult.

At'ropic Acid, *n.* (*Chem.*) Long volatile crystals, in union with atropine, in the root of the *Atropa belladonna*, obtained as atropate of ammonia in the liquid from which atropine is precipitated by ammonia.

At'ropine, Atro'pia, *n.* (*Chem.*) A substance obtained from the root of *Atropa belladonna*, in white silky prisms, without smell, with a bitterish taste; soluble in 500 cold, and 30 parts boiling water, and in 8 parts of cold alcohol. It is strongly alkaline in its action. Extract of belladonna is much used to dilate the pupils in affections of the eye.

At'ropos. [Gr. *inexorable.*] (*Myth.*) One of the Parcæ, daughters of Nox and Erebus. According to the derivation of her name, she is inexorable, and her duty among the three sisters is to cut the thread of life, without any regard to sex, age, or quality.

At'rypa, *n.* (*Pal.*) A genus of fossil brachiopod or lamp-shells, closely resembling *Terebratula*. Of the 179 described species, 100 are Silurian, 56 Devonian, 22 Carboniferous, and 1 Permian.

At'sion, in *New Jersey*, a village of Galloway township, Burlington co., 28 m. E.S.E. of Camden.

—A river, partly dividing Atlantic and Burlington counties, and uniting with Little Egg Harbor river.

At'ta, *n.* (*Zoöl.*) The visiting-ant; a genus of ants. See Formicidæ.

Attac'ca. [It., from *attacare*, to tie.] (*Mus.*) An expression signifying that a passage is to follow another immediately; e. g., *attacca allegro.*

Attach', *v. a.* [Fr. *attacher;* It. *attacare;* allied to Eng. *tack*, and Lat. *tango*, *tago*, to touch.] To affix; to annex: to cause to adhere; to fasten or fix to. — It is also used of the bonds of love, friendship, or interest.

"The great and rich depend on those whom their power or their wealth *attaches* to them."—*Rogers.*

(*Mil.*) To place or appoint by authority; as, an officer or soldier is said to be *attached* to any regiment or company with which he may have been ordered to do some duty.

(*Law.*) To take or apprehend by commandment of a writ or precept. — See Attachment.

Attach'able, *a.* That may be attached.

Attaché, (*at-tăsh-ai'*,) *n.* [Fr.] (*Diplom.*) A name given to certain young gentlemen who are attached to embassies in the capacity of assistants, with a view to their becoming familiar with the duties of the office, in order to their afterwards holding diplomatic appointments in the public service.

Attached', *p. a.* United; fastened by the bonds of interest, friendship, or love.

Attach'ment, *n.* [Fr. *attachement.*] State of being attached; adherence; fidelity; union or bond of affection; tender regard.

"The Jews are remarkable for an *attachment* to their own country."—*Addison.*

—That which fastens or binds one thing to another; as, the *attachments* of a muscle.

—An adjunct attached to an instrument or machine; as the *æolian attachment*, which is an *A.* to the pianoforte whereby it may be converted into a wind instrument at the will of the player; the same keys that act upon the chords being so made as to operate, at the same time, or separately, upon reeds through which air is forced from a bellows moved by the foot.

(*Law.*) The taking into the custody of the law the person or property of one already before the court, or of one whom it is sought to bring before it. — A writ for the accomplishment of this purpose. This is the more common meaning of the word.—*A. of persons.* A writ issued by a court of record, commanding the sheriff to bring before it a person who has been guilty of contempt of court, either in neglect or abuse of its process or of subordinate powers. — *A. of property.* A writ issued at the institution or during the progress of an action, commanding the sheriff or other proper officer to attach the property, rights, credits, or effects of the defendant to satisfy the demands of the plaintiff. — The laws and practice concerning the attachment vary in the different States.—An *A. of privilege*, in English law, is a process by which a man, by virtue of his privilege, calls another to litigate in that court to which he himself belongs, and who has the privilege to answer there.

Attack', *v. a.* [Radically the same as *attach;* but as the former becomes in Fr. *attacher*, so the latter *attaquer*, from the Celtic *tac*, or nail, which, as it is regarded as an object of striking, or a means of fastening, would suggest the ideas of attach or attack.] To come in contact with, forcibly or violently; to assault; to assail; to fall upon; to make an onset upon; to invade. — We may attack persons with weapons or words; opinions with the weapons of controversy; or an army may attack a country or a city.

—*n.* [Fr. *attaque.*] An assault; an onset; an invasion; a charge; — opposed to *defence.*

—*n.* (*Mil.*) An advance upon an enemy, with a view of driving him from his position. It may be made either upon an adverse army in the field, or upon a fortress. In every age, the most experienced generals have generally preferred making an *A.*, to protracting the war by tedious and indecisive manœuvres, which harass and dispirit their troops. The army making the *A.*, especially if unexpected, possesses manifest advantages over the enemy, which generally more than counterbalance even very considerable advantages on the other side. Hence, an experienced general always chooses, if possible, to keep his enemy on the defensive. The nature of the *A.* depends upon the condition and position of the enemy, upon the purpose of the war, upon the time, place, and other circumstances.

(*Med.*) A sudden invasion or onset of a disease: a seizure. One attacked or affected with severe disease is often said, in the U. States, to be *taken down*, or to be *down* with it.

Attack'able, *a.* That may be attacked.

Attack'er, *n.* One who attacks.

Attak'apas, (*at-tăck'a-paw,*) in *Louisiana*, an Indian name, meaning *man-eaters*, applied commonly to a large tract of ground including several parishes in the S. of the State. It is a rich country, producing large quantities of sugar and molasses which are shipped at Franklin, in St. Mary's parish. This appellation is purely local, and the name *A.* is generally omitted on the maps.

Attakem'bo, one of the Feejee Islands. Lat. 18° 25′ S.; Lon. 179° 0′ W.

Attain', *v. a.* [O. Fr. *attaindre;* Lat. *attingo*, from *ad*, and *tango*, to touch: Fr. *atteindre.*] To reach so as: to get hold of; to come to; to gain; to get or procure; to accomplish; to obtain. It implies sustained effort, or at least movement, in uniform direction.

"Canaan he now *attains;* I see his tents
Pitch'd above Sichem."—*Milton.*

—*v. n.* To come in contact with: to come to, or arrive at.

"Such knowledge is too wonderful for me; it is high; I cannot *attain unto* it."—*Psalm* cxxxix. 6.

Attainabil'ity, Attain'ableness, *n.* The state or quality of being attainable.

Attain'able, *a.* That may be attained.

Attain'der, *n.* [From O. Fr. *attaindre;* radically the same as Attain, *q. v.*] Taint; blemish; sully on character.

"So smooth he daub'd his vice with show of virtue,
He liv'd from all *attainder* of suspect."—*Shaks.*

(*Law.*) It is, by the common law, the corruption of blood, or *stain* consequent upon a person's being adjudged guilty of a capital offence, in which case the law set a note of infamy upon him, and put him out of its protection, taking no further concern about him, except if he should be executed. But this *A.* does not take place until judgment is pronounced against him. It might be by confession, as when the party pleaded guilty, or by verdict, when he pleaded not guilty, and was found guilty by the jury. There were, formerly, by the English law, various forfeitures incident to *A.*, such as incapacity to inherit or transmit property; but *A.* is scarcely known at present in the laws of the U. States; at least the term is of very rare occurrence in our laws, though there are some disabilities consequent upon conviction of perjury, or any other crime which makes a man infamous, such as incompetency to be a witness.

Attain'ment, *n.* The act or power of attaining.

"All things necessary for the *attainment* of eternal life." —*Hooker.*

—Acquisition; acquirement; accomplishment.

"They count it a great *attainment* to be able to talk much."
Granville.

Attaint', *v. a.* [See Attainder.] To disgrace; to cover with ignominy.

"For so exceeding shone his glistering ray,
That Phœbus' golden face it did *attaint.*" — *Faërie Queene.*

—To taint; to corrupt.

"My tender youth was never yet *attaint*
With any passion of inflaming love."—*Shaks.*

(*Law.*) To find guilty of high treason or felony, and thereby subject to forfeiture of civil rights, and corruption of blood. — See Attainder.

Attaint', *a.* Convicted or attainted. (R.)

—*n.* A stain; spot; taint. (O.)

(*Farriery.*) A blow or wound on the hinder feet of a horse.

(*Law.*) A writ at common law against a jury for a false verdict. It is obsolete in England, and has never been adopted in practice in the U. States.

Attaint'ed, *p. a.* Stained; corrupted; disgraced by attainder.

Attaint'ment, *n.* The state of being attainted.

Attaint'ure, *n.* A staining or rendering infamous; reproach; imputation.

At'tal, At'tle, *n.* [From Addle, *q. v.*] (*Mining.*) Rubbish or refuse consisting of broken rock containing little or no ore. —

At'tala, in *Mississippi*, a central county, containing about 630 sq. m. It is bounded by the Big Black river on the W. The surface is undulating, and generally fertile. *Cap.* Kosciusko.

At'talaville, in *Mississippi*, a village of Attala co.

Attale'a, *n.* (*Bot.*) A genus of trees, ord. *Palmaceæ*. They are found chiefly in the tropical parts of America, where they occupy the richest soil and the hottest forests. They have in general lofty cylindrical smooth stems, but there are some stemless species. The leaves are large and pinnate. The fruit has a dry fibrous husk, enclosing a nut with 3 cells and 3 seeds. The leaves of some species are much used for thatching, and those of some are woven into hats, mats, &c. The nuts of *A. excelsa* and of *A. speciosa* are burned to dry the India-rubber obtained from the *Siphonia elastica*, which acquires its black color from their smoke. The leaf-stalks of *A. funifera*, which is found in the southern maritime provinces of Brazil, and is there called Piassaba, yield a fibre much used for cordage. The name Piassaba, however, is more generally applied to the fibre of a northern palm, gen. *Leopoldinia*, q. v. The fruit of *A. funifera*, called Coquilla-nut, is as large as an ostrich's head, and supplies a kind of vegetable ivory used for making umbrella-handles, &c. The fruit of *A. compta*, the Pindóva or Indajá palm, is of the size of a goose's egg, and the kernels are eatable.

At'talus, the name of three kings of Pergamus, of whom there is nothing of historical importance to record.

At'talus, Flavius Priscus, a Roman Emperor, A. D. 409. See Alaric.

At'talus, lieutenant of Alexander the Great,—330 B. C., —who so strongly resembled that monarch, that at a distance one could not be distinguished from the other: a circumstance so opportune for Alexander, that he took advantage of it in order to deceive the enemy, or to conceal the execution of a project.

Attam', an extensive town of W. Africa, on the Old Calabar river; Lat. 6° 37′ N.; Lon. 9° 5′ E.

Attapul'gus, in *Georgia* a township of Decatur county.

Attar'am, a river of Asia, in British India, Tenasserim prov., rises in the mountains on the borders of Siam, and, after a course of 90 m., falls into the Gulf of Martaban.

At'tar, Ferid-Ud-Deen, a Persian poet, was B. at Khorassan, in 1119, and D. in 1202. His poetry was much admired, especially for the profound knowledge which he displayed in it of the doctrines of the Sufis.

At'tar (or Otto) **of Roses,** (Oil of Roses,) *n. pl.* (*Chem.*) An essential oil obtained from the petals of three species of rose, viz.: *Rosa centifolia*, *moschata*, and *damascena*. The rose-gardens at Ghazeepore in India have long been famed for the production of this precious liquid. These gardens are large fields, planted with rows of small rose-bushes. The blossoms, which unfold in the morning, are all gathered before noon, and their petals are at once transferred to clay stills, and distilled with twice their weight of water. The rose-water which comes over is placed in shallow vessels covered with moist muslin to exclude dust, and exposed all night to the cool air. In the morning the thin film of oil which has collected on the top is carefully swept off with a feather and transferred to a small phial. This process is repeated morning after morning, till nearly the whole of the oil is separated from the water. Heber says that about 20,000 roses are required to yield a rupee weight (170 grains) of *A.*; and this quantity is worth $50. *A.* is also imported from Smyrna and Constantinople; but it rarely, if ever,

arrives in this country pure. It is commonly adulterated with spermaceti and a volatile oil, which appears to be derived from one or more species of *Andropogon*, and which is called oil of ginger-grass, or oil of geranium. Pure *A.* of rose, carefully distilled, is at first colorless, but speedily becomes yellowish. It congeals below 80°; melts at 84°. At 57° 1,000 alcohol dissolve 7½ oil, and at 72°, 33 oil. *Sp. gr.* 872. *Form.* $C_{23}H_{23}O_3$. — Many attempts have been made to discover some chemical reaction which would reveal the falsification of Attar with Geranium oil, but hitherto mostly in vain.

Fig. 232.— ROSA DAMASCENA.

Attelab'idæ, *n. pl.* (*Zoöl.*) A tribe of insects belonging to the order *Coleoptera*, and family *Curculionidæ*. The larvæ of these beetles live either in the stems of plants, or in the fruits, which serve them both as a shelter and as food. Others live in young leaves, which they roll round them, and of which they only eat the parenchyma. They change their skin several times before they attain their full growth; having acquired which, they spin a cocoon of silk or tolerably solid resinous matter, and there undergo their transformations. The larvæ do great mischief to the plants upon which they live, but as beetles they are perfectly harmless.

Attem'per, *v. a.* [Lat. *attempero*, from *ad*, and *tempero*, to mix in due proportion.] In a general sense, to bring a thing to a state of internal or external harmony or consistency. — To mingle; to weaken by the mixture of something else; to dilute — as spirit with water. — To soften; to mollify.

"Those smiling eyes, *attemp'ring* ev'ry ray,
Shone sweetly lambent with celestial day." — *Pope.*

—To mix in just proportions; to regulate.

"She to her guests doth bounteous banquet dight,
Attemper'd, goodly, well for health and for delight."—*Spenser.*

—To fit to something.

"Phemius! let arts of gods and heroes old,
Attemper'd to the lyre, your voice employ." — *Pope.*

Attem'perment, *n.* Act of attempering. (R.)

Attempt', *v. a.* [O. Fr. *attempter*; Fr. *tenter*, and *attenter*; Lat. *attento* — *ad*, and *tento*, *tempto*, to grasp at, to try.] To make trial of; to experiment upon; to essay; to endeavor; to make an effort for; as, to *attempt* a task; to *attempt* to dance.

"I have nevertheless *attempted* to send unto you, for the renewing of brotherhood and friendship."—1 *Mac.* xii. 17.

—To make an attack upon; to invade; to venture upon; as, to *attempt* a surprise.

"Who, in all things wise and just,
Hinder'd not Satan to *attempt* the mind
Of man, with strength entire and free-will arm'd."—*Milton.*

(*Law.*) To endeavor to accomplish a crime carried beyond mere preparation, but falling short of execution of the ultimate design in any part of it.—To constitute an attempt, there must be an intent to commit some act which would be indictable, if done either from its own character, or that of its natural and probable consequences.

—*v. i.* To make an essay, trial, or endeavor; or, an attack.

"I have been so hardy to *attempt* upon a name, which among some is yet very sacred."—*Glanville.*

—*n.* An essay, trial, or endeavor; an attack, or assault; or an effort to gain an end.

"Alack! I am afraid they have awak'd,
And 'tis done; th' *attempt*, and not the deed,
Confounds us."—*Shaks.*

"If we be always prepared to receive an enemy, we shall long live in peace and quietness, without any *attempts* upon us."—*Bacon.*

Attempt'able, *a.* Liable to an attempt or attack; susceptible of trial or attack.

"The gentleman vouching his to be more fair, virtuous, wise, and less *attemptable*, than the rarest of our ladies."—*Shaks.*

Attempt'er, *n.* One who attempts.

Attend', *v. a.* [Lat. *attendo*—*ad*, and *tendo*, to stretch: Gr. *teinō*, to stretch.] To go or stay with; to wait upon; to accompany as an inferior or servant.

"His companion, youthful Valentine,
Attends the emperor in his royal court."—*Shaks.*

—To accompany, or be present with; to be united to, or coincident with; as, a sickness *attended* with fever; they *attended* together.

"He was at present strong enough to have stopped or *attended* Walter in his western expedition."—*Lord Clarendon.*

"A pungent pain in the stomach, *attended* with a fever."
Arbuthnot.

—To await; to abide, or be in store for; to stay for. (O.)

"I died while in the womb he stay'd,
Attending Nature's law."—*Shaks.*

—*v. i.* To yield attention; to apply the mind, with a view to perceive or comprehend, — usually coming before *to*.

"But, thy relation now! for I *attend*,
Pleas'd with thy words."—*Milton.*

—To wait; to be near at hand, or within reach or call.

"The charge thereof unto a covetous sprite
Commanded was, who thereby did *attend*
And warily awaited."—*Faërie Queene.*

Attend'ance, *n.* [O. Fr.] The act of attending, or being in waiting on; service.

"I dance *attendance* here,
I think the duke will not be spoke withal."—*Shaks.*

—The persons who attend; retinue; train; escort.

"*Attendance* none shall need, nor train."—*Milton.*

—Attention; regard; application of mind.

"Give *attendance* to reading, to exhortation."—1 *Tim.* iv. 13.

Attend'ant, *a.* [Fr. *attendant*, *pp.* of *attendre*.] Being present.

"Other suns, perhaps, with their *attendant* moons, thou wilt descry."—*Milton.*

—Accompanying; subordinate to; concomitant with; consequent upon.

"Govern well thy appetite, lest sin
Surprise thee, and her black *attendant*, death."—*Milton.*

—*n.* One who attends upon another, whether as friend, companion, servant, agent, or suitor.

"Dismiss your *attendant* there;
Look it be done."—*Shaks.*

—One who is present.

"He was a constant *attendant* at all meetings."—*Swift.*

—That which is united with another, or in relation to.

"The one being so close an *attendant* on the other,
That it is scarce possible to sever them."—*Decay of Piety.*

(*Law.*) One who owes a duty or service to another, or in some sort depends upon him.

(*Mus.*) *Attendant keys* are the keys or scales on the fifth above, and fifth below (or fourth above), any keynote or tonic, considered in relation to the key or scale on that tonic.

Attend'er, *n.* One who attends; an associate; a companion. (R.)

Atten'tates, Atten'tats, *n. pl.* [From Lat. *attentare*, to attempt.] (*Law.*) Proceedings in a judicial court pending suit, after an inhibition is decreed. Things wrongly attempted or done in a suit after an extra-judicial appeal.

Atten'tion, *n.* [Lat. *attentio*; Fr. *attention*.] The act of heeding or attending to; the close application of the mind to anything; carefulness; consideration; thought; solicitude; heed.

"They say the tongues of dying men
Inforce *attention* like deep harmony."—*Shaks.*

—Act of courteousness or civility; as, a polite *attention*.

Atten'tive, *a.* [Fr. *attentif*.] Regarding with attention; intent; heedful; full of attention; observant.

"The lion dropped his crested main,
Attentive to the song."—*Prior.*

Atten'tively, *adv.* With attention; in an attentive manner; heedfully.

"If a man look sharply and *attentively*, he shall see Fortune."
Bacon.

Atten'tiveness, *n.* State of being attentive; heedfulness; attention.

Atten'uant, *a.* [Fr. *atténuant*; Lat. *attenuans*, from *attenuo*.] Making thin; diluting; rendering less dense and viscid.

—*n.* (*Med.*) A medicine which augments the fluidity of the humors.

Atten'uate, *v. a.* [Lat. *attenuo*, *attenuatus*—*ad*, and *tenuo*, from *tenuis*, thin; Fr. *atténuer*.] To make thin; to render less consistent, or less viscid; opposed to *condense*.

"The ingredients are digested and *attenuated* by heat."
Arbuthnot.

—To reduce into fine or minute particles; to comminute.

—To make small or slender; to reduce in bulk; to emaciate. — To extend in length; to draw out fine.

—*v. i.* To become thin, fine, or slender; to lessen; to diminish in size.

Atten'nated, Atten'uate, *a.* Made thin or less viscid; comminuted; made slender; emaciated.

(*Bot.*) Tapering gradually to a thin or narrow extremity.

Attenua'tion, *n.* [Fr. *atténuation*; from Lat. *attenuatio*.] The act of attenuating, emaciating, or making thin; thinness; slenderness; leanness. — The act of comminuting; act of attrition; pulverization; as, the *attenuation* of those rocks.

(*Chem.*) In brewing and distillation, it is applied to the thinning or weakening of saccharine worts during fermentation, by the conversion of the sugar into alcohol and carbonic acid. It is usual to speak of so many degrees of *attenuation*, indicating the decrease of specific gravity by the fermentation.

(*Med.*) Thinness: emaciation. A term used by the homœopathists, in the sense of dilution or division of remedies into infinitesimal doses.

At'terbury, FRANCIS, an English prelate, B. 1662. He was a man of great learning and brilliant talents, equally distinguished as scholar, preacher, and writer. As dean of Westminster and bishop of Rochester, he was chaplain to William III. and Mary. After the death of Queen Anne, *A.* was one of the non-juring bishops, and in 1722 was committed to the Tower of London, on suspicion of his being privy to a plot to restore the Pretender. After a trial, he was banished from England, and D. at Paris, 1732.

At'tereliffe, a town of England, in the W. Riding of the co. of York, 1½ m. N. E. of Sheffield. *Pop.* (1895) 16,574, chiefly colliers and artisans.

Attermoie'ment, *n.* [Fr.] (*Canon Law.*) A making terms; a composition, as with creditors.

At'tersee, or KAM'MERSEE, a lake of Europe, in Upper Austria, 40 m. S.W. of Linz, about 12 m. long by 3 broad. The river Ager flows from its N. end.

Attest', *v. a.* [Fr. *attester*; Lat. *attestari*—*ad*, and *testari*, to bear witness, from *testis*, witness.] To bear witness to; to confirm; to certify; to affirm to be true, genuine, or real; as, to *attest* a *signature*.

"Many particular facts are recorded in Holy Writ, *attested* by particular Pagan authors."—*Addison.*

—To give proof or evidence of; to manifest; as, Athens *attests* its former supremacy in letters.

—To invoke as conscious; to call to witness.

"The sacred streams which heaven's imperial state
Attests in oaths, and fears to violate."—*Dryden.*

Attest', *n.* Witness; testimony; evidence; attestation. (R.)

Attesta'tion, *n.* [Fr. *attestation*; Lat. *attestatio*.] The act of attesting; testimony; witness; evidence.

(*Law.*) A solemn or official asseveration or declaration, written or spoken, in support of a fact. The signature of the name of a witness to any deed or writing is an *attestation*.

Attest'er, *n.* An attestor: one who attests to anything: a witness.

Attest'ive, *a.* Attesting; supplying evidence or proof. (R.)

Attest'or, *n.* Same as ATTESTER, *q. v.*

At'tic, *a.* [Gr. *Attikos*; Lat. *atticus*; Fr. *attique*.] Pertaining to Attica or to Athens.—Pure; elegant: classical; poignant; characterized by keenness of intellect, delicacy of wit, purity of elegance, soundness of judgment, and most expressive brevity; as, the *Attic* Muse.

Attic Dialect is that dialect of the Greek language which was spoken in Attica. It was the most refined and polished of all the dialects of ancient Greece; and in it wrote Solon the lawgiver, Thucydides and Xenophon the historians, Aristophanes the comic poet, Plato and Aristotle the philosophers, and Demosthenes the orator. When, after the Macedonian conquest, Greek became the language of literature and diplomacy in most parts of the civilized world, the *A.* came to be that dialect of the Greek tongue which was generally adopted.

(*Arch.*) *Attic*, and *Attic Order*, *n.* and *a.* A low order of architecture, commonly used over a principal order, never with columns, but usually with antæ or small pilasters. It is employed to decorate the façade of a story of little height, terminating the upper part of a building; and it doubtless derives its name from its resemblance in proportional height and concealed roof to some of the buildings of Greece. In all the best examples, and especially in the remains of antiquity at Rome, the Attic is decorated with a moulded base and cornice; often with pilasters and figures, as in the arch of Constantine; (see *Fig.* 178.) — In modern architecture, the proportions of the Attic order have never been subject to fixed rules, and their good effect is entirely dependent on the taste and feeling of the architect. — *A. Base.* The base of a column consisting of an upper and lower torus, a scotia and fillets between them; (see *Fig.* 222.)—*A. Story.* A term frequently applied to the upper story of a house, when the ceiling is square with the sides, to distinguish it from a garret.

At'tica, a division of the nomarchy of Attica and Bœotia, forming the eparchie of Athens, and anciently the most celebrated region of the Grecian people. It lies between Lat. 37° 39′, and 38° 22′ N., and Lon. 23° 20′ and 24° 5′ E.; bounded N. by Bœotia, E. by the Ægean sea, S. and S.W. by the Gulf of Ægina, and W. by the eparchie of Megara. *A.* is 44 m. long by 34 broad, with a rugged and, for the most part, barren soil. Its chief mountains are Nosea (*Parnes*), the loftiest; Elatea (*Cithæron*); Mendeli (*Pentelicus*), famous for its marble; Velo-vuni (*Hymettus*), and Laurini (*Laurium*), famous for its mines of silver. The chief plains are those of Athens and Marathon; rivers, the Cephissus and Ilissus. Good oil, honey, and grain are produced, and game is abundant. Athens is the principal city; the villages are mostly inhabited by Albanians. *A.* and Bœotia together form a nomarchy or government of Greece. *Area*, 2,472 sq. m. *Pop.* (1895) 185,364.—SEE ATHENS.

At'tica, in *Indiana*, a city of Fountain co., on the Wabash river and canal, 75 m. N. W. of Indianapolis.

At'tica, in *Iowa*, a post-village of Marion co. about 42 m. S.E. of Des Moines.

At'tica, in *Michigan*, a township of Lapeer co. —A post-office of Lenawee co.

At'tica, in *New York*, a thriving post-village of Wyoming county, on Tonawanda creek, 31 miles east of Buffalo, in Attica township, and 43 miles southwest of Rochester.

At'tica, in *Ohio*, a post-village of Venice township, Seneca co., 77 m. N. from Columbus, and 28 from Sandusky City.

At'tica, in *Wisconsin*, a post-village of Green co., about 25 m. S. of Madison.

At'tical, *a.* Pertaining to Attica, or to Atheus; Attic; pure; refined; classical. (O.)

At'ticism, *n.* [Fr. *Atticisme*.] The Attic style or idiom. A witty or pungent saying.—A partiality or regard for the Athenians.

At'ticize, *v. n.* To use Atticisms.

At'ticus, TITUS POMPONIUS, a noble Roman, the contemporary of Cicero, and Cæsar. He displayed such address and tact, that, during the war between Cæsar and Pompey, he managed to remain neutral; sent money to the son of Marius, while he secured the attachment of Sylla; and when Cicero and Hortensius were rivals, was equally intimate with both. When young, he resided at Athens, where he so secured the affections of the citizens, that on the day of his departure from that city, all went into mourning. He was an author and poet, and

reached the age of 77 without sickness. When at last he became ill, he refused all nourishment, and therefore ended his life by voluntary starvation. D. 32 B. C. He was a disciple of Epicurns.

At'tila, a famous king of the Huns, who ascended the throno with his brother Beda in A. D. 433. *A.* ruled the united empires of Scythia and Germany, and at the head of an army of 700,000 warriors, laid waste the Roman empire, and obliged the Emperor Theodosius II. to sne for peace, and pay hiu a yearly tribute of 500 lbs. weight of gold. After this, *A.* conquered the remaining tribes of Scythia and Germany which had not submitted to his arms, and consolidated his increasing power by murdering his brother and co-sovereign. He then essayed the conquest of the Persian empire, and led an immense army through the Cancasus; but after sustaining a great defeat in Media, *A.* was compelled to retire, leaving Persia unconquered. This news was received with exultation at Constantinople, but the Greek emperor soon learned to his cost that tho great Scythian was more than a match for him. In the following year, *A.* threw himself and his hosts on the proviuces of the Eastern empire, and ravaged the entiro country from the Euxine to the Adriatic. It was converted into a burning wilderness, and 70 of the finest cities of Macedonia, Thrace, and Greece, were laid in smoking rnins. It was ouly by enormous bribes, and the most abject submission, that Theodosius indnced *A.* to retire from his desolated dominions. *A.* now directed his views to Gaul, and with an imuense army crossed the Rhine in 450, and besieged the city of Orleans. This city was bravely and successfully defended, and thus gave time for the formiug of a coalition against him of the whole forces of Western Europe, comprisiug the Goths, Franks, Saxons, and Gauls, nnder tho Roman general Ætius, and Theodoric, king of the Visigoths. At Chalous, a great battle took place, in which *A.* was routed with, historians say, a loss of from 160,000 to 300,000 uien. He then retreated across the Rhine. In the following year, *A.* burst into Italy at the head of another immeuse army, and demanded from the Euperor Valentinian III. the hand of his sister Honoria, and the surrender of nearly half of the provinces of the empire. These terms being refused, he destroyed the cities of Aquileia, Padua, Viceuza, Verona, and Bologna, and laid waste the fertile plains of Lombardy. Pope Leo I. then went to the enemy's camp, and succeeded in obtaining peace. *A.* retired into Hungary, and the Romaus looked upon their preservation as a miracle. *A.* afterwards organized other expeditions against Gaul and Italy, but in 453, on the night of his marriage, he burst a blood-vessel, aud expired, to the unspeakable relief of both Europe and Asia. *A.* was buried in a triple coffin of gold, silver, and iron; and the captives who dng his grave were slaughtered by the Hnns in order to conceal his tomb. *A.* rejoiced in the name "*Scourge of God,*" applied to him by the world in which he lived.

Atti'la, in *Illinois,* a post-office of Williamson co.

Attinghau'sen, a village of Switzerland, canton of Uri, on the Reuss, 2 m. S.W. of Altorf. Here was born Walter Fürst, one of the great Swiss liberators.

Attire', *v. a.* [O. Fr. *attyrer, atourner,* to dress a bride.] To dress; to array; to clothe; to adorn; to prepare, adjust, or dispose, in relation to dress.

"Now the sappy boughs
Attire themselves with blooms."—*Philips.*

—*n.* [Fr. obsolete, *atours.*] Dress; clothes; head-dress;—usually applied to ornameutal dress.

"After that, the Roman *attire* grew to he in account, and the gown to he in use among them."—*Sir. J. Davies.*

—(*Sport.*) The horns of a buck or stag.

—(*Bot.*) The former name of the *stamens.*

Attired', *p. a.* Dressed; decked with ornaments.

(*Her.*) Applied to the horns of stags or bucks, when of a different tinctnre from their bodies or heads.

Attir'er, *n.* One who attires another; a dresser.

Attir'ing, *n.* Head-dress: dress; apparel. (R.)

At'titude, *n.* [Fr. *attitude;* L. Lat. *aptitudo,* from *apto,* to fit, to suit; It. *attitudine.*] Posture or position of the whole body in a state of immobility, either momentary or continned; as, "a graceful *attitude,*" "a threateniug *attitude.*" (*Worcester.*)—Figuratively, position or appearance of things in a consequential relation; as, "Let us preserve a firm *attitude.*"

(*Paint. and Sculp.*) The position and gestnre of a figure, by which the sentiment or passion of the persou represented is denoted. *A.* is to the limbs, what expression is to the featnres, and should be natnral, unconstrained, and varied. In a group of figures, the attitudes should be contrastive, and so composed as to balance and set off each other.

Attitu'dinal, *a.* Pertaining to attitude.

Attitudina'rian, *n.* One who attitndinizes, or assumes an attitude.

Attitu'dinize, *v. i.* To assume affected attitudes, airs, or postures.

"Maria, who is the most picturesque figure, was put to *attitudinize* at the harp."—*Hannah More.*

At'tleborough, in *Mass.,* a thriving town of Bristol co., ou Mill river, 31 m. S.S.W. of Boston. *Manuf.* Jewelry, printed calicos, metal huttons &c. *P.* (1890) 7,577.

At'tleborough, iu *Pennsylvania,* a post-village of Bucks co., 18 m. S.E. of Doylestown, and 8 m. N.W. of the Delaware at Bristol. Now called LANGHORNE.

At'tlebury, in *New York,* a post-office of Duchess co.

Attock', (anc. *Varanus,*) a fortified town of Hindostan, in tho Punjaub, on the Indus, 42 m. E.S.E. of Peshawnr. Lat. 33° 56′ N.; Lon. 71° 57′ E. *Pop.* about 3,200.

Attol'lent, *a.* [Lat. *attollens,* from *attollo—ad,* and *tollo,* to lift or raise.] Lifting up; raising; as, an *attollent* muscle.

—*n.* (*Anat.*) A term applied to some muscles, the office of which is to lift up the parts they are affixed to. The priucipal is the *A.* of the ear, *attollens aurem,* which arises from the tendon of the occipito-frontalis, and is inserted into the upper part of the ear, opposite to the antihelix. Its nse is to draw the ear upward, and to make the parts into which it is inserted, dense.

Attoo', ATTOU', or ATTU', the largest of the Aleutian Islands, in the Pacific ocean. *Ext.* 70 m. long by about 30 broad. *Desc.* Volcanic and sterile. Lat. 52° 58′ N.; Lon. 172° 17′ W.

Attoor', a fortified town of British India, presidency of Madras, 25 m. E. of Salem.

Attorn', *v. i.* [O. Fr. *attorner,* to direct, prepare; Lat. *attornare—ad,* and *torno,* to turn.] (*Feud. Law.*) To turn or transfer homage from one lord to another.

(*Mod. Law.*) To agree to become tenant to another to whom reversion has been granted.

Attor'ney, *n.; pl.* ATTOR'NEYS. [Mod. Lat. *attornatus,* a person set in place of another.] One who *takes the turn,* or acts iu the stead of another, especially in matters of law; one who practises iu the courts of commou law; a solicitor; a lawyer.

(*Law.*) An attorney is either public or special. The former is an oficer of a court, who is authorized by the laws aud the rnles of the court to represent suitors, without auy special written authority for the purpose. The rules and qualifications, whereby one is authorized to practise as an attorney in any court, are very different iu different countries, and in different courts of the same country. There are various statutes on this subject in the laws of the several U. States, and almost every court has certain rules, a compliance with which is necessary, in order to authorize any one to appear in court for, and represent any party to a suit, without a special authority under seal. The principle upon which these rules are founded, is the exclusion of persons uot qualified by honesty, good moral character, learning and skill, from taking upon them this office. Any attorney may, by malpractice, forfeit this privilege; and the court, in such case, strikes his name from the roll of attorneys. Still this does uot prevent his being a special attorney, with a specific power from any person who wishes to constitute hiu his representative; for every man, who is capable of contracting, has the power to confer upon another the right of representing him, and acting in his stead. Au attorney of a court has authority, for and in the name of his principal, to do auy acts necessary for conducting a suit, aud his employer is bound by his acts. A special attorney is appointed by a deed called a *power* or *letter of attorney,* and the deed by which he is appointed specifies the acts which he is authorized to do. It is a commission, to the extent of which only he cau biud his principal. As far as the acts of the attorney, in the name of the principal, are authorized by his power, his acts are those of his principal. But if he goes beyoud his authority, his acts will bind himself only; and he must indemnify any one to whom, without authority, he represents himself as an attorney of another, and who contracts with him, or otherwise puts confidence in hiu, as being such attorney.

Attorney-General of England. A great officer of state, created so by royal letters-patent, and the legal representative of the crown, in the courts of law and equity. He draws up informatious, prosecutes for the crown in criminal matters, files bills in the exchequer in revenue causes, and informations in chancery iu cases where the crown is interested. —(*U. States.*) In each State there is an *A. G.,* or similar officer, who appears for the people, as iu England he appears for the crown.

Attorney-General of the U. States. Au officer appointed by the President. His duties are to prosecute and conduct all suits in the supreme court in which the U. States shall be concerned, and give his advice upon questions of law when required by the President, or when requested by the heads of any of the departments of state, touching matters that may concern their department.

Attor'neyship, *n.* The office or duty of au attorney; agency or commissiou on behalf of another; proxy.

"But marriage is a matter of more worth,
Than to be dealt in by *attorneyship.*"—*Shaks.*

Attoyac', in *Texas,* a small river rising in Rnsk co., which, after a S. course, euters Angelina river at the S.E. extremity of Nacogdoches co.

Attract', *v. a.* [O. Fr. *attraicter;* Lat. *attraho, attractus—ad,* and *traho,* to draw.] To cause to approach, draw to, or tend to; to induce, to adhere or combine.

"The single atoms each to other tend,
Attract, attracted to, the next in place
Form'd aud impell'd its neighbour to embrace."—*Pope.*

—To draw by influeuce of a moral kind; to invite; to allure; as, to *attract* a womau's fancy.

"Deign to be lov'd, and ev'ry heart subdue;
What nymph could e'er *attract* such crowds as you?"—*Pope.*

Attractabil'ity, *n.* Quality of being attractablo; susceptible to the laws of attraction.

Attract'able, *a.* That may be attracted; susceptible to attraction.

Attract'ile, *a.* Having power to attract.

Attract'ingly, *adv.* In an attracting manner.

Attraction, (*at-trăk'shun,*) *n.* [Fr.; Lat. *attractio.*] The act of attracting; the act of drawing together: the result of the principle of attraction.

"*Attraction* may be form'd by impulse, or some other means; I use that word, to signify any force by which bodies tend towards one another."—*Newton.*

—The power of allnring or enticing; the act of drawing to; charm; allurement; as, the *attraction* of a pretty face.

"But her eyes
Were black as death, their lashes the same hue,
Of downcast length, in whose silk shadow lies
Deepest *attraction.*"—*Byron.*

(*Phys.*) The power or principle by which bodies mutually tend toward each other; which varies according to the nature of the bodies attracted, and the circumstances uuder which this *A.* takes place. Hence *A.* is scientifically distinguished into the *Attraction of Cohesion, Attraction of Gravitation, Attraction of Electricity, Attraction of Magnetism,* and *Chemical Attraction.*—*A.* of cohesion is peculiar to the component particles of bodies, by virtne of which they are firmly connected and held together.—As the *A.* of cohesion is the causo of the solidity of small bodies, so is the *A.* of gravitation that chain which, being diffused over the solar systeu, preserves the planets in their orbits, aud makes them revolve about the centre of the system. That which in common language is called *weight,* is by philosophers explained to be *gravitation;* that is, a tendency to the centre of gravity. By gravitation a stone and all heavy bodies, if let fall from a height, are supposed to drop to the earth. All celestial bodies are supposed to have not only au *A.* or gravitation toward their proper centres, but that they mutually attract each other within their sphere. The planets tend toward the sun, and toward each other, as the sun does toward them. The earth and moon tend likewise reciprocally toward each. By this same principle of gravity, heaveuly bodies are kept in their orbits, and terrestrial bodies tend, as is supposed, toward the centre of the earth, and it is from this *A.* that all the motion, and consequently all the changes in the uuiverse, are supposed to arise.—*A.* of magnetism (or magnetic attraction), is the particular tendency of certain bodies to each other, as that of the magnet, which attracts iron.—Attempts have been made to deduce all these phenomena from one principle of *A.,* modified by an opposiug force of repulsion, but as yet without success. The idea of an attractive force acting as the bond of the universe was first introduced as a scientific hypothesis by Newton, and was violently combated by Leibnitz aud others.—See ADHESION, AFFINITY, COHESION, GRAVITATION, ELECTRICITY, MAGNETISM, &c.

Attrac'tive, *a.* [Fr. *attractif.*] Having the faculty or power of attracting or drawing to; as, "the *attractive* stone."— *Blackmore.*

—The quality of attracting by moral influence; alluring; engaging; inviting: euticing.

"Happy is Hermia, wheresoe'er she lies,
For she hath blessed and *attractive* eyes."—*Shaks.*

—*n.* That which attracts, invites, or allures.

"But the gospel speaks of nothing but *attractives* and imitation."—*South.*

Attrac'tively, *adv.* With the power of attracting, or drawing to; iu an attractive manuer.

Attrac'tiveness, *n.* The quality of being attractive.

Attrac'tor, *n.* Any one who, or auy thing which, attracts.

At'trahent, *a.* Drawing to; attracting; attractive.

—*n.* [Lat. *attrahens.*] That which draws or attracts, as a magnet.

"Our eyes will inform us of the motion of the steel to its *attrahent.*"— *Glanville's Scepsis.*

(*Med.*) A term sometimes applied to remedies which attract fluids to the parts to which they are applied, as blisters, rubefacients, &c.

At'tri, a large river of Hindostan, which, rising in the S. of Thibet, aud flowing through a pass of the Himalayas due S., falls into the main branch of the Ganges at Jafferege, after a course of 100 miles.

Attrib'utable, *a.* That may be attributed; ascribable; owing to.

"Much of the origination of the Americans seems to be *attributable* to the migrations of the Seres."—*Sir Matthew Hale.*

Attrib'ute, *v. a.* [Fr. *attribuer;* Lat. *attribuo—ad,* and *tribuo, tributus,* to assign, bestow, or give.] To give, assign, or apportion to; to allot; to ascribe; to impute; to yield as dne.

"The imperfection of telescopes is *attributed* to spherical glasses."
Newton.

At'tribute, *n.* [Fr. *attribut.*] It properly signifies a qnality or property ascribed or belonging to a person or thing. Of the several attributes belonging to any substauce, some are termed *essential* — those that are necessary to it, and go to form its character, as exteusion and attraction to matter; others are termed *accidental,* as rotundness in wood, or learning in a man.

(*Theol.*) The several qualities and perfections which we conceive to exist in God, and which constitute his proper essence; thus, justice, trnth, goodness, wisdom, &c., are called the *attributes* of God. Some distinguish them into *negative,* aud *positive* or *affirmative;* the former being such as to remove him from whatever is imperfect in the creature, as infinity, immutability, immortality; the latter being such as assert some perfection in him, which is in, and of himself, and which, in the creature, in any measure, is from him; as goodness, holiness, wisdom. Others divide them iuto *absolute* and *relative,* or into *communicable* and *incommunicable.*

(*Logic.*) The *attributes* are the predicates of any subject, or what may be affirmed or denied of anything; thus, mortality, imperfection, error, are *attributes* of *man,* as whiteness is an *attribute* of *snow.*

(*Fine Arts.*) A term used to signify certain symbols which accompany, distinguish, and characterize certain figures and allegories. Thus, the eagle and thunderbolt are the *A.* of Jupiter; the caduceus is the attribute of Mercury; tho trident of Neptune. Love is always represented with a bow and quiver; Justice, with a balance and sword, &c.

Attribu'tion, *n.* [Fr. *attribution;* Lat. *attributio.*] Act of attributing, or the quality ascribed; commendation.

Attrib'utive, *a.* [Fr. *attributif.*] That attributes; attributing; pertaining to an attribute.

—*n.* (*Gram.*) A word which is significaut of attributes; as

adjectives, verbs, and participles, which are *attributes of substances;* and adverbs, which denote the *attributes* only of *attributes*. The former may be called attributes of the first order; the latter, attributes of the second order.

Attrib'utively, *adv.* (*Gram.*) In an attributive manner.

Attrite', *a.* [Gr. *teipein;* Lat. *attritus.*] Ground down or worn by friction or rubbing.

"Or, by collision of two bodies, grind
The air *attrite* to fire." — *Milton.*

(*Theol.*) Repentance only from fear of punishment; opposed to *contrite.*

Attrite'uess, *n.* Being much worn, or attrite.

Attritiou, (*at-trish'un,*) *n.* [Fr.; Lat. *attritio — ad,* and *tritus,* to rub.] A rubbing of one thing against another; abrasion; act of wearing by friction or rubbing.

"The change of the aliment is effected by *attrition* of the inward stomach." — *Arbuthnot.*

—State of being worn by abrasion or rubbing.

—(*Theol.*) Grief for sin arising only from the fear of punishment; a *quasi* degree of repentance.

(*Geol.*) The wearing and smoothing of rocky or other rough surfaces, by the passage of water charged with gritty particles, by the descent of glaciers, or by the passage of sand-drift.

Attune', *v. a.* [*ad,* and *tune.*] To tune or put in tune; to adjust one sound to another; as, to *attune* an air to the violin.

—To make musical or accordant; to arrange fitly.

"Airs, vernal airs,
Breathing the smell of field and grove, *attune*
The trembling leaves." — *Milton.*

Att'wood, GEORGE, a distinguished English physicist, B. 1745; D. 1807. He is known by his treatise on the *Rectilinear Motion and Rotation of Bodies;* but principally by a mechanical contrivance known as *Attwood's Machine,* the principle of which merits some notice. — Perhaps no questions in mechanics are more interesting than those concerning the fall of bodies. They were, however, for a long time, the subject of only slight and inefficient experiments. Bodies fall in so short a time through so considerable a space, that it was found impossible to get to elevations, fitted in other ways for the purpose of experiment, sufficient to let us observe them easily. Besides, the resistance of the air, though very slight at the commencement of the fall of a body, yet becomes considerable as its velocity increases. The machine of *A.* proposes to reduce the velocity of falling bodies, and to enable us to observe their laws, by giving us time for experimenting, and by rendering the resistance of the air comparatively insignificant. — We give the following description from a work on astronomy, by W. J. Rolfe and J. A. Gillet, of Cambridge. The machine of *A.* consists of an upright column, with a pulley at the top, arranged to run with the least possible friction. Over this pulley passes a cord, to which are attached the equal weights *B* and *E. C* and *F* are movable shelves, the former of which has a circular hole in the centre, large enough to let the weight *B* pass through it. *A* is a clock, beating seconds, and carried by the pendulum *D.* When we wish to make the weight *B* fall, we place upon it a small horizontal bar of iron, which is too long to pass through the hole in the shelf *C.* When, therefore, the weight drops through this hole, the bar will be caught off and remain upon the shelf. If the weight *B,* with the bar upon it, be allowed to fall, it will be found that the force of gravity will pull it down one inch during one second. Now, adjust the shelf *C,* so that the bar shall be removed at the end of the first second; it will then be found that the weight will fall two inches the next second. At the end of the first second, then, the weight is projected vertically downward, with a velocity of two inches per second. If now the bar is left on during both seconds, the weight will be found to have fallen three inches during the 2d second. Hence, the force of gravity pulls the weight down the 2d second an inch further than its velocity at the beginning of this second would have carried it; that is, just as low as gravity would have pulled it from a state of rest. — By means of this same machine the case of a body projected vertically upward can be illustrated. While one of the weights is falling, the other weight is rising. Suppose that one bar be placed upon the ascending weight, and two on the descending weight: the second a little heavier than the first, so that it shall bear the same ratio to the whole weight now as the one bar used at first. We have already seen that this bar, acting during one second, will give one of the weights a velocity downward of two inches every second, and the other weight the same velocity upward. Suppose now that at the end of the first second both bars be caught off the descending weight, the other weight will rise not two inches, but only one during the next second. Had it not been for the action of gravity upon the bar resting on it, it would have risen two inches. But we have already seen that gravity acting upon this bar will cause the weight to fall one inch from a state of rest; hence it is pulled just as far from the place it would have reached as it would have been pulled from a state of rest. — See GRAVITY, MOTION, &c.

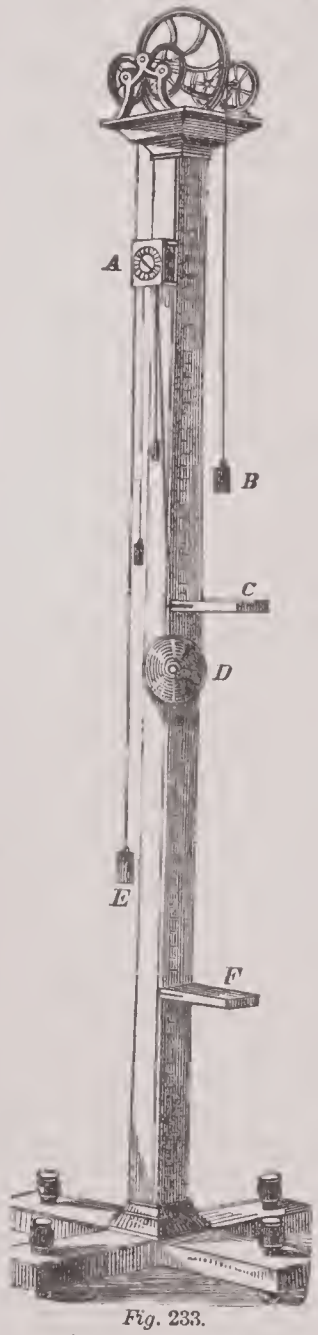


Fig. 233.

Atu'res, a town of S. America, in Venezuela, on the Orinoco, 105 m. N.N.E. of San Fernando.

At'water, in *Ohio,* a post-township of Portage co., 12 m. S. by E. of Ravenna.

Atweel', *interj.* [O. Eng., I wot well.] Very well. (Scottish.)

Atwist', *adv.* [Prefix *a,* and *twist.*] Awry; twisted; distorted. (R.)

At'wood, in *Indiana,* a post-office of Kosciusko co.

At'wood, in *Michigan,* a post-office of Antrim co.

At'wood's Key, a small island of the W. Indies, in the Bahama group, 33 m. N. by E. of Acklin Island; Lat. 23° 5′ N.; Lon. 73° 43′ W.

Atyp'ic, *a.* [Gr. *a,* priv., and *typos,* type.] (*Med.*) That which has no type; irregular; chiefly applied to an irregular intermittent.

Atyp'us, *n.* (*Zoöl.*) A genus of spiders — the species of which inhabit turfy declivities, where they form deep cylindrical excavations seven or eight inches long. In these they weave a kind of funnel of white silk of the same dimensions, and at the bottom of this cavity the cocoon in which their eggs are deposited is fixed by means of threads attached to each other.

Au, the name of a small town of Hungary; and of several villages in Germany.

Aubagne', (*ō-bān',*) a town of France, dep. of Bouches-du-Rhone, 10 m. E. of Marseilles, on the railway to Nice. It is divided into an old and a new town. The former is mean, and the latter well-built, supporting the fabrication of earthenware, paper, &c. *Population* 7,232.

Aubaine', *n.* [Fr., from O. Fr. *aubain,* a foreigner.] (*Fr. Law.*) A legal process formerly existing in France, by which the sovereigns claimed the property of a stranger who had died in their dominions without having been naturalized. The *droit d'aubaine* was abolished by laws of 1790 and 1791, re-established in 1804, and finally abolished July 14th, 1819.

Au'ban, MARQUIS DE ST., an eminent French general, B. about the middle of the 17th century. He served with distinction in the campaigns of Louis XIV., and was also a clever writer on military matters. D. 1713.

Aubbeen'aubbee, or **Aubbeen'ubbee,** in *Indiana,* a post-village of Fulton co., in a township of the same name, on the Tippecanoe river, 32 m. N. by W. of Logansport.

Aube, (*obe',*) a river of France, which, rising in the dep. of Haute-Marne, joins the Seine 23 m. N.N.W. of Troyes, after a course of 90 m. It is navigable from Arcis-sur-Aube.

Aube', a dep. of France, S.E. of Paris, lying between 47° 45′ and 48° 42′ N. Lat., and 3° 24′ E. Lon.; bounded on the N. by Marne, E. by Haute-Marne, S. by the Cote d'Or and Yonne, and W. by Seine-et-Marne. *Area,* 2,393 sq. m. The river Seine and its important affluent, the *A.* (whence the dep. takes its name), flow through it. — *Surface.* Generally flat; the soil of the region to the N. and W. of Troyes being chalky and barren, while that of the country to the E. and S. of that city, also chalky, has yet a thick coating of alluvial deposit which produces luxuriant crops of corn, hemp, and turnips. — *Forests.* Clairvaux, Orient, Montmorency, and Soulaines. *Towns.* The principal are Troyes (the cap.), Arcis-sur-Aube, Nogent-sur-Seine, Bar-sur-Aube, and Bar-sur-Seine. *Manf.* Cotton stuffs and yarn, porcelain, paper, &c. There are numerous beetroot-sugar factories, vinegar distilleries, &c. *Pop.* 261,961.

Aube'uas, a town of France, dep. Ardèche, cap. of a cant., near the Ardèche, beautifully situated at the foot of the Cevennes, 13 m. S.W. of Privas; *pop.* 9,181.

Aube'pine, *n.* The French name of the shrub *Mespilus oxyacantha.* — See MESPILUS.

Au'ber, DANIEL FRANÇOIS ESPRIT, a celebrated French musical composer, and member of the Institute, B. at Caen, Jan. 29, 1784. In 1813 he produced his first opera, *Le Sejour Militaire,* which proved so unsuccessful as to dishearten its composer. In 1820 appeared an opera in 3 acts, entitled *La Bergère Chatelaine,* which was well received. In 1823 he became associated with M. Scribe, who thenceforward supplied *A.* with the *librettos* for some of his greatest works. On the 29th of Feb., 1828, his *Muette de Portici* (better known to the world at large as *Masaniello*), was performed at the Grand Opera in Paris, with the words (libretto) by Scribe and G. Delavigne. It carried the public taste by storm, and at once took its place beside the greatest works of Rossini and Meyerbeer. From this time forward the musical career of *A.* became one grand series of successes. Having found the *opera comique* to be his proper forté, he devoted himself to that field of the musical drama, and brought out consecutively a multitude of operas some of which have attained a world-wide popularity and reputation. We give at foot the names and dates of his principal works. Some of the incidental airs of *A.*'s repertory have had an influence far beyond the world of musical amateurs. The famous air *Amour Sacré de la Patrie,* sung by Nourrit, gave the signal at Brussels for the Belgian revolution of 1830. For 40 years, *A.* was the most popular composer of the French school, and almost to the very day of his death he retained alike his vigor of mental genius and his physical strength. In 1861, *A.* was appointed a grand officer of the *Legion of Honor.* As chief director of the *Conservatoire de Musique, A.* displayed all the *verve* and indefatigable activity of a man of 40, and during the year 1868 produced the score of a new opera, — a surprising feat for a man of so advanced an age. The music of *A.* is light and easy; graceful, and often marked by originality. He possesses all the movement and clearness of Rossini, without, perhaps, all his subtilty and depth in the representation of passion. The following is a list of the principal works of *A.*, with the dates and places of their first performance. At the Grand Opera, Paris: *La Muette de Portici* (*Masaniello*), (1828); *Le Dieu et la Bayadère* (1830); *Le Philtre* (1831); *Le Serment,* or *Les Faux Monnayeurs* (1832); *Gustave,* or *Le Bal Masqué* (1833); *Le Cheval de Bronze,* ballet-opera (1857). — At the Opera Comique, Paris: *La Neige* (1823); *Le Macon* (1825); *La Fiancée* (1829); *Fra Diavolo* (1830); *Lestocq* (1834); *Le Cheval de Bronze* (three-act opera), (1835); *L'Ambassadrice* (1836); *Le Domino Noir* (1837); *Les Diamants de la Couronne* ("Crown Diamonds"), (1841); *La Sirène* (1844); *Haydée* (1847); and *Le Premier Jour de Bonheur* (1868). D. 1871.

Auberge', *n.* The French name for an inn, or tavern.

Au'bergine, *n.* The French name of the egg-plant, *Solanum melongena.*

Au'bergist, *n.* [Fr. *aubergiste.*] One who keeps an inn or tavern. (R.)

"The *aubergist* at Terni." — *Smollett.*

Au'bert du Bayet, JEAN BAPTISTE ANNIBAL, a French general, B. in Louisiana, in 1753. He served under La Fayette in the war of American Independence. On his return to Europe, he was elected a member of the Constitutent Assembly, where he belonged to the party of the Girondins. He afterwards fought under Kellermann, at Valmy, and conducted the defence of Mayence. D., ambassador at Constantinople, in 1797.

Auberviliiers, or NÔTRE-DÂME-DES-VERTUS, a village of France, dep. Seine, near Paris. Great quantities of garden-stuff for the supply of that metropolis are raised here.

Au besoin. [Fr., in case of need.] (*Com.*) "*Au besoin chez Messieurs —— à ——.*" "In case of need, apply to Messrs. —— at ——." A phrase used in the superscription of a bill of exchange, pointing out the person to whom application may be made for payment in case of failure or refusal of the drawer to pay.

Aubes'pine, a noble French family, of which the following were the most distinguished members:—

A., CLAUDE DE L', *Baron de Chateauneuf;* who was Secretary of State and Finance from 1542 till his death in 1567. He was employed in the most important political negotiations of the reigns of Francis I., Henry II., and Charles IX.

A., CHARLES DE L', *Marquis de Chateauneuf,* brother of the preceding, was B. in 1580. He was sent on successive missions to Holland, Germany, Venice, and England; succeeded his father, in 1621, as Chancellor, and was named, in 1630, Keeper of the Seals. *A.* was imprisoned by order of Richelieu, from 1633 to 1640, and D. 1653.

Aubeterre, DAVID BOUCHARD, VICOMTE D', B. at Geneva, and appointed, by Henry III. of France, to the government of Perigord. *A.* rendered important services to Henry IV. during the wars of the League. He D. in 1598, from a wound received at the siege of Lisle.

Aubiere', a town of France, dep. of Puy-de-Dôme, 2 m. S.E. of Clermont, in the middle of the volcanic region of Auvergne; *pop.* about 4,000.

Aubigné', PIERRE D', a French historian and dramatist; B. 1550, near Pons, in France. He was a precocious linguist, having translated Plato's *Crito* at 7 years of age. In the employ of Henry IV., he wrote an able tragedy, called *Circé. A.* was a strenuous supporter of the Protestant faith, and was, in consequence, 4 times condemned to death. He passed the close of his life at Geneva, where he D. in 1630. *A.* was the grandfather of the celebrated Madame Scarron, or de Maintenon, who became the wife of Louis XIV. His principal work is: *Histoire Universelle depuis* 1550 *jusqu'à* 1661.

Aubig'uy, ROBERT STUART, SEIGNEUR D', a marshal of France in the 16th century, who was descended from a noble Scottish family. He passed the Alps with Charles VIII., and signalized himself at the defence of Novara, and in various battles and sieges. D. 1544.

Au'bin, *n.* [Fr. *aubin,* amble; Lat. *ambalatura.*] A canter; broken or mixed movement or pace in a horse, somewhat between an amble and a gallop; sometimes called a *Canterbury Gallop.* — See CANTER.

Au'bin, St., a town of France, dep. Aveyron, cap. of a canton, 18 m. N.E. of Villefranche, on a branch of the Southern railway. In the neighborhood are the volcanic mountains of Foutagnes and Buegne, which have been burning for ages, and from which great quantities of alum and sublimated sulphur are obtained. The alum is sufficient for the entire supply of France. *Pop.* 3,325.

Au'bin, St., a fine seaport town of Jersey, one of the

Channel islands belonging to Great Britain. It is opposite to St. Heliers, on the W. of the bay of the latter. The largest ships may anchor inside the pier at St. Aubin's Castle, close at hand. *Pop.* 2,276.

Au'biu du Cormier, St., a village of France, in Brittauy, where on the 28th of July, 1488, a battle was fought between the Bretons and the French, in which the latter were victorious, and took possession of *A.* Among their prisoners were the Prince of Orange, and the Duke d'Orleans. A body of 400 English archers, under Lord Woodville, were cruelly put to death after the battle.

Au'bonne, a town of Switzerland, cant. Vaud, on the river Aubonne, 14 m. W. by S. of Lausanne, on the railway to Geneva. There is a fine castle here, which commands a famous view. It was built by the counts of Gruyère, and afterwards belouged to Tavernier the celebrated traveller.

Au'brey, JOHN, an eminent English antiquary, B. 1626. He contributed largely to Dugdale's *Monasticon Anglicanum*, and the *Athenæ Oxonienses;* and was also the author of valuable *Miscellanies*, which are now in the university of Oxford. He was the friend of Milton, Dryden, and Hobbes. D. in 1697.

Au'brey, or AU'BRY, in *Arizona*, a post-village of Mohave co., on the river Colorado, at the mouth of Bill Williams' Fork.

Au'brey, in *Kansas*, a village and township of Johnson co., about 36 m. E.S.E. of Lawrence.

Aubrie'tia, *n.* (*Bot.*) A genus of ornamental, evergreen, herbaceous, hardy, trailing plants, ord. *Brassicaceæ.* The species are 3 in number, about 3 inches in height, producing purple flowers from March till June; and are very common in all sorts of gardens. They were only recently erected into a genus, and formerly belonged to the genera *alyssum*, *arabis*, and *draba*.

Aubri'ot, HUGUES, a provost of Paris, in the 14th century. He is principally notable for having been the builder of the Bastille, in which he was himself subsequently imprisoned. D. 1382.

Au'bry, in *Arizona*. See AUBREY.

Au'bry de Montdidier, a French soldier, supposed to have been murdered by his comrade, Richard de Macaire, in 1371. He is the hero of many dramas, founded on the details of the discovery of his murderer. *A.*'s faithful dog persisted in pursuing and harassing Macaire, and this coming to the ears of King Charles V., he ordered a fight to be tried betweeu them. The dog was victorious, and he has ever since been famous in story as the "*Dog of Montargis;*" from the place of the fight.

Au'burn, (*o'bern,*) *a.* [Fr. *brun;* A.S. *a*, and *brun*, from *byrnan*, *brennan*, to burn; Lat. *alburnus.*] Reddish, or golden-brown.

> "Her brow was overhung with coins of gold,
> That sparkled o'er the *auburn* of her hair."—*Byron.*

Au'burn, the name of a village immortalized by Oliver Goldsmith in his *Deserted Village;* which has been identified with Lissoy, in Irelaud, near Athloue, co. Westmeath. Lissoy has since been called *Auburn.*

Au'burn, in *Alabama*, a village of Macon co., 60 m. N. E. of Montgomery.

—A township and village of Lee co.

Au'burn, in *Arkansas*, a post-office of Sebastian co.

Au'burn, iu *California*, a city, the cap. of Placer co., uear the junction of the N. and S. Forks of American river, 37 m. N.E. of Sacramento, and 97 m. N.E. of San Francisco. *Pop.* (1890) 1,595.

Au'burn, in *Illinois*, a village in Moultrie co., 3 m. N. of the Kaskaskia river, and 65 m. E. by S. of Springfield.

—A towuship of Sangamon co.; 17 m. S.S.W. of Springfield.

—A township of Clarke co.

Au'burn, in *Indiana*, a town, cap. of De Kalb co., on Cedar Creek; 134 m. of N. E. of Indiauapolis. and 22 N. of Fort Wayne. *Pop.* (1898) 2,980.

Au'burn, in *Iowa*, a post-village of Sac co., located on the Chicago and Northwestern Railway, and 16 m. S.E. of Sac City. *Pop.* (1898) 275.

—A village and township of Fayette co., on Turkey river, about 5 m. N.W. of West Union.

Au'burn, in *Kansas*, a post-village and township of Shawnee co., on Wakarusa Creek, about 13 m. S.S.W. of Topeka;

Au'burn, in *Kentucky*, a P.O. of Logan co.

Au'burn, in *Maine*, a city, cap. of Androscoggin co., on the river of the latter name, 34 m. N. of Portland. It enters largely into the boot aud shoe manufacture. *Pop.* in 1890, 11,250.

Au'burn, in *Massachusetts*, a post-township of Worcester co., about 5 m. W. by S. of Worcester.

Au'burn, in *Michigan*, a village of Oakland co., on Clinton river, 75 m. E. by S. of Lausiug, and 4 E. of Pontiac.

Au'burn, in *Missouri*, a post-village of Lincoln co., about 60 m. N.W. of St. Louis, and 12 N. of Troy.

Au'burn, in *New Hampshire*, a post-township of Rockingham co.

Au'burn, in *New Jersey*, a post-office of Salem co.

Au'burn, in *New York*, one of the most beautiful cities in the state, capital of Cayuga co., 174 m. W. of Albany, on the outlet of Owasco Lake, which is 2½ m. distant. Lat. 42° 53′ N.; Lon. 76° 40′ W. It contains a flourishing academy, a Presbyterian theological seminary incorporated in 1821, and numerous churches. Here also is the Auburn State Prison; (for particulars concerning this celebrated penal institution, see PENITENTIARY SYSTEM.)—*Manf.* Cotton, wool, carpets, iron, paper, &c., besides numerous mills. *Pop.* iu 1890, 25,858.

Au'burn, in *North Carolina*, a post-village of Wake co., 11 m. S.E. of Raleigh.

Au'burn, in *Ohio*, a township of Crawford co.

Au'burn, in *Ohio*, a post-township of Geauga co., about 27 m. S.E. by E. of Cleveland.

—A township of Tuscarawas co.

Au'buru, in *Oregon*, a post-village, former cap. of Baker co., near East Fork of Powder river, and 300 m. E. of Salem. Gold has been found in the neighborhood.

Au'burn, iu *Pennsylvania*, a post-village of Schuylkill co., 83 miles N.W. of Philadelphia, and 9 miles S.E. of Pottsville, on the Phila. & Reading aud Penna. R.Rs.; a coal shipping point. *Pop.* (1898) 1,040.

—A township of Susquehanna co.

Au'burn, in *Wisconsin*, a village and township of Fond du Lac co., 50 m. N.W. of Milwaukee.

Au'burn Centre, in *Pennsylvania*, a post-village of Susquehanna co., about 15 m. S.W. of Montrose.

Au'burndale, in *Massachusetts*, now included in the city of Newton, in Middlesex co.

Au'burn Four-Corners, in *Pennsylvania*, a post-office of Susquehanna co.

Au'burn Junction, in *Indiana*, a post-office of DeKalb co., 136 m. N.E. of Indianapolis.

Aubus'son, PIERRE D', Graud-Master of the order of St. John of Jerusalem, was B. in 1423. He sprung from an old French family. The Ottomans in his day began to threaten Enrope with a second Moslem invasion; and *A.*, having served in Hungary against them, determined to devote his life to their extirpation. He accordingly obtained from Louis XI. a commandery in the abovementioned order, and was shortly afterwards made Grand Prior, and intrusted with the defence of Rhodes. In 1476, he was elected Grand-Master. He held out the city of Rhodes against the Turks, in 1480, during a siege of 89 days, and forced them to retire with the loss of nearly 10,000 men. When Bajazet and Zizim disputed the succession to the Turkish throne, and the latter was worsted. he sought refuge with *A.*, who received him courteously, bnt afterwards basely surrendered him as a prisoner to Pope Alexander VI., for which service the latter created *A.* a cardinal. He D. at Rhodes, in 1503, in the 81st year of his age, of deep compunction for his treachery, denounced as it had been by Christendom at large.

Aubus'son, a town of France, dep. of the Creuse, cap. of an arrond. on the Creuse river, 20 m. S.E. of Guéret. It is picturesquely situated in a mountain gorge; and possesses, after those of the Gobelins and Beauvais, the most celebrated carpet-manufacture iu France. *Pop.* 6,551.

Auch, (*osh,*) a city of France, cap. of the dep. of Gers, on the railway from Agen to Tarbes. The best part of the city stands on the plateau of a hill, from which there is a fine view of the Pyrenees. It has a magnificent Gothic cathedral. *Trade.* Wine, and Armaguac brandy. *Pop.* 13,182.

Au'cheehach'ee, or AU'CHENEHATCH'EE, iu *Georgia.* See LITTLE OCMULGEE.

Au'chenairu, a village of Scotland, co. of Lanark, 3 m. N.E. of Glasgow. Near this place the Scottish patriot, Sir William Wallace, was betrayed to the English, by the "fause Monteith."

Auche'nia, *n.* See LLAMA.

Auchinu'ty, SIR SAMUEL, a distinguished British general, B. at New York, in 1756. He entered the army as a volunteer in 1776, and was present in the actions of White Plains and Brooklyn. He served afterwards with distinction in India, and Egypt. In 1806, he commanded the British forces in S. America, and carried by assault, in 1807, the city of Montevideo. In 1810, *A.* took the island of Java. D. 1822.

Aucil'la, in *Florida*, a post-office of Jefferson co.

Auck'land, a city aud former cap. of the British colony of New Zealand, in the island of New Ulster, at the extremity of Waitimata Bay. It is a rapidly growing, and improving place. *Pop.* of *A.* and suburbs, 51,127. Lat. 36° 51′ 30″ S.; Lon. 175° 45′ E. *A.* was founded 19th Sept., 1840, and the seat of government was transferred from it to Wellington, on the 24th Dec., 1864.

Auck'land, in New South Wales, a maritime county, 60 m. in length, by 40 in breadth.

Auck'land, in England. See BISHOP'S-AUCKLAND.

Auck'land Islands, a group lying in the Pacific ocean to the S. of New Zealand. Lat. 50° 48′ S.; Lon. 166° 42′ E. The largest of these islands is about 30 m. long, by 15 broad, and is covered with dense vegetation. They are almost entirely uninhabited, belong to the British, and are a station for whaling-ships.

Auc'tion, *n.* [Lat. *auctio*, from *augeo*, *auctus*, to increase.] A mode of public sale in which each succeeding buyer *increases* or *adds to* the price offered by the preceding, and the article put up for sale is given to the highest bidder.—A vendue; the things sold at auction.

> "Ask you why Phryne the whole *auction* buys?
> Phryne foresees a general excise."—*Pope.*

—*v. t.* To sell by auction, or vendue. (R.)

Auc'tionary, *a.* [Lat. *auctionarius.*] Pertaining or belonging to an auction. (R.)

> "And much more honest to be hir'd, and stand
> With *auctionary* hammer in thy hand."—*Dryden.*

Auctioneer', *n.* [Lat. *auctionator.*] One who sells by auction; a person who manages an auction; one who disposes of goods or lands by public sale to the highest bidder.

> "Dan Phœbus takes me for an *auctioneer.*"—*Byron.*

—*v. a.* To sell by auction, or public sale.

Aucu'ba, *n.* (*Bot.*) A genus of plants, order *Cornaceæ.* They are shrubs or trees, natives of Japan. The *A. Japonica*, or Japan laurel, is an evergreen shrub, 6 to 10 feet high; leaves ovate-lanceolate, acuminated, toothed, coriaceous, glabrous, shining, pale green; beautifully spotted with yellow, having the midrib rather prominent, the rest of the leaf reticulately veined. Petioles articulated with the branches. and dilated at the base. As hardy as the common laurel, it is readily propagated by cuttings, aud grows freely in any tolerably dry soil.

Fig. 234.—A. JAPONICA, (*Japan laurel.*)

Auda'cious, *a.* [Fr. *audacieux*, from Lat. *audeo*, to dare.] Daring; fearless; intrepid; confident; bold; without decorum. Daring effrontery; insolent; impudent.

> "Such is thy *audacious* wickedness."—*Shaks.*

Auda'ciously, *adv.* In an audacious manner.

Auda'ciousness, *n.* The quality of being bold or audacious; audacity; excess of boldness; impudence.

Audac'ity, *n.* Daring; boldness; confidence; venturesomeness.

> "Lean raw-bon'd rascals! who would e'er suppose
> They had such courage and *audacity.*"—*Shaks.*

—Audaciousness; effrontery; impudence; implying a contempt of law, or of moral restraint; as, "The —— take thy *audacity!*"

Audæ'us. See AUDIUS.

Aude, (*ode,*) a river of France, rising in the Pyrenees, which, after a flow of 130 m. N. and E., enters the Mediterranean near Narbonne. It gives its name to the following department.

AUDE', a maritime dep. in the S. of France, on the Mediterranean, divided from Spain by the dep. of the Pyrenees Orientales. *Area*, 2,246 sq. m. The *Aude*, from which it derives its name, is the only notable river; but it is also watered by the canal of Languedoc. The coast along the Mediterranean is low, and bordered by many lagoons. *Surface*, generally mountainous; having on the N. a prolongation of the Cevennes, while on the S. it is penetrated by spurs of the Pyrenees. *Climate*, variable; hot winds prevailing, which blow at times with violence, and in summer strikingly resemble the *sirocco.* Corn and wine are raised in great quantities, and a good deal of brandy is manufactured. The honey of Narbonne is the finest in France. *A.* is rich in iron, and other mineral products. There are also extensive manufactures of cloths, paper, combs, &c. *Prin. towns.* Carcassonne (cap. of the dep), Narbonne, Castelnaudary, and Limoux. *Pop.* 288,626.

Audenarde', in Belgium. See OUDENARDE.

Audenried', in *Pennsylvania*, a post-office of Carbon co.

Aud'enshaw, a township of England, in Lancashire, 4½ m. from Manchester, on the Ashton canal; *pop.* 5,969.

Au'dians, or **Audæ'aus.** (*Eccl. Hist.*) See ANTHROPOMORPHITES.

Audibil'ity, *n.* The state or quality of being audible; the power of being heard.

Au'dible, *a.* [Lat. *audibilis*, from *audio*, to hear.] That may be heard; perceptible to the ear; capable of souud; as, an *audible* whisper.

> "And speaking softly, the water returned an *audible* echo." *Bacon.*

Au'dibleness, *n.* Capability of being heard; quality of being audible.

Au'dibly, *adv.* In an audible manner; in such a manner as to be heard.

Au'dience, *n.* [Fr. *audience;* Lat. *audientia*, from *audio*, to hear, allied to Gr. *ous*, for *ous*, *ōtos*, the ear.] The act of hearing or listening to a speaker, or to souuds.

> "Thus far his bold discourse, without control,
> Had *audience.*"—*Milton.*

—Persons collected to hear; an assembly of hearers; an auditory.

> "The hall was filled with an *audience* of the greatest eminence for quality and politeness."—*Addison.*

—Admittance to a hearing; reception to an interview; more especially used in relation to an interview with a sovereign, or head of a government or state.

> "Let me have *audience;* I am sent to speak,
> My holy lord of Milan, from the king."—*Shaks.*

(*Politics.*) The ceremony of the admission of ambassadors or public ministers to a sovereign or other potentate, to deliver the credentials of their own monarch or state, is called an *audience.*

(*Hist. and Law.*) The name given to certain tribunals or courts of justice, established by the Spaniards in America. They were formed upon the model of the court of chancery in Spain.—Also, the name of one of the ecclesiastical courts in England, which is held whenever an archbishop calls for a cause to be argued before himself.

Au'dient, *a.* [Lat. *audiens.*] Paying attention to; listening; hearing.

Au'dit, *n.* [Lat., *he hears.*] An examination or adjustment of accounts, with a *hearing* of the parties concerned.—The result of an adjustment; a final account.

"And how his *audit* stands, who knows save heaven?"—*Shaks.*

—*v. a.* To examine and adjust an account or accounts; as, to *audit* the books of a public company.

—*v. i.* To take a final account.

"Bishops' ordinaries, *auditing* all accounts, take twelve pence." *Ayliffe.*

Au'dita quere'la. [Lat.] A form of action which lies for a defendant to recall or prevent an execution, on account of some matter occurring after judgment amounting to a discharge, and which could not have been, and cannot be taken advantage of, otherwise. In some of the U. States the *remedy by motion* has entirely superseded the ancient form; while in others, *audita querela* is of frequent use as a remedy recognized by statute.

Au'dit-house, *n.* An office belonging to a cathedral, in which is transacted all business affecting the diocese.

Audi'tion, *n.* Hearing; listening to. (R.)

Au'ditor, *n.* [Lat. *auditor*, from *audire.*] A hearer or listener.

"Are you now become so mean an *auditor?*"—*Sir P. Sidney.*

(*Law.*) An officer or officers of the court, assigned to state the items of debit and credit between the parties in a suit where accounts are in question, and exhibit the balance.

Audito'rial, *a.* Auditory. (R.)

Au'ditorship, *n.* The office or duty of an auditor.

Au'ditory, *a.* [Lat. *auditorius.*] Having the power of hearing; pertaining to the sense or organs of hearing.

(*Anat.*) Applied to certain parts of the organs of hearing: as, the *A.* nerve, *meatus auditorius*, &c.—See EAR.

—*n.* [Lat. *auditorium*, an audience.] An assemblage of persons gathered together for the purpose of hearing a preacher, lecturer, &c. In the ancient churches, the term *A.*, or *auditorium*, was applied to that part of the building where the people stood to be instructed, and hear the Gospel; it is now called the *nave.*

—A place where lectures or causes are to be heard, or discourses delivered.

Au'ditress, *n.* A female hearer; as, "She, sole *auditress.*" — *Milton.*

Audit'nal, *a.* Same as AUDITORY. (R.)

Au'dius, AUDÆUS, or UDO. See ANTHROPOMORPHITES.

Aud'ley, JAMES, LORD, a famous English knight, who distinguished himself under Edward III. in France, and was carried, badly wounded, from the field of Poitiers. *A.* was one of the first Knights of the Garter, Goveruor of Aquitaiue, and Seneschal of Poiton. B. 1314; D. 1386.

Aud'ouin, JEAN VICTOR, a French entomologist and comparative anatomist, who added many important facts to the sciences of which he was an ardent investigator. B. at Paris, 1797; D. 1841.

Audrain', in *Missouri*, a county in the N.E. central part of the State, drained by the North Fork and Long Branch of Salt river, and by the sources of Rivière au Cuivre. *Surface.* Level, mostly prairie; *soil*, fertile. *Area*, 680 sq. m. *Cap.* Mexico.

Au'dubon, JOHN JAMES, a distinguished American ornithologist, B. in Louisiana, about 1780. His parents, who were of French origin, and in wealthy circumstances, sent him to Paris to finish his education, and he there studied design under the painter David. After his return to America, *A.*'s father presented him with a large and valuable plantation; he married, and might have lived a life of ease and comfort in the bosom of a happy domestic circle; but it was the nature of *A.* to find home in the unreclaimed solitudes of his native continent, and companions in the wild denizens of the prairie and the forest. The study of birds had, beyond everything else, an irresistible charm for *A.* He began to devote his life to the ornithology of N. America. For years he spent many consecutive months in long and quite solitary journeys through the untrodden wilderness; not even returning to shelter and civilization for the purpose of sketching the subjects of his pursuit, but executing those colored designs which have since become so famous, on the spot where the originals were obtained, and where the proper environment for each subject was immediately under his eye. Hence the wonderful fidelity and life-like truth, not only of *A.*'s bird-portraits, but of the accessories in each picture. These excursions, commencing about 1810, were continued during 15 years, his family residence having been latterly fixed at Henderson, a village on the Ohio. *A.* was doomed to lose the precious results of these 15 years of adventurous toil. Having gone to Philadelphia with 200 designs representing 1000 different birds, he deposited them in the house of a relative, and left the city for some weeks. He returned to find his drawings destroyed by rats. A severe and lengthened fever was the consequence of this heavy blow; but *A.* had physical and mental elasticity enough to recover from the shock. He again shouldered his fowling-piece, and resumed his former mode of life. After four years and a half of uninterrupted devotion to his purpose, the damage was made good, and the naturalist was again in a position to impart the fruits of his labor to the world. Finding, however, that proper facilities for bringing out the extensive and costly publication which he had in view, could not be afforded him in his native country, *A.*, in 1826, went over to England, where, as in France, he was received with the utmost distinction. About the close of 1830 appeared in London the 1st volume of *The Birds of America*, in folio, containing 100 colored plates, each subject being represented of life-size. The English and French sovereigns had headed the list of subscribers. It was not till 1839, that the appearance of the 4th volume completed this splendid work, which contains in all 1065 figures of birds. Parallel with the publication of the volume of plates at London, had proceeded at Edinburgh the issue of the necessary complement to these,

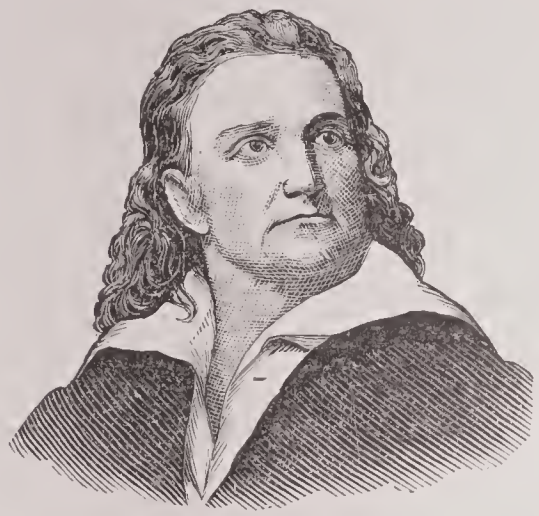


Fig. 235.—AUDUBON.

the *Ornithological Biography, or an Account of the Habits of the Birds of the U. States of America, accompanied by a description of the objects represented in the Work entitled "The Birds of America,"* the 1st volume of which appeared in 1831,—the 5th and last, in 1839. The same year, *A.* returned finally to his native country; not yet, however, to lead a life of repose. He now, along with his two sons, and two other companions, undertook a series of excursions, which resulted in his work entitled "*Quadrupeds of America,*" published at Philadelphia between the years 1846 and 1850, and accompanied, as in the case of the "Birds," by a parallel issue of *Biographies*, a title which, as applied by *A.* to the description of the favorite objects of his study, serves to indicate the dignity with which these objects were invested in his eyes, and the almost human interest with which they inspired him. These biographies are singularly entertaining, being full of the romance of that wild and solitary life which enabled him to compile them. *A.* died in 1851.—A *Life of A.*, compiled from his journal by his widow, was published in 1869.

Au'dubon, in *Iowa*, a S.W. central county, watered by the Nishnabatona river, an off-shoot of the Missouri. *Cap.* Audubon. This county has an area of about 432 sq. m., and was named after the distinguished naturalist Audubon. *Pop.* in 1880, 7,448; in 1890, 12,572; in 1895, 12,836.

Au'dubon, in *Tennessee*, a village of Montgomery co.

Auenbrug'ger, or **Avenbrug'ger,** LEOPOLD, an eminent German physician, the inventor of percussion as a means of discovering diseases of the chest. B. at Gratz, 1722; D. at Vienna, 1798.

Auerbach, a town of Saxony, on the Golzsch, 12 m. E. of Plauen; *pop.* 5,258.

Au'erbach, BERTHOLD, a popular German novelist, B. at Nordstetten, on the Suabian side of the Black Forest, on the 28th Feb., 1812. Of Jewish extraction, he was reared in poverty and obscurity, and destined by his parents to the service of the synagogue. While completing his studies at the universities of Tübingen, Munich, and Heidelberg, he abandoned the study of Hebrew theology for the more congenial fields of history, philosophy, and general literature. His earliest work, *Spinoza*, was published in 1837. In 1843 appeared the first series of his *Dorfgeschichten*, ("Village Stories,") which at once stamped him a master in the German school of fiction. These have been translated into the English, Dutch, and Swedish languages. A second series, published in 1849, more than sustained the reputation of the first. *Barfüssle* ("Little Barefoot") was given to the world in 1836; and is one of the most exquisite idyls of humble life in any language. *On the Heights*, published in 1867, *The Villa on the Rhine*, in 1869, *Die Feindlichen Schwestern*, ("The Hostile Sisters,") in 1878, and *Landolin*, in 1879, may be cited as among his many valuable writings. D. Feb. 8, 1882.

Au'erstadt, a small village of Prussian Saxony, reg. Merseberg, 6 m. W. of Naumberg. Here, on the 14th of October, 1806, the main body of the Prussian army, under the Duke of Brunswick and the king in person, was defeated by the division of the grand French army commanded by Marshal Davoust. The former lost 10,000 men, including the Duke of Brunswick, and the French 7,500. On the same day, Napoleon defeated at Jena the right wing of the Prussian army under General Mollendorff. The combined action has been called the battle of "Jena," (see JENA.) Davoust received from Napoleon the title of *Duke of Auerstadt.*

Au fait, (*ō-fā.*) [Fr.] (*Lit.*) Expert; skilful; to be master of an accomplishment; able to perform a thing:—vulgarly, up to the mark.

Auge'. VALLÉE D', the name given to a part of the French dep. of Calvados, distinguished for its picturesque scenery, and also for producing the finest horses and cattle in Normandy.

Auge'an, *a.* Pertaining to Augeas, *q. v.*; used to express anything inexpressibly foul or dirty.

Au'geas. (*Myth.*) A king of Elis, famed for his stable, which contained 3,000 oxen, and had not been cleansed for 30 years. Hercules was desired to clear away the filth in one day, and *A.* promised, if he performed it, to give him a tenth part of the cattle. This task Hercules is said to have executed by turning the river Alpheus, or, as some say, the Penens, through the stable, which immediately carried away the dung and filth. *A.* not only refused to perform his engagement, pretending that Hercules had used artifice, and experienced no labor or trouble, but banished his own son, Phyleus, from his kingdom, for supporting the claims of the hero. Upon this, a war commenced, and Hercules conquered Elis, put *A.* to death, and gave his kingdom to Phyleus. *A.* has been called the *son of Sol*, because *Elis* signifies the *sun.* After his death, he received the honors usually paid to heroes.

Au'gelite, *n.* (*Min.*) A mineral of massive form. Lustre of cleavage-surface, pearly. Colorless, but generally of a pale red. *Comp.* Phosphoric acid 35·3, alumina 51·3, water 13·4 = 100. It occurs imbedded in other phosphates at the iron mine of Westana, in Sweden.

Au'ger, *n.* [Dut. *avegaar;* A.S. *nafegar* or *nafogar.*] An instrument used for boring large holes, by carpenters, wheelwrights, shipwrights, and others. It consists of an iron blade terminating in a steel bit, with a handle placed at right angles with the blade. When the *A.* has a straight channel or groove, it is sometimes called a *pod A.*; when it has a spiral channel, it is termed a *screw A.* A large kind of *A.* is used in agriculture for boring the earth in order to ascertain the nature of the subsoil, or minerals, or whether water is existing in a certain place.

Au'ger-bit, *n.* (*Carpentry.*) A bit with a cutting edge or blade like that of an auger.

Auge'reau, PIERRE FRANÇOIS CHARLES, DUKE OF CASTIGLIONE, a celebrated French general, B. at Paris in 1757. He joined the army as a private soldier, proceeded to Spain, and soon rose to the rank of adjutant-general. He then took high command under Napoleon I. in Italy, and in 1796, at the head of his own brigade, stormed the bridge of Lodi. To him Napoleon owed the brilliant victories of Castiglione and Arcole. *A.*, having been sent by Napoleon to Paris, became military commander of the capital, and led the *coup d'état*, or revolution of Fructidor, by which the enemies of the Directory were seized and overthrown. Appointed to the command of the army on the German frontier, he became so wildly democratic that the Directory displaced him, and sent him to Perpignan. He refused to assist Napoleon in the revolution which preceded the consulate and the empire. In 1805, being created a Marshal of France, *A.* commanded at the reduction of the Vorarlberg, was at the battle of Jena in 1806, and accompanied Napoleon to Berlin. He commanded the French at Eylau in 1807, and in 1809 and 1810, commanded in Catalonia, where he committed great excesses. *A.* was at the great battles of Leipzig, Oct. 16th, 17th, and 18th, 1813, and, in 1814, commanded at Lyons, to repel the march of the Austrians from that direction on the capital. Yielding to superior numbers, he retired to the south, and displaying little attachment to Napoleon, acknowledged the Bourbons, retained his honors, and became a peer. During the "hundred days" of 1815, he remained in privacy, but on the return of Louis XVIII., he again sought public life: and as the last act of an eventful life, voted for the condemnation of his brother-soldier, Marshal Ney, to an ignominious death. For this the French people have never forgiven him. D. in June, 1816.

Auget, (*o-zhā'*,) *n.* [Fr. *auget, auge*, trough; from Lat. *alveus*, hollow.] (*Mil.*) A tube or hollow case charged with powder, and reaching from the chamber of a mine to the end of the gallery, used in exploding mines.

Aug'gur, a fortified town of Hindostan, prov. Malwa, in the dominions of Sinde, on a rocky eminence, 1,598 feet above sea-level.

Augh'aval, or OUGHEVAL, a parish in county Mayo, Ireland. *Area*, 33,695 acres, consisting mostly of hills and bogs. *Pop.* (1895) 7,200.

Aughnamul'len, a parish of Ulster, Ireland, 3 miles from Ballybay. *Area*, 30,710 acres. *Pop.* (1895) 7,630. This parish has a great many lochs.

Augh'rim, in Ireland. See AGHRIM.

Aught, (*awt,*) *n.* [A.S. *auht, aht*, or *awht; ohwit, oht*, from *wiht*, a creature, a thing, anything.] (Sometimes incorrectly written OUGHT.) Any part; any thing; a whit;—as, for *aught* I care.

"This metaphor, I think, holds good as *aught,*
Since there is discord after both at least."—*Byron.*

Au'ghun Khan, the fourth sovereign of Persia of the family of Genghis Khan, succeeded his uncle Nikudar in 1284, and D. in 1291. He was an enlightened and beneficent prince.

Augh'wick Mills, in *Pennsylvania*, a post-office of Huntingdon co.

Au'gier, GUILLAUME VICTOR EMILE, an eminent French dramatic poet, was B. at Valence, on 17th Sept., 1820. *La Ciguë*, his first piece, in two acts, after being rejected at the Théâtre Française, in 1844, was accepted by the managers of the Odeon Théâtre, and there brought out. It had a run of three months, and established the popularity of the author. The latter subsequently produced other light pieces. These, however, were thrown in the shade by *Gabrielle*, a five-act comedy, which has been pronounced by competent critics to be *A.*'s most finished and best constructed work, whether as regards plot, poetry, or the delineation of character. *A.* was nominated a member of the Académie Francaise, and then officer of the Legion of Honor. At the solicitation of Mdle. Rachel, *A.* wrote *Diane*, a piece in five acts, but which failed to elicit the applause bestowed upon *Gabrielle.* In 1868, his *Fils de Giboyer* had a success equal to the latter.—The style of *A.* is at once classic and easy,

dignified, and yet pictorial, never heavy, and always interesting. He may be said to have founded a new school in French dramatic literature, and his works, partly by their originality, and partly by intrinsic merit of a kind possessed in common with other dramatic productions, have acquired very great popularity. D. 1889.

Au'gila, a country and town of N. Africa, on the caravan route from Sirvah to Fezzan. Lat. 29° 35′ N.; Lon. 22° 25′ E.

Au'gite, *n.* [From Gr. *augeo*, to shine.] (*Min.*) A mineral found in basalt, lavas, and other volcanic rocks; closely related in geological situation and in composition with *amphibole* or hornblende. It is more generally called *pyroxene*.

Augit'ic, *a.* Belonging to, or resembling augite, or partaking of its nature and characteristics.

—Containing or composed of augite as a principal constituent; as, *augitic* rocks.

Auglaize', in *Missouri*, a river rising in the W. central division of the State, which, formed by two branches, falls into the Osage river, near Erie, in Camden co.

Auglaize', in *Ohio*, a river which rises in the N.W. middle part of the State, and enters the Maumee river at Defiance. Its chief affluents are Blanchard's Fork and Ottawa river.

—A county situated in the W. part of the State, watered by the head streams of the Auglaize and St. Mary's rivers, and containing abt. 308 sq. m. *Surface*, generally level, and partly covered with forests of well-grown timber. *Soil*, fertile. *Cap.* Wapakoneta. *Pop.* (1890) 28,100.

—A township of Allen co.

—A township of Paulding co.

—A village of Van Wert co.

Augment', *v. a.* [Fr. *augmenter*; Lat. *augmento*, from *augeo*, to increase.] To make larger; to increase; to enlarge; to add to; to swell; as, to *augment* an income.

"Some cursed weeds her cunning hand did know,
That could *augment* his harm, increase his pain."—*Fairfax.*

—*v. i.* To increase; to grow larger; to amplify.

Aug'ment, *n.* [Fr. *augment*; Lat. *augmentum.*] Increase; enlargement by addition; state of increase.

(*Greek Gram.*) An increase at the beginning of some of the tenses of verbs. The augment is of two kinds: the *syllabic*, when the verb begins with a consonant; and the *temporal*, when it begins with a vowel.

Augment'able, *a.* Capable of augmentation or increase.

Augmenta'tion, *n.* [Fr. *augmentation*; Lat. *augmentatio.*] The act of augmenting; increase; enlargement; addition.—The state of being augmented or enlarged.—The thing which is added by way of enlargement.

(*Med.*) The stage of a disease in which the symptoms go on increasing.

(*Her.*) A particular mark of honor, granted by a sovereign, in consideration of some noble action: either quartered with the family arms, or borne on an escutcheon, a canton, &c.

(*Mus.*) *A.*, in the music of the olden time, was, as *Maister* Morley tells us, "An increasing of the value of the notes above their common and essential value," and was indicated by a sign.

Augmenta'tions, (Court of,) *n.* (*Eng. Law.*) A court established in England by Henry VIII. in 1535, and styled "*The Court of the Augmentations of the King's Revenues.*" It was instituted to take cognizance of all suits and controversies arising out of the suppression of the monasteries. It was afterwards abolished, and then re-established by Queen Elizabeth in 1558.

Augment'ative, *a.* [Fr. *augmentatif.*] Having the quality or power of augmenting.

—*n.* (*Gram.*) A word formed to express greatness; a derivative word denoting an augmentation or increase of that which is expressed by its primitive.

Augment'er, *n.* One who increases or augments.

Au Gres' in *Michigan*, a post-office of Arena co.

Augs'burg, (anc. *Augusta Vindelicorum,*) a city of S. Germany, cap. of Suabia, in the kingdom of Bavaria. It is situated on a large and fertile plain watered by the rivers Wertach and Lech, 35 m. N.W. of Munich. *A.* was for ages one of the richest, most commercial, and powerful of the free cities of the German empire. The streets are narrow, but highly picturesque, and the architecture of its buildings preserves to a singular degree the quaint and ornate characteristics of the middle ages. Among them may be noted the Cathedral, Arsenal, Abbey of St. Ulric, and the Town-Hall, one of the finest edifices in Germany. At one of the educational gymnasiums here, Prince Louis Napoleon, after Napoleon III., Emperor of the French, received his early education. *A.* possesses a fine library, an academy of arts, a polytechnic society, &c.—*Manf.* Woollens, cottons, linens, paper, gold-lace, jewelry, printing-types, &c. *A.*'s greatest commercial importance, however, arose from its being, next to Frankfort, the chief seat of banking and exchange operations in Central Europe. A large trade is carried on in engraving, printing, and book-selling; and the celebrated *Allgemeine Zeitung*, a leading journal of Germany, was published first in 1798. *A.* was once of much greater population and importance than it is at present. It was founded by the Roman emperor Augustus, 12 B. C. In the middle ages it became early distinguished for its trade, and in the 14th, 15th, and 16th centuries, its citizens—as for example the Fugger family, who rose from simple burghers to be princes of the empire—attained to almost regal power and opulence. *A.* has been the theatre of many memorable events. In addition to the proceedings of the Diet, with respect to the memorable *Confession of Faith*, (q. v.) there, in 1530, was concluded the peace which guaranteed the full enjoyment of their rights and liberties to the Protestants. *A.* continued to be a free city until 1806, when Napoleon ceded it to Bavaria. *Pop.* (1897) about 75,000.

Fig. 236.—AUGSBURG.

Diet of A.—The most celebrated of the numerous diets, or parliaments, held at Augsburg was that of 1530. Pope Clement VII. refusing to call a general council for the settlement of all religious disputes, to be held in some German city, in accordance with the recess of the Diet of Spires in 1529, the Emperor Charles V. summoned another diet at Augsburg, which met on the 20th June, 1530. On the 25th, the famous *Confession* (q. v.) was read, and on Aug. 3d an answer was made by the Roman Catholics; whereupon it was proclaimed that the Protestants must conform in all points to the Church of Rome. Duke Philip of Hesse withdrew on the 6th Aug., and John, Elector of Saxony, asked leave to depart on the 20th Sept. Charles V. soon after delivered his decision, in which he gave the Protestants till the 15th April, 1531, to re-unite themselves to the mother Church, during which period they were to attempt no further innovations, and to allow their Roman Catholic subjects free worship, and to repress Anabaptists and Sacramentaries. The emperor engaged to induce the Pope to summon a national or general council. This decision was resisted, and a recess was issued on the 22d Nov., in which the emperor announced his intention to execute the edict of Worms, made some severe enactments against the Protestants, and reconstituted the Imperial Chamber. The Protestant deputies put in a counter-declaration, and the Diet then terminated.

Confession of A.—The name given to the celebrated declaration of faith compiled by Melancthon, and revised by Luther and other reformers, which was read before the Diet of Augsburg, 25th June, 1530. It consisted of 28 articles, 7 of which contained refutations of Roman Catholic errors, and the remaining 21 set forth the leading tenets of the Lutheran creed. Soon after its promulgation, the last hope of inducing the pontiff to reform the Roman Catholic Church was abandoned, and the complete severance of the connection followed. An answer by the Roman Catholics was read 3d Aug., 1530; when the Augsburg Diet declared that it had been refuted. Melancthon then drew up another confession somewhat different. The 1st is called the *unaltered*, and the 2d the *altered* confession.

League of A.—A league entered into and concluded at *A.* 9th July, 1686, for the maintenance of the treaties of Münster and Nimeguen, and the truce of Ratisbon. It was negotiated by William, Prince of Orange, on the 21st June, in the above year, for the purpose of resisting the encroachments of France. The contracting parties were the Emperor Leopold I., the kings of Spain and Sweden, the electors of Saxony and Bavaria, and the circles of Suabia, Franconia, Upper Saxony, and Bavaria. The League was to be in force for 3 years, and might then be renewed. England acceded to it in 1689.

Au'gur, *n.* [Lat. *augur*, from *avis*, a bird, and *gero*, to deport, to behave; Fr. *augure.*] A soothsayer; one who professes to foretell future events by omens.

"What say the *augurs?*"—*Shaks.*

(*Hist.*) Among the people of ancient Italy, in common with all rude nations, it was imagined that in every occurrence which could not be understood, there was a special manifestation of the will of the gods. The power of reading and interpreting these signs was supposed to be a peculiar gift conferred upon the favored mortal from his birth. A superstition offering so strong a hold upon the minds of the people was turned to account by the astute politicians of Rome, and the *College of Augurs* was instituted at the very earliest period of Roman history, B. C. 716. *A.* were a certain sort of priests, who predicted future events, and announced to the people the will of the gods. They were consulted both in public and private affairs, and their influence in the state was very great. By merely pronouncing the words "*Alio die*" (another day), they could dissolve an assembly of the people, and annul all the decrees that had been passed at the meeting. The original number of *A.* is stated differently by Cicero and Livy; Cicero, himself an *A.*, says that Romulus associated three others with himself, and that Numa added two. The Ogulnian law, which was passed 307 B. C., opened the pontifical and the augurial colleges to the plebeians. In the latter, 5 plebeians were associated with 4 patricians; and this number remained to the time of Sylla, 81 B. C., who increased it to 15. In 29. B. C., the extraordinary power was conferred upon Augustus of electing *A.* at his pleasure; and in 309 A. D., the office was abolished.

—*v. i.* To guess; to conjecture by signs and omens; to prognosticate.

"My pow'r 's a crescent, and my *aug'ring* hope
Says it will come to the full."—*Shaks.*

—*v. a.* To foretell; to predict; to presage; to forebode; as, to *augur* bad weather.

Au'gural, *a.* [Fr. *augural.*] Pertaining to augurs; belonging to an augury.

Au'gurate, *v. i.* [Lat. *augurare.*] To predict, or judge by augury. (R.)

Augura'tion, *n.* [Lat. *auguratio.*] The practice of augury, or of foretelling events by portents and phenomena. (O.)

"Claudius Pulcher underwent the like success, when he continued the tripudiary *augurations.*"—*Sir T. Browne.*

Au'gurer, *n.* One who augurs.—Same as Augur, *q. v.*

Augu'rial, *a.* Relating to augurs or augury.

Au'gurist, *n.* Same as Augur, *q. v.* (R.)

Au'gurship, *n.* The office, or period of office, of an augur.

Au'gury, *n.* [Lat. *augurium.*] Art or practice of auguring, or of foretelling events by the flight and chattering of birds, &c.; auguration.—See Augur.

"She knew, by *augury* divine,
Venus would fail in the design."—*Swift.*

—An omen; prediction; prognostication.

August', *a.* [Fr. *augusto*; Lat. *augustus*, from *augere*, to increase, to reverence.] Sacred; awe-inspiring; grand; majestic; solemn; awful.

"The Trojan chief appeared in open sight,
August in visage, and sereuely bright."—*Dryden.*

Au'gust, *n.* [Lat. *augustus*; It. and Sp. *agosto*; Fr. *août.*] The name given to the 8th month of our year. It was named B. C. 30, by the Roman emperor Augustus, after himself, as he regarded it as a fortunate month for him, being that in which he had gained several important victories. Before this time it was called *Sextilis*, or the sixth month, the year beginning with March. The name of July had, in like manner, been *Quintilis*, before it was changed by Julius Cæsar; and as it contained 31 days, the senate, in order that Augustus might not be behind Cæsar, decreed that *A.* also should have 31 days, and that, for this purpose, a day should be taken away from February.

Augus'ta. This title was first given to his wife Livia, after the death of Augustus, according to the will of the emperor. (*Tac. Ann.* i. 8.) It was afterwards conferred by Claudius on Agrippina (A. D. 51.), and by Nero on his wife Poppœa, as well as her daughter (A. D. 64). Eventually it became a common title of the mother, wife, sister, or daughter of an emperor.

Augus'ta. (*Anc. Geog.*) The name of a very great number of ancient places; as, Augusta Treverorum, now *Treves*; Augusta Ausciorum, now *Auch*; Augusta Taurinorum, now *Turin*; Augusta Suessonum, now *Soissons*, &c.

Augus'ta, a British settlement in W. Australia, founded in 1830, and situated to the westward of Flinders Bay.

Augus'ta, in *Arkansas*, a post-village in Woodruff co. on White river.

Augus'ta, in *Georgia*, an important city, cap. of Richmond co., on the Savannah river, 120 m. N.N.W. of Savannah; Lat. 33° 28′ N.; Lon. 81° 54′ W. Bridges connect this town with Hamburg in South Carolina. *A.*, in the center of a cotton-growing district, is a handsome city, and the third of the State in population and importance. It has excellent railroad connections, and steamboat navigation to the seaboard. Has very extensive cotton factories, large flour and planing mills, chemical and lumber works, and the shops of the Ga. Central R.R. There are several large public institutions and many handsome buildings. *Pop.* (1898) 42,450.

Augus'ta, in *Illinois*, a post-village of Hancock county, about 95 miles N. W. of the city of Springfield.

Augus'ta, or **North Augusta,** in *Iowa*, a post-village of Des Moines co., on Skunk river, 11 m. W.S.W. of Burlington, and opposite South Augusta in Lee county.

Augus'ta, or **South Augusta,** in *Iowa*, a village of Lee co., on Skunk river, about 10 m. N.N.E. of Fort Madison.

Augus'ta, in *Indiana*, a village of Marion co., 9 m. N. N.W. of Indianapolis.

—A village of Noble co., 125 m. N.N.E. of Indianapolis.

Augus'ta, in *Kentucky*, a city of Bracken county, on the Ohio, 45 m. from Cincinnati, and 74 N.E. of Frankfort.

Augus'ta, in *Louisiana*, a village of De Soto parish, 11 m. N.E. of Mansfield.

Augus'ta, in *Maine*, a pleasant and flourishing city, cap. of the State, and of the co. of Kennebec, on the Kennebec river, 60 m. N.N.E. of Portland, and 175 N.N.E. of Boston, by railroad. Here is an elegant bridge across the Kennebec, which river is navigable to *A.* for small vessels, and up to Waterville for steamboats. *A.* contains the State hospital for the insane, and the U. States arsenal, in which, besides cannon and other munitions of war, are stored many thousand stand of arms. The State-House, situated on an eminence at the S. extremity of the city, is a noble structure of whitish granite. On 17th Sept., 1865, nearly the whole of the business quarter of *A.* was consumed by a destructive fire; it has, however, been

since rebuilt in a handsome and convenient form. *Pop.* in 1890, 10,527; in 1897 (est.) 11,750.

Augus'ta, in *Michigan*, a post-village of Kalamazoo co., on the Kalamazoo river, 130 m. W. of Detroit, and 12 m. E. by N. of Kalamazoo village.

—A township of Washtenaw co.

Augus'ta, in *Mississippi*, a post-village, cap. of Perry co., on Leaf river, 173 m. S.E. of Jackson.

Augus'ta, in *Missouri*, a post-village of St. Charles co., on the Missouri river, about 40 m. W. of St. Louis.

Augus'ta, in *New Jersey*, a post-village of Sussex co., about 65 m. N. of Trenton.

Augus'ta, in *New York*, a post-village and township of Oneida co., on Skanandoa creek, 100 m. W. by N. of Albany

Augus'ta, in *Ohio*, a post-village of Carroll co., 135 m. E.N.E. of Columbus.

Augus'ta, in *Oregon*, a mining camp in Summit district, Union co.

Augus'ta, in *Pennsylvania*, a flourishing village of Potter co., on Kettle creek.

—A post-office of Northumberland co.

Augus'ta, in *Texas*, a post-village of Houston co., about 20 m. S. by W. of Rusk.

Augus'ta, in *Virginia*, a central county, bounded on the S.E. by the Blue Ridge. *Area*, about 900 sq. m. —*Rivers.* This county gives rise to the Shenandoah and Calf Pasture rivers. *Surface*, elevated and hilly. *Soil*, calcareous. *Prod.*, grain, grass, and butter. *Min.*, limestone, and anthracite coal. *Cap.* Staunton. *Pop.* (1898) 37,350.

Augus'ta, in *Wisconsin*, a thriving manuf. city of Eau Claire co., on C., St. P., M. & O. R.R. *Pop.* (1898) 1,540.

Augusta'lia, or AUGUSTALES, *n.* (*Hist.*) A festival held in honor of the birthday (Sept. 23, B. C. 63) of the emperor Augustus, which was established by a decree of the Roman senate, B. C. 11. The term was also applied to games held in his honor at Rome, Alexandria, Neapolis, and other cities.

Augus'tan, *a.* Pertaining to Augustus, or to the AUGUSTAN AGE, *q. v.*

Augus'tan Age or **Æra,** (*Chron.*) The name given in honor of the Emperor Augustus to that period of Roman history in which flourished her greatest artists, poets, and philosophers. It began A. U. C. 727, or B. C. 27.

Augus'ta Springs, in *Virginia*, are situate in Augusta co., 12 m. N.W. of Staunton. — See VIRGINIA.

Augus'ta Station, in *Indiana*, a post-village of Marion co., 10 m. N.N.W. of Indianapolis.

Augus'tenborg, a Danish factory and trading-post of W. Africa, in Accra, on the coast of Guinea, 9 m. from Christiansborg.

Augus'tine, St., or **Augusti'nus,** AURELIUS, the most eminent of the Latin fathers, and the founder of the Western theology, was B. 9th Nov., A. D. 354, at Tagaste (*Tajel*), in Numidia. His first school was at Madura, whence he was removed to Carthage, where, notwithstanding his addiction to sensual indulgences, he applied himself with characteristic vigor to the study of eloquence and philosophy. The perusal of Cicero's treatise *Hortensius*, in his 19th year, awakened him to a nobler state of being than he had hitherto aimed at. His studies, however, led him to despise the Scriptures for their simplicity, and to adopt the doctrine of the Manichæans. During this period he was engaged in teaching grammar and rhetoric, first in his native place, afterwards at Carthage. He subsequently went to Rome, where he continued his rhetorical teachings, and was afterwards appointed professor at Milan. Here the eloquence of St. Ambrose, added to the tears and entreaties of his mother, Monica, effected the entire conversion of *A.*, who was baptized into the Church by Ambrose, 25th April, 387. He afterwards returned to Africa, where he was ordained a priest, and elected bishop of Hippo as colleague of Valerian. From this time his history and writings are closely associated with the Donatist and Pelagian controversies, in which he took the leading part on the orthodox side. *A.* D. 430. — The greatest literary production of *A.* is his *On the City of God;* which is an elaborate defence of Christianity, and a refutation of Pagan mythology and philosophy. On this work he spent 13 years, A. D. 413 to 426, and it remains a monument of his knowledge, eloquence, and mental strength. As an interpreter of Scripture, *A.* does not rank very high. There have been fathers of the Church more learned, masters of better language and a purer taste; but none have ever more powerfully touched the human heart, and warmed it towards religion. He has related the events of his life in a work to which he gave the title of *Confessions*, and which has been often translated into all European languages. *A.* was the father alike of the mediæval scholasticism, and of the theology of the Reformation; and to his writings also may be traced the germ of the theology of the Mystics. The best edition of the works of *A.* is the "Benedictine," published at Paris, 1679–1700, in 11 vols. folio.

Augus'tine, (**St.,**) the first archbishop of Canterbury, was a Benedictine monk of the convent of St. Andrew at Rome, when Pope Gregory I. selected him to carry out his long cherished design of converting England to the Christian faith. He accordingly set out about A. D. 596, with 40 others, and landed in Kent. Ethelbert, at that time king of Kent, kindly received the missionaries, and permitted them to reside in his capital, Canterbury, and there exercise their functions. He was shortly afterwards baptized, and the example was followed by many of his subjects. The success of *A.* was now rapid, and the Pope ordered him to repair to Arles, there to be consecrated archbishop of Canterbury, and metropolitan of the English Church. D. about 607.

Augus'tine, St., in *Florida*. See ST. AUGUSTINE.

Augus'tine, St., a cape in Brazil, 25 m. from Pernambuco; Lat. 8° 21′ S.: Lon. 34° 56′ W. This was the first point of land in S. America discovered in 1500 by Pinzon.

Augus'tine's, St., a port and river of the Labrador coast. — Also, a number of small islands on the same coast.

Augus'tines, *n. pl.* (*Eccl. Hist.*) A religious order in the Church of Rome, who follow the rule of St. Augustine, prescribed to them by Pope Alexander IV. in 1256. There had arisen, previous to that time, several religious orders, which Innocent IV. formed the design of uniting into one congregation; and this was carried out by his successor. At present, the order is divided into several branches; as, the *Hermits of St. Paul*, the *Jeronymitans*, *Monks of St. Bridget*, and the *Bare-footed Augustines*, the last being instituted by a Portuguese in 1574, and confirmed by Pope Clement VIII. in 1600 and 1602. The *A.* are clothed in black, and make one of the four orders of mendicants. The degeneracy of the order in the 14th century led to the formation of new societies, among which was the Saxon one to which Martin Luther belonged. Since the first French revolution, the order has been entirely suppressed in France, Spain, Portugal, Italy, and S. Germany; and even in Austria it has been decreasing. — The *A.* are popularly known under the names of *Austin friars* and *White friars.*

Augustin'ian, *n.* (*Eccl. Hist.*) A follower of the doctrine of Augustinianism.

Augustin'ianism, *n.* The doctrinal system pursued by Augustine, who maintained that grace is effectual from its nature, absolutely and morally, not relatively and gradually.

August'ly, *adv.* In an august manner.

August'ness, *n.* Quality of being august; dignity of mien; elevation of look or aspect; grandeur.

Augusto'vo, or AUGUSTOV', a prov. of Russia, in Poland, lying in the N. of that kingdom, between Lat. 52° 40′ and 55° 5′ N. The surface comprises woods, marshes, and mountains, and is watered by the Niemen and Bug. *Cap.* Suwalki.

—A town of the above prov., on the Netta, 140 m. N.E. of Warsaw. *Manf.* Cottons and woollens. *Pop.* 7,761.

Augus'tulus, or ROMULUS AUGUSTUS, the last of the Roman emperors in the West, was the son of Orestes, a Pannonian noble, and owed his investiture with the purple to his father's popularity, and the prestige of his own name, recalling, as it did, those of the respective founders of the city and the empire. But he soon proved himself so incapable, that his subjects derisively gave him the name of *Augustulus* ("Augustus the Little"), by which he is now known in history. After an inglorious reign of one year, *A.* was dethroned by Odoacer, king of the Heruli, who suffered him to live in retirement at the villa of Lucullus in the Campagna, for the remainder of his days.

Augus'tus, first of the Roman emperors; otherwise named CAIUS OCTAVIUS, afterwards CAIUS JULIUS CÆSAR OCTAVIANUS, and later *A.*; the latter being a title of honor conferred on him as first emperor, and though borne officially by his successors, is used in history as his proper name. He is also commonly known as OCTAVIUS. B. at Velitræ, 63 B. C. — year of Rome 691, he was the son of Caius Octavius and Attia, daughter of Julia, sister of Julius Cæsar, who named his great nephew Octavius his son and heir. At the age of 18, he was at Appolonia, on the Adriatic, engaged in his studies, when the death of Cæsar took place. Octavius then took his own course, repairing first to Brundisium, and afterwards to Rome, where, despite the opposition of Antony, he appeared before the prætor, formally claimed his inheritance, accepted its responsibilities, and received in consequence the name of CAIUS JULIUS CÆSAR OCTAVIANUS. By the law of Rome, he was henceforth regarded as the virtual representative of Cæsar as much as if he had been the dictator's son. In 43 B. C. the young adventurer was appointed prætor, with a military command, and a seat in the senate. Octavius now joined the consuls Hirtius and Pansa, for the purpose of relieving Mutina, where Antony was besieging Decimus Brutus. Antony was defeated and driven across the Alps, the two consuls were slain in battle, and Octavius remained the sole and successful general of the forces. Antony and Lepidus, having become allies, recrossed the Alps, and Octavius was appointed to the joint command with Decimus Brutus. Octavius now induced the troops to pronounce in his favor for the consulship, and entered Rome, where he and his kinsman Quintus Pedius were appointed consuls, and his own adoption by Cæsar was regularly confirmed and publicly acknowledged. After this, Octavius negotiated with Antony and Lepidus, when a triumvirate was formed, and a compact made, by which Antony was to have Gaul; Lepidus, Spain; and Octavius, Sicily, Sardinia, and Africa, for his own share. After the battle of Philippi, by which the power of the Republican party was extinguished, a new division of the provinces was effected, and Lepidus lost his share, leaving Antony and Octavius to contend for the supremacy. Sicily was held by Sextus Pompeius; and Octavius, unable to obtain possession of that island, married Scribonia, a relation of the former, which lady became the mother of his daughter Julia. The Sicilian governor still refused to give up his province, which brought about a more friendly feeling between Antony and Octavius. Antony married Octavia, the sister of Octavius, and a new cast of the provinces was made, by which Pompey was to retain his island territories. War was, however, soon revived by Octavius and Pompey — the former divorcing his wife Scribonia, and marrying Livia Drusilla, wife of Tiberius Nero. It was also arranged that a son of Antony should marry a daughter of Octavius; and this temporary reconciliation led to a combined action on their part, which resulted in the downfall of Pompey, and the acquisition of Sicily. The period had now arrived when the definite struggle between Octavius and Antony must decide the fate of Rome. Antony had forsaken Octavia, owing to the fascinations of Cleopatra; Octavius therefore declared war against him, and at the naval battle of Actium, 31 B. C., utterly defeated him. Octavius now wielded the entire power of Rome, which became at peace with the world. Agrippa, whose advice had given him universal dominion, counselled him to renounce his authority; but Mæcenas, whom he also consulted, advised him otherwise. Octavius commenced the consolidation of his power by reforming the senate, for which he received the title of *Prince of the Senate*, which had always been bestowed by the censors on that citizen who had most deserved well of his country. In 29 B. C., he received the title of *Imperator*, the titles of king and dictator being both objectionable. In 27 B. C., Octavius offered to resign his power to the senate; this was refused, and he consented to remain at the head of the government for a period of 10 years. This act was constantly repeated to the end of his life. In the same year, Octavius also received from the senate, and the people, the title of *Augustus*, by which name he was henceforth known. During the 40 years of his comparatively peaceful reign, *A.* devoted himself to secure the welfare of the State and people of Rome. His name is identified with triumphs in arts, as well as in arms. He caused to be executed important public works, and improved and beautified the city, so that it was said, "he found the city brick, and left it marble;" he developed the commerce of the empire, which had been previously much neglected, and by his encouragement of literature and art, gave a name to the most splendid era of Roman letters, that of the *Augustan Age*. *A.* D. at Nola, A. D. 14. He was handsome, but of middle stature; abstemious, and rigid in his morals; unassuming in deportment; of unwearied industry; and also a ready speaker, a great reader, and a diligent writer.

OBVERSE. REVERSE.

Fig. 237. — GOLD MEDAL OF AUGUSTUS.
(British Museum.)

Augus'tus I., Elector of Saxony, B. 1526. During a peaceful reign, he greatly beautified Dresden, his capital, and built the palace of Augustenburg. D. 1586.

AUGUSTUS II., Elector of Saxony, and King of Poland; B. at Dresden in 1670. On account of his enormous muscular power, he was surnamed the *Iron-handed*, and the *Strong*. He is said to have lifted a trumpeter in full armor, and to have held him aloft on the palm of his hand; to have twisted the iron balustrade of a stair into a rope, and broken a horse-shoe with one grasp of his hand. He succeeded his elder brother in 1594, and obtained from the emperor the command of an expedition against the Turks, who threatened Hungary; this campaign was, however, indecisive. Owing to the death of John Sobieski, in 1696, the crown of Poland became vacant, and *A.*, after many intrigues, was proclaimed king in 1697. He then formed an alliance with Peter the Great against Charles XII. of Sweden, but the latter hero defeated *A.* in a sanguinary battle at Pultusk, penetrated to Warsaw, and there caused Stanislaus Leczsinski to be elected king of Poland, in place of *A.* A long war followed, without advantage to *A.*, until the overthrow of Charles, at Pultowa, which event replaced him on the throne. The Poles regarded him as a foreigner and a usurper, and as the mere vassal of Russia. *A.* D. in 1733. His virtues and vices were equally extreme. Politeness and good sense, enormous strength and brilliant courage, with a great taste for literature and art, were counter-balanced by sensuality, shameful ambition, and an utter disre-

gard of the most solemn obligations. *A.*, it is said, was the father of 300 illegitimate children, one of whom was the famous Marshal de Saxe, by Aurora von Königsmarke, one of his many mistresses.

Augustus III., Elector of Saxony, and King of Poland; b. at Dresden, 1696, was the son of Augustus II. He was an indolent, idle, and pleasure-seeking prince, and his politics were entirely dependent on Russia. His daughter, Maria Josepha, was married to the dauphin of France, from which alliance sprung Louis XVI., Louis XVIII., and Charles X. D. 1763.

Auk, *n.* [Lat. *alca*; Icel. *audka*; Dan. *alke.*] (*Zoöl.*) The common name of the *Alcinæ*, a division of the family *Alcidæ*, q. v. They are strictly sea-birds, and nestle on its borders, breeding in caverns and rocky cliffs, and laying only one large egg. They obtain their food by diving, at which they are very expert; but the power of their wings is very limited: and when they peripateticize by land, which they do with swiftness, if pursued, their motions are the most awkward imaginable. They all feed on small fishes, crustacea, &c.—The auks are divided into many genera, the type of which is the genus *Alca*, or Auk proper, consisting of several species; more particularly the Great Auk (*Alca impennis*), and the Razor-bill, or common Auk, (*Alca torda.*) The birds of

Fig. 238.—THE RAZOR-BILL, OR COMMON AUK, (*Alca torda.*)

this last species abound in the higher northern latitudes; they are, however, widely diffused; and in England many precipitous cliffs, as the Needles, &c., have a fair share of them. The Razor-bills are about 18 inches long, and their extended wings about 27 inches. They build no nests, but lay their eggs upon the bare edge of lofty rocks hanging over the sea, where they form a very grotesque appearance, from the singular order of the rows in which they sit one above another. Their [one] egg is disproportionately large, being three inches long, the color a greenish-white, irregularly marked with dark spots. Thousands of these birds are killed on the coast of Labrador, for the sake of the breast-feathers, which are very warm and elastic; and incredible numbers of their eggs are also collected there.

Auk'ward, *a.* See AWKWARD.

Au'la Re'gia, or **Aula Regis.** [The king's court.] (*Hist.*) A court established in England by William the Conqueror in his own hall. It was the great universal court, from the dismemberment of which are derived the present four *superior courts* in England, viz.: the "High Court of Chancery," and the three *superior courts of common law*, to wit, the "Queen's Bench," "Common Pleas," and "Exchequer." It was composed of the king's great officers of state resident in his palace and usually attendant on his person. These high officers were assisted by certain persons learned in the laws, who were called the king's justiciars, and by the greater barons of parliament, all of whom had a seat in the *Aula Regia*, and formed a kind of court of appeal, or rather of advice, on matters of great moment and difficulty.

Au'laf, the name of several Danish princes. See OLAF.

Aula'rian, *n.* [Lat., *aula*, hall.] The title given to a student of a hall in the university of Oxford, in England, in contradistinction to a *collegian*, or member of a college. —*a.* Relating or belonging to a hall.

Auld, *a.* [Old.] A word peculiar to the Scottish idiom: as "*auld* carle"—i. e., an old man; used generally in a rustic sense.

> "*Auld* nature swears, the lovely dears,
> Her noblest work she classes, O!" — *Burns.*

Auld Ane, ("Old One.") A vulgar epithet applied to the devil, in Scotland, and the N. of England. — *Auld Clootie*, and *Auld Hornie*, are also Scottish synonyms for the same personage.

> "O thou! whatever title suit thee,
> *Auld Hornie*, Satan, Nick, or *Clootie*." — *Burns.*

Auld'earn, a village and par. of Scotland, co. of Nairn, noted as being the spot where the famous Marquis of Montrose (*q. v.*) gained a great battle over the Covenanters, 9th May, 1645.

Auld Lang Syne. A Scottish phrase meaning, literally, "old long since;" hence, the days of yore, the times of long ago, &c.

> "Should *auld* acquaintance be forgot,
> And days of *auld lang syne*." — *Burns.*
>
> "I care not—'tis a glimpse of *auld lang syne*." — *Byron.*

Auld Reekie. An epithet or *sobriquet* applied to Edinburgh, the Scottish metropolis, on account of its smoky appearance as seen from a distance; or, as some say, on account of the former uncleanliness of its public thoroughfares; a reproach now, happily, without relevancy.

> "When my mind was made up to make *Auld Reekie* my headquarters." — *Sir Walter Scott.*

Auld'-Warld, *a.* [Scottish.] Old-fashioned; antique; ancient.

Aulet'ic, *a.* [Lat. *auleticus*; Gr. *auletikos*, from *aulos*, a flute.] Pertaining to a musical pipe or pipes. (R.)

Aulet'ta, a town of S. Italy, prov. of Salerno, on a hill, near the Negro, 36 m. E.S.E. of Salerno. This town is very ancient, having been founded by a Greek colony. *Pop.* about 4,600.

Au'lic Coun'cil, *n.* [Lat. *aula*, a hall.] (*Hist.*) The name of a council of the old German empire, called in German, the *Reichshofrath*. It was next in power to the Imperial Chamber, which was the highest court in the empire. When the Estates obliged the emperor, in 1495, to establish the court of the Imperial Chamber, he still retained about his court persons for looking after the affairs of his crown-lands, and for preparing matters for the Imperial Chamber. The members of the *A. C.* also came to take cognizance of judicial processes, and the Estates frequently complained of this after 1502. In 1559, its organization was more determined, and by the peace of Westphalia it was recognized as the 2d of the two supreme courts of the empire, and equal in dignity to the Imperial Chamber. It was composed of a president, a vice-president, and 18 councillors, all chosen and paid by the emperor; but a part of them, at least, were to be taken, not from Austria, but from the other States of the empire; and 6 were to be Protestants. If the Protestant councillors were unanimous upon any point, the votes of the rest could not overthrow them. The Vice-Chancellor of the empire, appointed by the Elector of Mayence, had also a seat in the council, and a voice after the president. Under the exclusive jurisdiction of this court were: 1. All feudal questions in which the emperor was immediately concerned; 2. All questions of appeal on the part of the Estates, from decisions in favor of the emperor in minor courts; 3. All matters concerning the imperial jurisdiction in Italy. Its decisions were submitted to the emperor for his approbation, on which they became law. It did not in any way interfere in the political or state affairs of the empire. The council ceased at the death of each emperor, and had to be reconstructed by his successor. It finally ceased to exist on the extinction of the German empire in 1806.

Au'lich, Louis, a Hungarian general who distinguished himself in the war for the independence of his country, 1848–9. His services against the Austrian general Windischgrätz were acknowledged by Kossuth in the proclamation of Gödöllö; and he won further honors in some of the most brilliant exploits of the war. *A.* succeeded Görgey as secretary of war in July, 1849, surrendered with him to the Russians at Vilagos, and was executed at Arad, in October of the same year.

Au'lis. (*Anc. Geog.*) A seaport in Bœotia, on the strait called *Euripus*, between Bœotia and Eubœa. Agamemnon (*q. v.*) assembled here the Greek fleet intended to sail against Troy. See also IPHIGENIA.

Aulla'gos, (Laguna de,) a lake of S. America, in Bolivia, which lies in the valley of Desaguadero, at an altitude of about 12,800 ft. above the level of the sea.

Aulne', a river of France, dep. of Finistère, navigable from Chateaunenf to Brest Roads, where it embouches into the Atlantic ocean.

Aulo'na, or **Avlo'na,** (anc. *Aulon*,) a seaport of Turkey in Europe, prov. of Albania, cap. of a *sandjak*, near the mouth of the Adriatic, on the E. side of a gulf of the same name, 54 m. E.N.E. of Otranto, in Italy: Lat. 40° 27′ 15″ N.; Lon. 19° 26′ 20″ E. *A.* was taken by the Turks from the Venetians in 1691. It is a poor place, and very unhealthy in the summer. *Pop.* about 6,000.

Aulos'toma, *n.* (*Zoöl.*) A genus of Acanthopterygian fishes, closely allied to the *Fistularia*, from which they are chiefly distinguished by having numerous free spines before the dorsal fin. The best known species is a native of the Eastern seas.

Au'lus Gel'lius, a Latin grammarian, b. at Rome, in the beginning of the 2d century. His *Noctes Atticæ* ("Attic Nights") is a *mélange* of notes on history, grammar, philosophy, &c.: and its principal value consists in its having preserved fragments of more ancient writers.

Au'mackstown, in *New Jersey*. See CEDAR CREEK.

Aumale', a town of France, dep. Seine Inférieure, on the Bresle, 14 m. E.N.E. of Neufchatel. Henry IV. was wounded in an action with the Spaniards under the Prince of Parma, on the bridge of this town, in 1592. *Pop.* 2,321.

Aumale', Counts and Dukes of. The name of several distinguished personages in French history; and nearly allied to the royal houses of Valois and Bourbon.—See LORRAINE.

Aumale', Henri Eugène Philippe Louis d'Orléans, Duc d', fourth son of King Louis Philippe, b. in 1822. Choosing the profession of arms, he served with some distinction in Africa under generals Bugeaud and Baraguay d'Hilliers. He married, in 1844, a Neapolitan princess. In 1847, he was appointed French governor-general in Algeria, and received the submission of Abd-el-Kader. After the revolution of 1848, he rejoined the members of the French royal family in England. *A.* is author of *Hist. of the House of Condé*, (of which house he is heir under the will of the last Duc de Bourbon.) *A.*, after the downfall of the empire in 1871, returned to France, and was elected to the Legislative Assembly. In 1872 he was admitted to the French Academy, into whose hands, in 1886, he placed the domain of Chantilly, (*q. v.* p. 523.) In 1886, he was, for political reasons, deprived of his military command by the French Republic, and exiled with other French princes.

Aume', *n.* A Dutch wine-measure.—See AAM.

Au'nery, *n.* See ALMONRY.

Au'nou, (*ō'mawng,*) Jean d', b. 1522. In 1579, Henry III. created him a marshal of France, and in 1589 he was appointed by Henry IV. governor of Champagne. He was at the battles of Arques and Ivry, and was afterwards governor of Bretagne, where he had to cope with the Leaguers under the Duc de Mayenne. He was killed at the siege of Quimper, in 1595, after having served six kings of France, viz., Francis I., Henry II., Francis II., Charles IX., Henry III., and Henry IV.

Auns'ville, in *Oregon*, a post-village of Marion co.

Aun'cel-Weight, *n.* A rude scale or balance for weighing, formerly used in England.
—Meat sold by the hand without weighing by scale.

Aune, (*ōn.*) *n.* [Fr. *aune*; O. Fr. *aulne, aune*, from Lat. *ulna*, elbow, ell; Gr. *ōlenē*, elbow, armful.] A French cloth measure, of different lengths; that of Rouen being the same as an English ell; that of Paris, 0·95. These are now superseded by the *metre*. — See ALNAGE.

Au'nis, a ci-devant prov. of France, now forming, with Saintonge, the department of Charente-Inférieure.

Au'noy, Marie Catherine Jumelle de Berneville, Comtesse d', b. 1650, was the author of *Contes de Fées* (Fairy Tales), and among them *The Yellow Dwarf*, *The White Cat*, and *Cherry and Fair Star*, which, in their day, met with great success in France. Her style was easy and agreeable, but verbose. Her tales are often founded on fact. The critic cannot pardon the insipid gallantry of many of her heroes. But that was the fashion of the time. Many of these pictures have been translated into English, and are eagerly read by school-boys. D. 1705.

Aunt, (*ānt,*) *n.* [O. Fr. *ante*; Fr. *tante*; Lat. *amita.*] A father's or mother's sister; correlative to *nephew* or *niece*.

Au'ra, *n.*; *pl.* Auræ. [Lat. from Gr. *aō*, to breathe.] (*Med.*) A vapor once supposed to emanate from any body surrounding it like an atmosphere. — In Pathology, *aura* means the sensation of a light vapor, which, in some diseases, appears to set out from the trunk or limbs, and to rise toward the head. This feeling has been found to precede attacks of epilepsy and hysteria, and hence it has been called *A. epileptica*, and *hysterica*.

Au'ral, *a.* Pertaining to the air, or to an aura.

Aurantia'ceæ, Citron-worts, *n. pl.* (*Bot.*) An order of plants, alliance *Rutales*. — DIAG. Cousolidated, succu-

Fig. 239. — 1. COMMON ORANGE, (*Citrus aurantium.*)
2. A flower, with calyx, corolla, stamens, and pistil.
3. An ovary cut through transversely.
4. A calyx and pistil.

lent, indehiscent fruit, imbricated petals, free or nearly free stamens, and dotted leaves. — They are trees or shrubs, almost always smooth, and filled everywhere with little transparent receptacles of volatile oil. Leaves alternate, articulated with the petiole; sepals 3–5, united into a short, urseolate or campanulate cup; petals 3–5;

stamens, as many as the petals, or some multiple of their number, in a single row, hypogynous; ovary compounded of several united carpels; style 1; fruit, a berry (orauge), many-celled, pulpy, covered with a thick rind; seeds attached to the inuer angle of each carpel. — Citron-worts are almost exclusively found in the E. Indies, whence they have spread over the rest of the tropics. The wood is universally hard and compact; the leaves abound with a volatile, fragrant, bitter, exciting oil; the pulp of the fruit is always more or less acid. The Orange, Lemon, Lime, Shaddock, Pompelmoose, Forbidden Fruit, and Citron, all Indian fruits, are the most remarkable products of the order, which includes 20 genera and 95 species, cultivated in all civilized countries for their beauty and fragrance, both of flowers and fruit. The genus *citrus* is the most important.

Auran'tiine, *n.* (*Chem.*) See HESPERIDINE.

Aura'ria, in *Colorado*, a village of Arapahoe co., on the South Fork of the Platte, abont 6 m. from Deuver.

Aura'ria, in *Georgia*, a post-village of Lumpkin co., 135 m. N.N.W. of Milledgeville.

Au'rate, *n.* [Fr., from Lat. *auratus*, gilded.] A sort of pear.

(*Chem.*) A saline combination of auric acid and a base.

Au'rated, *a.* [Lat. *auratus*, from *aurum*, gold.] Resembling or containing gold; gilded; gold-colored.

—[Lat. *auris*, an ear.] Having ears.

Au'ray, a seaport town of France, dep. Morbihan, cap. of a canton, on the Auray, 11 m. W. of Vannes. Charles of Blois was killed, and Du Guesclin made prisoner, in a battle fought here, 29th Sept., 1364. *Pop.* 4,247. Near the town is a celebrated chapel consecrated to the Virgin under the name of *Notre Dame D'Auray*, which is visited by numerous pilgrims, many of them coming bare-footed from a distance of more than 100 miles.

Aure, (VAL D',) in France, one of the four valleys of Upper Armagnac, now dep. of Hautes-Pyrénées.

Au'reate, *a.* [Lat. *aureatus*, *aureus*.] Golden; gilded.

Aure'lia, *n.* [Lat. *aureus*, golden.] (*Zoöl.*) A name given to that state of an insect which is betweeu the caterpillar and its final transformation, and is commonly called a chrysalis or pupa. The term *aurelia* was first applied by the Romans, and that of chrysalis by the Greeks, to certain butterfly pupæ which have a golden color. — See CHRYSALIS.

—A genus of *Acalephæ*, containing the common "Sun-Fish," *A. flavidula*, of the northern coast of N. America.

Aure'lian, *a.* Pertaining to, or resembling, the aurelia.

—*n.* An amateur collector and breeder of insects.

Aure'lian, LUCIUS DOMITIUS VALERIUS AURELIANUS. A Roman emperor, the son of a peasant, was B. in Pannonia, A. D. 212. He entered the ranks of the Roman army, and is said to have killed with his own hand uearly 1,000 men in a single campaign against the Sarmatians. He rapidly rose to eminence, and in 257 obtained a signal victory over the Goths in Illyricum, for which he was made consul, and styled by Valerian, the "liberator of Illyria and restorer of Gaul." In 269, *A.* was commander-in-chief of the Roman cavalry. On the death of Claudius II., in 270, he ascended the imperial throne. He delivered Italy from the German barbarians, and conquered Zenobia, queen of Palmyra, in 273. After these victories he devoted himself to the improvement of Rome, and the reformation of public morals. *A.* next led an expedition against Persia, but the harshness of his character caused a conspiracy to be formed by his officers against him, and he was assassinated in Thrace, in 275 A. D.

Aure'lius Antoni'nus. See MARCUS AURELIUS.

Aure'lius, VICTOR SEXTUS, a Latin historian of the 4th century, who was governor of Pannonia under the Emperor Julian, and consul with Valentinian. His only authentic work extant is *De Cæsaribus*, containiug the biographies of the emperors from Augustus to Coustantine.

Aure'lius, in *Michigan*, a post-township of Ingham co., on Grand River, about 80 m. N.W. by W. of Detroit, and 12 S. of Lausiug.

Aure'lius, in *New York*, a post-township of Cayuga co., 170 m. W. by N. of Albany, on the north end of Cayuga Lake.

Aure'lius, in *Ohio*, a township of Washington co., about 15 m. N. of Marietta.

Aureo'la, *n.* [Lat., of the color of gold; Fr. *auréole.*] (*Paint.*) The glory with which ancient painters encircled the bodies of the Holy Family, saints, martyrs, and confessors, in their pictures. When encircling only the head, it is usually termed a *Nimbus*, q. v.

Au'reus, or **Denarius Aureus.** [Lat.] (*Numis.*) The standard gold coin of Rome, which, accordiug to Pliny, was first coined 62 years after the earliest silver coinage, that is, in B. C. 207. The lowest denomination was the *scrupulum*, which was made equal to twenty sestertii. The value of the *A.*, according to the present worth of gold, is about $5.28; but its current value in Rome was different, since the relative valnes of gold and silver were not the same in ancient times that they are now. The *A.* passed for 25 denarii; therefore taking the denarius as 17 cents, the *aureus* was worth about $4.42. Alexander Severus coined pieces of one-half and one-third of the aureus, called *semissis*, and *tremissis;* after which time the *A.* was called *solidus.*

Au'ric Ac'id, TEROXIDE OF GOLD. (*Chem.*) It is prepared from the solution of gold in *Aqua regia*, and has no practical importance. *Form.* AuO_3.

Au'rich, a town of N. Germany, in Hanover, cap. of W. Friesland, and 15 m. N.E. of Emden. The town is the seat of the provincial government, and has a Protestant consistory, &c. *Pop.* 5,101.

Aurichal'cite, *n.* [From Gr. *oros*, a mountain, and *chalkos*, copper.] (*Min.*) A mineral of acicular crystals. Lustre pearly; color, pale green, verdigris-green; sometimes sky-blue. Streak, pale-greenish or bluish; translucent. *Comp.* Carbouic acid 16·2, oxide of copper 29·2, oxide of zinc 44·7, water 9·9 = 100. It is fonnd iu the U. States, at Laucaster, iu Pennsylvania.

Au'ricle, *n.* [Lat. *auricula*, dim. of *auris*, the ear; Fr. *oreillette.*] The external ear, or that part which is prominent from the head.

(*Anat.*) The *auricles of the heart*, (*Fig.* 201,) are two muscular bags, situated at the base, which in form resemble the auricle of the ear, and cover the ventricles of the heart, like caps; they receive the blood from the veins, and commuuicate it to the ventricles.—See HEART.

Au'ricled, *a.* (*Zoöl.*) Having appendages like ears. See AURICULIDÆ.

Auric'ula, *n.*; *pl.* Lat. AURICULÆ, *pl.* Eng. AURICULAS. [See AURICLE.] (*Hort.*) The *A. ursi*, or "Bear's Ear," a species of the genus *Primula*, q. v. It is a well-known

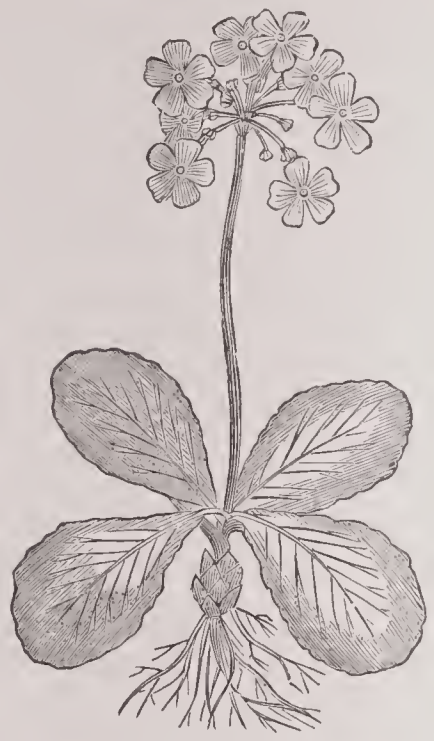


Fig. 240. — AURICULA URSI, (*The Bear's Ear.*)

small evergreen, herbaceous plant, which, though so common as to be seen in every cottage-garden, is always a universal favorite. The number of varieties is almost infinite. Every year, since the date of their cultivatiou by artificial process, appears to have produced new varieties differing from one another, especially in the shape, size, aud color of the flowers. Miller, whom all old florists still regard as an oracle, states, as the characters of a good *A.*, that the stem of the flower should be lofty and strong, that the footstalk of the flower should be short, and the umbel regular and close,—that the pipe or neck of each flower should be short, and the flowers large, regularly spread, and disinclinable to cup, — that the colors be very bright and well mixed, — that the eye of the flower be large, round, and of a good white or yellow, — and that the tube or neck be not too wide. The flowers appear in April or May, and, when tolerably well assorted as to colors, have a most joyous appearauce in the little flower-plots of the cottage, or the small flower-gardens of the farmery, — more so, to our taste, than when they fill beds or stages in the most luxurious modes of horticulture. The *A.* is easily propagated by lifting it in the first week of every August, cutting it into two or three by vertical sections of the root, and transplanting the parts into good garden soil, enriched with tolerably strong and well-rolled manure. Propagation from seed is requisite, of course, for new varieties: but it is so troublesome and tedious as to be a proper employment for only the amateur, or the regular practical gardener. *A.* is a native of Switzerland.

Auric'ular, *a.* [Fr. *auriculaire;* Lat. *auricularis.*] Pertaining to the ear; belonging to the sense of hearing; as, *auricular* nerves.

—Spoken, told, or whispered in the ear; private; secret; confidential; as, an *auricular* confession.

—Known to, or perceived by, the sense of hearing; recognized by the ear; as, *auricular* proof.

"And by an *auricular* assurance have your satisfaction."—*Shaks.*

—Traditional; known by report.

"*Auricular* traditions, and feigned testimonies."—*Bacon.*

(*Anat.*) That which belongs to the ear; more especially applied to the external ear. — *A. arteries, veins,* aud *nerves.* They are numerous, but their description would be useless to the general reader. — *A. finger* is the little finger, so called because, owing to its size, it can be more readily introduced into the meatus auditorius.

—*n.* (*Zoöl.*) The tuft of feathers around the orifice of the ears of birds.

Auric'ular Confession. See CONFESSION.

Auric'ularly, *adv.* In an auricular manner; privately; secretly.

Auric'ulate, AURIC'ULATED, *a.* (*Bot.*) A term applied to a leaf having two small ear-like lobes at the base. The leaf of the woody nightshade (*Solanum Dulcamara*) is an example.

(*Conch.*) Having ear-like appendages. These terms are used in describing certain *bivalves*, which have a flat angulated projection, or process, on one or both sides of the umbones or bosses.

Auriculi'dæ, *n. pl.* (*Zoöl.*) A family of mollusca, comprising gasteropods which have the shell spiral, with a horny epidermis, and the body whorl large. Fifty or sixty species are known. The *Auricula midæ* is a handsome shell, native of the E. Indies; its figure is oval or oblong; the mouth lougitudinal, with a reflected lip.

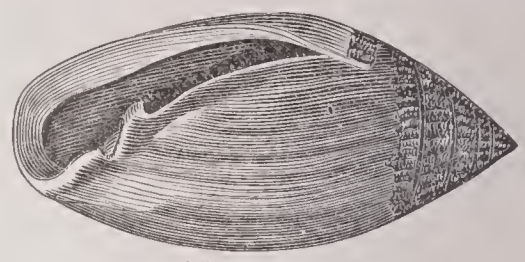


Fig. 241. — AURICULA MIDÆ.
(Midas's Ear.)

Auric'ulo-ventric'ular, *a.* (*Anat.*) That which belongs to the auricles and ventricles of the heart. The communications between the auricles and ventricles are so called. The *tricuspid* and *mitral* valves are auriculo-ventricular valves.

Au'riesville, in *New York*, a post-office of Montgomery co.

Aurif'erous, *a.* [Fr. *aurifère:* Lat. *aurifer*, from *aurum*, gold, *fero*, I yield.] (*Geol.*) A term used to signify that certain rocks, veins, sauds, &c., yield or contaiu gold; hence the terms, *auriferous veins, auriferous sands, auriferous streams.*

Au'riflau'ma, *n.* (*Hist.*) See ORIFLAMME.

Au'riform, *a.* [Lat. *auris*, the ear, and *forma*, form, shape.] Ear-shaped; in the form of the human ear.

Auri'ga, *n.* [Lat., a charioteer.] (*Astron.*) The Charioteer, a constellation situated between Perseus and Gemini. It is represented as a man holding a bridle in the right hand, and supporting a goat and kids on the left arm. The star in the body of the goat, called Capella (and Alioth by the Arabs), is of the first magnitude, and presents the best guide to the constellation. There is no satisfactory account of the mythology of this figure. It is said to have been the Horns of the Egyptians; among the Greeks, the human figure is by different writers called Erichthonius, Bellerophon, Hippolytus, &c.; while the goat is Amalthæa, the foster-mother of Jupiter. But this explanation is even more unsatisfactory than most others, owing to the want of apparent conuection between the figures of the group. The whole nnmber of visible stars in *A.* is 66. This constellation is on the meridian at 9 o'clock on the 24th of January.

Auri'gal, *a.* Of, or belonging to a carriage or chariot. (R.)

Auriga'tion, *n.* [From *auriga.*] Act of driving chariots. (R.)

Aurig'uy. (*Geog.*) See ALDERNEY.

Aurillac, (*o-ree'yak,*) a town of France, cap. of dep. Cantal, on the Sordane, 40 m. S.E. of Tulle. Though well built, it is gloomy and disagreeable. *Manf.* Paper, lace, and tapestry. *Pop.* 12,598.

Auriol, (*o're-ole,*) a town of France, dep. Bouches-du-Rhône, on the Veaune, 15 m. E.N.E. of Marseilles. It has manuf. of wool and tapestry, and valuable coal and copper mines are in the neighborhood. *Pop.* 5,427.

Auripluryg'iate, *a.* [Lat. *aurum*, gold, and L. Lat. *phrygiare*, to deck with embroidery.] Laced, passemented, or embroidered with gold. (R.)

Auripigucu 'um, *n.* (*Min.*) See ORPIMENT.

Au'riscalp, *n.* [From Lat. *auris*, ear, and *scalpere*, to scrape.] (*Surg.*) An earpick, *q. v.*

Au'riscope, *n.* [From Lat. *auris*, and *skopeo*, I view.] (*Surg.*) An instrument for exploring the ear.

Au'rist, *n.* [Lat. *auris*, the ear.] (*Surg.*) One who studies, and professes to cure, diseases of the ear.

Au'rited, *a.* See AURICULATE.

Aurocceph'alous, *a.* [Gr. *auron*, gold, and *kephalē*, head.] (*Zoöl.*) Having a golden-colored head.

Au'rochs, *n.* [Lat. *urus*, a bison; Ger. *ochs*, an ox.] (*Zoöl.*) The European *Bison priscus.* — See BUFFALO.

Aurocy'anide, *n.* (*Chem.*) A compound of the cyanide of gold and a basic oxide.

Auro'ra, *n.*; *pl.* Lat. AURO'RÆ; *pl.* Eng. AURORAS. [Lat., from Gr. *aurios*, golden, and *ora*, hour.] The dawniug light before sunrise; daybreak; the morning.

(*Myth.*) [Gr. *Eos.*] Daughter of Hyperion and Thia, and sister of Sol and Luna. She was one of the ancient goddesses of the race of the Titans, but retained her rank among the later race of gods. To the Titan Astræus, son of Crius, she bore the Winds, Zephyrus, Borcas, and Notus, the Morning-Star, and the Constellations. She rises from the ocean, drawn by the celestial horses Lampus and Phaëton, and with rosy fingers raises the veil of night, shedding light upon the world, until she flies from the splendor of day. Among the mortals whose beauty captivated the goddess, poets mention Orion, Tithonus, and Cephalus.

Auro'ra, a name common to several islands. 1. One of the Society Islands in the S. Pacific. *Pop.* 350. Lat. 15° 50′ S.; Lon. 148° 11′ W.—2. One of the New Hebrides. Lat. 14° 56′ S.; Lon. 168° 6′ E.—3. One in the Red Sea, inhabited by Bedouins; Lat. 25° 30′ N.; Lon. 36° 20′ N.

Auro'ra, in *Alabama*, a post-village of Baine co.

Auro'ra, in *Illinois*, a city of Kane co., on Fox River, 40 miles W. by S. of Chicago. *Exp.* Principally grain, wool and pork. *Pop* in 1890, 19,688; in 1897 (est.) 25,000.

Auro'ra, in *Indiana*, a city of Dearborn co., on the Ohio, 86 m. S.E. of Indianapolis, and 25 m. W. of Cincinnati. *Pop.* (1898) 4,450.

Auro'ra, in *Iowa*, a post-village of Buchanan co., about 15 m. N. of Independence. *Pop.* (1898) 110.

Auro'ra Boreal'is, and **Auro'ra Austral'is,** *n.* [Lat.] (Popularly called in this country *Northern Lights*. As, however, the phenomenon is seen emanating from the South Pole as well as from the North, neither of the above appellations is scientifically correct. *Polar Lights* is more expressive, and therefore to be preferred.) (*Physics.*) A beautiful and so far unexplained electrometeoric phenomenon, often appearing in the heavens in middle and high northern and southern latitudes, but never on or near the equator, its limits of visibility being confined to zones of about 60° radius surrounding either pole, and often simultaneously appearing at each. It exhibits itself under at least seven distinct forms—all of which are never observed at any single display—classified and described as follows (for northern latitudes):—1. An evenly diffused luminosity, extending over the entire northern heavens, often reaching to the zenith and sometimes beyond, and in azimuth from the western to the eastern horizon, and unaccompanied by any of the other six forms into which the phenomenon may be divided.—2. A luminous arch whose crown is always in the meridian, the two ends resting on the northwest and northeast horizon. Frequently the sky beneath assumes an evenly diffused drapery of intense blackness. That it is not caused by contrast is evident from the fact that no blackness is visible above it. That it is not a cloud is also evident, as stars have been seen (with a telescope) through the vail, though greatly dimmed in brightness.—3. Resembling No. 1, with the difference that there are large patches of luminous clouds, generally white, but sometimes tinted with two colors of the spectrum, red and green. They are seen most frequently in the northwest and northeast, appearing and disappearing without motion of translation.—4. Long, narrow, luminous rays or streamers, often reaching from the horizon, or from the arch to the zenith and occasionally beyond, meeting by perspective at the apex like the radii of a circle. They are seldom stationary, some moving to the right and others to the left, and frequently exhibiting pulsating tremors throughout their lengths. Like the luminous clouds (No. 3), the streamers also often emit the rainbow tints. The majestic, soldier-like movement of these long pendant beams of light is one of the most fascinating scenes this strange phenomenon presents to the beholder.—5. "Merry Dancers:" large, white, luminous clouds dancing with fearful rapidity up and down, often moving from the horizon to the zenith in a single second. These corruscations produce a series of celestial pyrotechnics of indescribable sublimity and grandeur.—6. The Corona: a circle or crown of light of some six or eight degrees in diameter, always on the magnetic equator (some few degrees north of the geographic equator) and also on the meridian of the observer. It is toward the corona that the streamers trend and meet, from whatever direction they may appear to come. In a large majority of cases the corona is not formed, the streamers extending no further than the zenith. On rare occasions the streamers have been seen all around the corona, extending to within ten degrees of the southern horizon.—7. Horizontal beam: This is the rarest of all the phenomena into which the auroral displays are divided. Probably not oftener than once in twenty years would it fall to the lot of a person to witness it. It consists of a bright, cigar-shaped beam, from two to three degrees broad, extending generally from the eastern to the western horizon; and, though always at right angles to the magnetic meridian, it obeys no rule as to the distance north of the magnetic equator. It has been simultaneously seen from both continents, frequently deceiving the "very elect" even to announcing it as the tail of an extraordinary comet. It certainly does resemble the tails of the great comets of 1843 and 1861. It appears to be an isolated phenomenon, never occurring coincidentally with the others.

That the aurora borealis, considered as a whole, is of electric origin, is evident when it is considered that the corona is always found on the magnetic equator, and the beam at a right angle to the magnetic meridian; and also that, during the displays, magnetic needles and telegraph lines are more or less disturbed, sometimes so intensely as to work the telegraph instruments without any battery whatever. The boreal and austral auroræ must therefore be due to some form of electric energy, but are as yet involved in a halo of mystery beyond the ken of human investigation.

The sounds some think they hear during an auroral display are probably entirely due to the imagination.

Spectrum analysis reveals the presence of six lines and two bands in the light of the aurora borealis, whose positions are as follows (as per Rowland's scale): (1) bright band in the red; (2) brightest line in the citron; (3) very faint line in the citron; (4) fairly bright line in the green; (5) rather bright line in the green; (6) bright line in the green; (7) broad blue band, darker in the middle, extending from wave length 0·4695 to 0·4630; (8) faint line in the violet. No. 5 is brightest only when No. 1 is visible, but at the same time No. 2 is faintest. See SPECTRUM, SPECTRUM ANALYSIS, ELECTRICITY.

Aurungabad', [The "Place of the Throne"] a large maritime prov. of the Deccan in Hindostan, comprised partly in the British presidency of Bengal, and partly in the Nizam's dominions; principally between 18° and 21° N. Lat., and 73° and 77° E. Lon. Bounded on the N. by the prov. of Gujerat, Candeish, and Berar; E. by Buder; S. by Bejapoor; and on the W. by the Indian ocean.—*Surface.* Irregular, and mountainous toward the W., where the Ghauts attain a considerable height. That part of *A.* E. of the Western Ghauts is a table-land at a general elevation of 1,800 ft. above sea-level; it abounds with natural fortresses and strongholds. There are no rivers of any size.—*Clim.* Admirably adapted for the production of European fruits, which come to greater perfection here than in any other part of India. The inhabitants are chiefly Mahrattas, but *A.* is thinly peopled, and the Mohammedans are to the Hindoos only as 1 to 20.—*Chief cities.* Bombay, Aurungabad, Poonah, and Soolapoor. Many remarkable antiquities exist in this province, as the temples and caves at Salsette, Elephanta, Ellora, &c. *A.* was formerly called *Ahmednuggur*, and afterwards *Dowletabad*, from the cities so named being in turn its capitals, under two dynasties, previously to A. D. 1635; at which period Shah Jehan finally conquered and annexed it to the Mogul empire. *A.* becoming eventually the favorite residence of Aurungzebe, thus acquired its present appellation.

AURUNGABAD, a city of the Deccan, cap. of the above prov., within the dominions of the Nizam, on a tributary of the Godavery, 275 m. S.W. of Hyderabad, 176 m. E.N.E. of Bombay, and 140 m. N.E. of Poonah. It is an ancient and imposing city, and contains the royal palace of Aurungzebe, and many other fine architectural remains of his dynasty. *A.* is now occupied by a British garrison. *Pop.* estimated at 60,000.

Aurungzebe, (*aw-rung-zeb'*,) known as the GREAT MOGUL, or Emperor of Hindostan, B. 22. Oct., 1618. He was the son of Shah Jehan, and properly named Mohammed, but received from his grandfather that of *A.* ("Ornament of the Throne"), by which he is known to history. After deposing and imprisoning his father, and putting his brothers to death, *A.*, in 1658, was crowned sole monarch of the great Mogul empire. His long reign was more remarkable for its internal policy than for its outward events. In some respects it may be compared to the reign of Louis XIV. of France. Both reigns were of unusual duration, and of unquestionable brilliancy. *A.* carried on many wars, conquered Golconda and

Fig. 243. — TOMBS OF THE KINGS OF GOLCONDA.

Beejapoor, and subjugated the Mahrattas. The Mussulmans of India still regard him as the greatest of their sovereigns. *A.* died at Ahmednuggur, in the Deccan, 21st Feb., 1709, master of 21 provinces, and of a revenue of about $200,000,000.

Au Sa'ble, or **Ausa'ble,** in *Illinois*, a township of Grundy co.

Au Sa'ble, or **Ausa'ble,** in *Michigan*, a city of Iosco co. It is situated on Lake Michigan, at the mouth of a river of the same name. *Population* (1890) 4,328.

Au Sa'ble, in *New York*, a river of Essex co., which enters Lake Champlain about 15 m. S. of Plattsburg.

—A township of Clinton co.

Au Sa'ble Forks, in *New York*, a small post-village in Jay township, Essex co., on Au Sable river, about 128 m. N. of Albany.

Aus'cultate, *v. a.* [Fr. *ausculter;* Lat. *auscultare*, to listen.] To practise auscultation.

Ausculta'tion, *n.* [Fr.; Lat. *auscultatio*, act of listening.] (*Med.*) A mode of appreciating the different sounds which can be heard in the chest, especially in diseases of the heart, lungs, &c. *A.*, when done by application of the ear to the chest, is termed *immediate A.* It receives the name of *mediate A.* when performed by the aid of the instrument called a *stethoscope*, one extremity of which is applied to the ear, and the other to the chest of the patient.

Aus'cultator, *n.* One who practises auscultation.

Auscul'tatory, *a.* Belonging, or having relation to auscultation.

Auso'nians. [Lat. *Ausones.*] (*Hist.*) An ancient people of the Italian peninsula, who appear to have been a branch of the great Oscan nation. According to Niebuhr, the Ausones and the Aurunci are identical. Suessa Aurunca, near the Liris, was in the centre of the country which they occupied. Cales (*Livy*, viii. 16), Ausona, Minturnæ, and Vescia, were Ausonian cities.

Auso'nius, DECIMUS MAGNUS, son of a physician of Bordeaux, was born in the beginning of the 4th century. He devoted himself to the cultivation of letters. In A. D. 369, his reputation caused him to be selected by the Emperor Valentinian as tutor to his son Gratian. In A. D. 377, he was appointed prætorian præfect of Italy, and of the Gauls in the following year, and made consul by Gratian in 379. His poetical talents were highly esteemed during his life, (as indeed he is among the best writers of that late era;) and the Emperor Theodosius wished to obtain the same return of flattery from him which Augustus received from Horace and Virgil. But his style is vicious and full of conceits, and his subjects generally too trifling to retain any interest.

Aus'pical, *a.* Pertaining to auspices. (R.)

Au'spicate, *v. a.* [Lat. *auspicare—auspex*, a bird-seer, and *specere, spicere*, to view.] To give a favorable turn to in commencing;—a sense taken from the Roman practice of performing the *auspicium*, or inspection of birds, before they undertook any important business.—

Aus'picatory, *a.* Of, or having relation to, auspices.

Au'spice, *n.* [Fr. *auspice;* Lat. *auspicium*, from *auspex—avis*, a bird, and *specio*, to observe.] Omens drawn from observing the actions of birds; augury.—See AUGURY.

—Favorable appearance; patronage; protection; fortune; used generally in the plural; as, under happy *auspices.*

Auspi'cial, *a.* Pertaining to auspices; relating to prognostics. (R.)

Auspi'cious, *a.* Having or bringing auspices, or omens of success; favorable; fortunate; propitious; prosperous; happy; as, an *auspicious* day.

Auspi'ciously, *adv.* Happily; prosperously; favorably; propitiously.

Auspi'ciousness, *n.* State or quality of being auspicious; a state of fair promise; prosperity.

Aus'sa, AU'SA, or HAWA'SA, formerly an important town of E. Africa, in the country of Adel, 85 m. S.W. of Zeyla, on the Straits of Bab-el-Mandeb. The learned sheiks of the Mudaito tribes reside here. *Pop.* 6,000.

Aus'tell, St. See AUSTLE, ST.

Aus'ten, JANE, a popular English novelist, B. in Hampshire, 1775. Her principal works, as *Sense and Sensibility, Pride and Prejudice, Mansfield Park*, and *Emma*, present the delineation of character of every-day English domestic life. D. 1817.

Aus'ten, in *Western Virginia*, a post-office of Preston co.

Aus'ter, *n.* [Lat. *auster*, the south; a dry, hot, south wind.] The south wind.

Austere', *a.* [Fr. *austère;* Gr. *austēros*, from *auō, azō*, to dry, or parch up; Lat. *austerus.*] Making the tongue dry and rough; contracting or affecting the tongue; rough; acrid; sour to the taste; with astringency to the palate.

"Th' *austere* and pon'drous juices they sublime."—*Blackmore.*

—Severe; harsh; stern; rigid;—in application to manner of judging, acting, living; as, an *austere* monk.

"*Austere* Saturnius, say
"From whence this wrath? or who controls thy sway?"—*Pope.*

Austere'ly, *adv.* In an austere or rigid manner.

"Hypocrites *austerely* talk
"Of purity, and place, and innocence."—*Milton.*

Austere'ness, *n.* Acerbity; roughness; acridity of taste.

—Severity or harshness of manner; austerity; as, "Th' *austereness* of my life."—*Shaks.*

Auster'ity, *n.* [Fr. *austérité;* Lat. *austeritus.*] Austereness; severity of manners or life; strictness of discipline; rigor.

"Let not *austerity* breed servile fear."—*Lord Roscommon.*

Aus'terlitz, a small town of Moravia, on the Littawa, 13 m. S.E. of Brünn; *pop.* 3,671. In the vicinity, on Dec. 2, 1805, was fought the famous battle that bears its name, between the French army of 80,000 men, commanded by Napoleon, and the combined Russian and Austrian armies, numbering 84,000, under their respective emperors; in which the former achieved a signal victory. According to Alison, the allies lost 30,000 in killed, wounded, and prisoners, and the French, 12,000. The battle was followed by an armistice, the terms of which were dictated by Napoleon; and immediately after, on the 26th of December, by the treaty of Presburg, which disastrously affected Austria. The battle of *A.* is sometimes called the *Battle of the Three Emperors.*—See PRESBURG, NAPOLEON, &c.

Aus'terlitz, in *Michigan*, a post-village of Kent co., on Grand River, about 10 m. N.N.E. of Grand Rapids, and 178 W. by N. of Detroit.

Aus'terlitz, in *New York*, a post-village and township of Columbia co., 31 m. S.S.E. of Albany.

Aus'tin, St. See AUGUSTINE.

Aus'tin, in *Arkansas*, a village of Lonoke co.

Aus'tin, in *Illinois*, a township of Macon co.

Aus'tin, in *Indiana*, a post-village of Scott co., 33 m. S. of Columbus.

Aus'tin, in *Iowa*, a village of Fremont co., about 8 m. E. of the Missouri River.

Aus'tin, in *Michigan*, a post-village of Oakland co.

—A township of Sanilac county, situated near Lake Michigan.

Aus'tin, in *Minnesota*, a post-township of Mower co., containing Austin, the county seat.

—A flourishing city, cap. of Mower co., on Red Cedar river, 90 m. S. of St. Paul, and 40 m. S.W. of Rochester. *Pop.* (1890) 3,901; (1898) 6,250.

Aus'tin, in *Mississippi*, a post-village of Tunica co., on the Mississippi, about 50 m. S.W. of Memphis.

Aus'tin, in *Missouri*, a village in Atchison co.

—A post-village of Cass co., about 50 m. S.S.E. of Kansas City.

Aus'tin, in *Nevada*, a mining city, cap. of Lander co., about 160 m. E. of Virginia City, at the E. base of the Toiyabe Mountain.

Aus'tin, in *Tennessee*, a village of Wilson co.

Aus'tin, in *Texas*, a county in the S.E. part of the State. *Area*, 950 sq. m. The Brazos river flows through the county, which is also watered by the Bernard, East, West, Middle, and Mill creeks. The soil is fertile toward the

N., but sandy in the S *Prod.* Cattle and sheep, butter, poultry, &c. Hogs are raised in large quantities, and almost without cost, owing to the abundance of feed. Cap. Bellville.

AUSTIN, capital of Texas, and seat of justice of Travis co., on the Colorado river, about 230 m. W.N.W. of Galveston. It is a picturesque city, rapidly increasiug in wealth and population. The capitol, situated upon an emiuence, is a fiue Texas-marble structnre. There are 7 churches, and 18 schools. *Pop.* in 1880, 10,960; in 1897, 14,575.

Aus'tinburgh, in *Ohio*, a post-village and towuship of Ashtabula co., 50 m. E.N.E. of Cleveland, and 10 from Ashtabula Harbor on Lake Erie.

Aus'tin's Mills, in *Tennessee*, a P.O. of Hawkins co.

Aus'tintown, in *Ohio*, a township of Mahoning connty.

Aus'tinville, in *Missouri*, a post-village of Livingstou co., 140 m. N.W. of Jefferson City.

Aus'tinville, iu *Pennsylvania*, a post-village of Bradford co., about 18 m. S. by W. from Elmira, in New York.

Aus'tinville, in *Virginia*, a village of Wythe co., 15 m. E.S.E. of Wytheville.

Aus'tle, St., or AUSTELL, ST., a town and parish of Cornwall, England, 13 m. from Truro. *Pop.* about 11,000. In the neighborhood are extensive tin and copper mines.

Aus'tral, *a.* [Fr.; Lat. *australis*—*auster*, the south.] Southern; lyiug in, or belonging to the south.

Austral Signs. (*Astron.*) An expression applied to the last 6 signs of the zodiac, viz.: the autumnal signs Libra, Scorpio, and Sagittarius; aud the winter signs Capricornus, Aquarius, and Pisces; because they lie to the south of the equinoctial.

Australa'sia, ("Southern Asia,") a term used by most modern geographers to denote the archipelago of islands lying between 35° N. and 56° S. Lat., and between 94° and 105° E. Lon.; the entire extent of which is estimated to be not much less than Europe, and forms the fifth great division of the globe. This term, however, is said, by some, to be both politically meaningless, and geographically incorrect. It is used in Great Britain to express her antipodean possessions in the aggregate. In this sense it comprises Australia (or New Holland), Tasmania (or Van Diemeu's Land), New Zealand, New Britain, New Irelaud, the Solomou Islands, &c. In the colonies themselves, the name *A.* is almost unkuown, or when used, is inteuded to embrace Australia and Tasmania, rather than Australia and New Zealand. The latter islands are as far apart from each other as England and Massachusetts; and the distance from Wellington, N. Z., to Sydney, (opposite ports,) is as great as that from Africa to Brazil. *A.* forms one of the three divisions of what is termed *Oceanica;* the other two being *Polynesia*, and *Malaysia*, or the Malay group of islands. For a general designation the British have adopted *Australasia;* the French, *Oceanica;* and the Germans, *Australia.*—The first discovery made by Europeans in this qnarter of the globe was that of Papna (*q. v.*), by the Portnguese, in 1512; and the first settlement that of the English, iu 1787.

Australa'sian, *a.* Pertaining to Australasia.

—*n.* A native, or an inhabitaut of Australasia.

Austra'lia, (the "Southern region,") formerly called NEW HOLLAND. The largest islaud in the world; so large, indeed, that it may be very properly termed a continent. It lies to the S. of Asia, between the Iudiau and Pacific oceans; aud is bounded on the N. by Torres Straits, the Sea of Timor, and the Papnas, or islands of New Guinea; on the E. by the S. Pacific; on the S. by Bass's Strait, Tasmania, and the S. Pacific; and on the W. by the Indian ocean. *A.* lies betweeu 10° 39′ aud 30° 11½′ S. Lat., and extends from 113° 5′ to 153° 16′ E. Lon. Its average length and breadth may be estimated at 2,500 aud 1,800 m. respectively. *Area*, estimated at about 3,000,000 sq. m. The continent of *A.* is divided into 5 different states or territories, all belouging to Great Britain,—viz., *S. Australia*, *W. Australia* (or Swan River), *Queensland* (or Moreton Bay), *New South Wales*, and *Victoria.*—Following ont the plan laid down in our treatment of Asia (*q. v.*), we request the reader's refereuce to those several divisions (as they shall appear in their dne places), for such geographical and physical pecnliarities of configuratiou as may belong to them; conteuting onrselves here with a panoramic view of the contiuent in its concrete form.—TOPOGRAPHY. *A.* possesses a coast-line of 8,000 m., which forms a great series of promontories, the chief of which are, on the N., Capes Londonderry, Bougainville, Coburg, and Arnhem; N.E., York; E., Melville, Bedford, Townsheud, Capricorn, Byron, Hawke, and Howe; S., Wilson's Promontory, Capes Otway, Northumberland, Willoughby, Jervis, and Radstock; and on the W., Capes Leeuwin, Naturaliste, Preston, and N.W. Cape. Notwithstanding the many excellent harbors found on its coasts, great indentations of the sea are in *A.* not numerous. Of such, the principal are the Gulfs of Carpentaria and Cambridge, on the N., and Spencer's Gulf on the S. The first has a breadth of 400 miles, and penetrates inland for a distance of nearly 700, while the last-named is in no part wider than 80, nor extends inland further than abont 180 m. Shark's Bay on the W., and Harvey's on the E., are of much smaller dimensions.—*Straits.* That of Torres, on the N., separates this continent from the island of New Guinea; on the S., Bass's Strait intervenes between it and Tasmania.—*Desc.* The interior of this vast country has been only partially explored, and therefore cauuot be fully and accurately described. It is, so far, understood to form an immense plain, composed largely of sandy and stony deserts, though with large areas of some degree of fertility. Captain Sturt, who, iu 1845, explored it as far as Lat. 25°33′ S., and Lon. 138° E., describes the country as a series of sand-hills, of a fiery red color; but later travellers give more favorable descriptious of the central expanse. It is on the S. and E. coast-land that the best soil, and most picturesque scenery, are found. In these portions of the coutinent are situate those extensive pasture-lands, called *downs*, which are somewhat equivalent to the American prairies; on these grassy plains thousands upon thonsands of cattle and sheep are reared; while the river-bottoms, again, have an unsurpassed richness of soil and vegetation, yielding abundaut crops of grains aud fruits. All these best lands of *A.* are already taken up by settlers; the continent has three-quarters the area of Europe, but it is doubtful if *A.* will ever be able to support a dense population throughout even half her limits. The central part of *A.*, to the extent, perhaps, of half the eutire continent, lies too far N. for winter rains, too far S. for tropical wet seasons, and in these vast solitudes agriculture may be prouounced impossible, and eveu sheep-farming difficult. Once in a while, a heavy winter rain falls in the interior; grass springs up, the gullies are filled, the up-conntry squatters make their fortunes, and all goes on prosperously for a time. Two or three years of drought then follow, and all the more enterprising sqnatters are ruined; with a gain, however, sometimes, of a few thousand square miles of country to civilization.—*Mountains.* The Australian Alps, or Warragongs, the Blue Mountains, and the Liverpool Range, form the principal mountain-chain. This system extends from Wilson's Promontory on the S., and terminates at Cape York, on Torres Straits. The culminating point of the Blue Mountains is Mount York, an altitnde of 3,292 feet above the sea. The loftiest summits of the Liverpool Range are computed at from 4,000 to 7,000 ft., while Mount Kosciusko, in the Australian Alps, attains a maximum elevation of 6,500 ft., commanding a *coup d'œil* of 7,000 sq. m. of country. On the S. coast, are the Australian Grampians, connecting with the Australian Pyrenees, which, starting from Portland Bay, and skirting the coast, take a course to the N., and ultimately form a junction with the Australian Alps. In the S., still another mountain-chain is found, which, rising at Cape Jervis, advances N., and becomes lost in the depression of Lake Torrens. Among these mountains are traced many evidences of an extinct volcanic system.—*Rivers.* Of these, the most noticeable are the Murray, which great stream receives the Darling, Castlereagh, Peel, Macquarie, Bogan, Lachlan, and Murrumbidgee. The extent of the basin drained by this fluvial system is not accurately known. Falliug into the Pacific on the E. are the Hunter and Hawkesbury rivers; the Blackwood and Glenelg empty into it on the S.; while on the W., embouching into the Iudian ocean, are the Swan and the Canning, with the Adelaide, the Liverpool, and the Alligator rivers on the N.—*Lakes.* The largest inland sheet of water is Lake Torrens in the S., which is estimated to have an entire length of 400 m., with an average breadth of from 15 to 20. In the dry season, however, this lake is little better than a salt-marsh. Lakes Victoria aud Dambeling may also be mentioned; the first, traversed by the Murray river, being also iu the S.; and the latter, (discovered in 1843,) in the W. division of the continent. *Bot.* Our knowledge of the *flora* of *A.* is, as yet, circumscribed. Parts in the W. and S. may be found teeming with a luxuriant and even gigantic vegetation, forming, in places, bowers of almost tropical density of growth, and beauty of efflorescence. One of the finest ornaments of the Australian forest is the fern-tree, which, when it has reached a height of 15 to 20 feet, throws out in every direction gigantic leaves measuring 4 to 5 feet. On the E. and N. shores, where the vegetation is more Indian-like, the palm flourishes in juxtaposition with the rarer examples of the tropical arboretum. It is affirmed that one-eighth of all the known species of vegetables are peculiar to *A.*—*Zoöl.* The wild animals of the Australian contiuent are not so numerous as they are peculiar: such as the kangaroo, wombat, dingo or wild dog, and the ornithorhynchus, which is one of the most remarkable animals in existence, beiug aquatic iu its habits,

Fig. 244.—THE ORNITHORHYNCHUS.

and a layer of eggs. Within the decade beginning 1860, hares and rabbits were introduced from Europe; aud the latter, especially, has become so acclimatized, that its fecundity has got to be, at the present time, a serious nuisance to the farming interest of the country. The domestic breeds of animals are much the same as those of Europe and America; sheep is, *par excellence*, the staple stock, producing annually vast quantities of the finest wool. The Alpaca has been introduced, and may prove a valuable addition to the ovine wealth of the colonists. The birds of *A.* are almost as peculiar as some of the animals. Among them are the emu (Australian ostrich), the black swan, and a kind of thrush known as the *laughing-jackass.* Parrots of brilliant hues are numerous, and rivalling them in gorgeous plumage are the rifle-bird, the lyre-bird, and the ring-oriole. Game birds, as the pheasant and partridge, have become acclimatized. Of reptiles, the most formidable are a large lizard, many kinds of serpents, more or less venomous, as the diamond snake, the black, gray, brown, yellow and whip snakes. There are also found scorpions, centipedes and tarantulas. Fish is found in great plenty all along the coasts.—*Clim.* The climate is, in general, dry and healthy, except during the winter rains, which are of but brief duration. Excessive droughts are, as before stated, the prevailing drawback to the prosperity of the country. *Prod.* Sheep-farming is the staple industry of *A.*, and is conducted on the most gigantic scale, some squatters owning as many as 500,000 sheep. As a necessary result, wool forms the leading article of export. Wheat, maize, fruits, tobacco, flax, sugar, grapes for wine making, &c., are also extensively cultivated.—*Min.* The great discoveries of gold in New S. Wales, in 1850, and in Victoria, in 1852, have eclipsed all other mining operations. The yearly value of gold exp., on av. of 40 years (1851–1890), has been $40,000,000. Silver, tin, lead, and copper abound; the Burra-Burra mines yielding annually large returns of the latter metal. Coal, slate, potter's clay, and statuary-marbles are also found in quantities.—*Inhab.* The aborigines are of the Papuan Negro race; of a deep coffee-color; nomad character; disgusting in their habits; and blindly superstitious,—believing in a kind of Fetichism represented by two wooden deities, named *Koyan* (good), and *Potoyan* (bad), respectively. Like other savages, they are frequently at war among themselves,

Fig. 245.—NATIVE AUSTRALIAN.

though they shrink from encountering even the smallest number of Europeans. Their weapons are, mostly, the spear, or *assagai*, and the *boomerang* (q. v.), a weapon of an entirely unique character. These natives are decreasing in number; and will, without doubt, rapidly become extinct in the course of a few years, before the steady advance of the European races. The colonization of *A.* has been extremely rapid. In 1830, her population was under 40,000; in 1870 it numbered 1,565,293, and 3,030,771 by the census of 1891, the yearly increase during the last ten years being five per cent., without any marked tendency to a larger increase in years to come. Small as are the populated portions of Australia, when compared with the corresponding divisions of the United States, this country, nevertheless, is a vast one. The part of Queensland already settled is 5 times larger than Great Britain. South *A.* and West *A.* are each of them nearly as large as British India, while Victoria is only the 34th part of the continent: but of these colonies the greatest part is desert, and, owing principally to the want of water, the inner part of the country seems absolutely unfit for cultivation. Morally and intellectually, at all events, *A.* is thriving. A literature is springing up, and a national character is being grafted on the good English stock.—*Religion.* Of the religious aspect of *A.* little need be said. Wesleyanism, Catholicism, and Presbyterianism, are stronger than all other forms of belief, and the general mingling of conflicting races extends to the religious edifices of this land. In Melbourne alone may be seen in close proximity to one another the graceful Wesleyan church, the Chinese Joss-house, and the Catholic cathedral. In *A.*, the admixture of blood is as yet small. In S. Australia, where it is most to be found, the Catholics and Wesleyans divide between them the preponderance of inhabitants. The Church of England, or Anglicanism, is naturally strongest in New S. Wales, where the colonists are most exclusively of English extraction.—*Com.* The bulk of the trade of *A.* is with Great Britain, the exports reaching nearly $265,400,000 yearly, the imports $300,000,000. The commercial inter-

Longitude East from Greenwich.
CHINA
FRENCH INDO CHINA
SIAM
BANGKOK
GULF OF SIAM
GULF OF TONG-KING
HAINAN
FORMOSA
FORMOSA STRAIT
CHINA SEA
PHILIPPINE ISLANDS (U. S.)
MANILA
MINDORO SEA
CELEBES SEA
SULU ARCHIPELAGO
MALAY PENINSULA
SARAWAK
JAVA SEA
BATAVIA
BANDA SEA
FLORIS SEA
ARAFURA SEA
SUNDA ISLANDS
MALAYSIA
MELANESIA
PAPUA OR NEW GUINEA
KAISER WILHELM LAND (GERMAN)
BISMARCK ARCHIPELAGO
Torres Strait
CAROLINE ISLANDS (GERMAN)
MARIANNE OR LADRONE ISLANDS (GER.)
MICRONESIA
PACIFIC OCEAN
INDIAN OCEAN
Dividing line between Asia and Oceania
GULF OF CARPENTARIA
GREAT BARRIER REEF
TASMANIA OR VAN DIEMENS LAND
AUSTRALIA
WESTERN AUSTRALIA
SOUTH AUSTRALIA
QUEENSLAND
NEW SOUTH WALES
VICTORIA
GREAT SANDY DESERT
THE GREAT VICTORIA DESERT
NULLARBOR PLAIN
GREAT AUSTRALIAN BIGHT
PERTH
ADELAIDE
MELBOURNE
SYDNEY
Bass Strait
NEW CALEDONIA AND LOYALTY ISLANDS.
LOYALTY ISLANDS
NEW CALEDONIA
PACIFIC OCEAN
HAWAII OR SANDWICH ISLANDS.
KAUAI
OAHU
HONOLULU
MOLOKAI
LANAI
MAUI
KAHOOLAWE
HAWAII
PACIFIC OCEAN

Longitude West from Greenwich

160° 8 170° 9 180° 10 170° 11 160° 12 150° 13

A B C D E F G H

NORTH PACIFIC OCEAN

MICRONESIA

POLYNESIA (PROPER)

(BRITISH)

MELANESIA

SOUTH PACIFIC OCEAN

TROPIC OF CANCER

TROPIC OF CAPRICORN

EQUATOR

Dividing line between Polynesia proper and Micronesia

Dividing Line between Australasia and Polynesia

Dividing line between Australia with New Zealand and Melanesia

Patroclolo or Byer I.
Cure I.
Midway I.
Lisianesky
Lisyan I.
Gardner I.
Necker I.
Molu Mano or Bird I.
HAWAIIAN OR SANDWICH ISLANDS
Nihau
Kauai I.
Oahu
HONOLULU
Molokai
Maui
Kahulanui
Kawaiihae
Napoopo Pt. (U. S.)
Hawaii I.
Peli Pt.
Wake I. (U. S.)
Johnston I.
Garfan Rico or Toangi Is.
Pinzelab or Bikini I.
Rongelab I.
Utirik I.
Rongerik I.
Taka I.
Wotthe I.
Ailuk I.
Mejit I.
Providence Is
Mantechikoff Is.
Jemo I.
Wotje I.
Radack Is.
Lac I.
Aillinglab I.
Maloelab I.
Ratick Is.
MARSHALL ISLANDS
Pinlap I.
Namorik I.
Mulgrave Is.
Kusaier I. (Ualan)
Boston Is.
Matador I.
Taritari I.
Makin I.
Marakl I.
Tarawa I. (Cook I.)
Malaoa I.
Kuria I.
Apamama I.
GILBERT ISLANDS
Tapitcuea I. (BR.)
Nikunau I.
Tamaoa I.
Arorae I.
Nanodo or Pleasant I.
Panapa or Ocean I.
Howland I. U. S.
Baker I.
Palmyra I
Washington or New York I.
Fanning I. (Br.)
Christmas I.
Jarvis I.
Mary I.
Enderbury I.
McKean I.
Phoenix I.
PHOENIX ISLANDS
Gardner I.
Hull I.
Malden I.
Starbuck I.
Tongareva or Penrhyn I.
Caroline I.
Tabuais Is.
SOLOMON ISLANDS
Manaca or Treasl. I.
Gower I.
Bikiasa I.
Motutil I.
Mahi I.
Russell I.
Ulaua I.
Dorr Is.
Guadalcanar I.
S. Cristoval
Santa Cruz I.
Tupua I.
VANIKORO Is.
Bellona I.
Rennell I.
Matema or Swallow Is.
SANTA CRUZ ISLANDS
Anouda I.
(BR.)
Fataka I.
Torres Is.
Vanua Lava I.
Oana I.
Valua I.
Merigi I.
NEW HEBRIDES ISLANDS
Espiritu Santo
Mallicollo
Aurora I.
Pentecost I.
Ambirr I.
Api I.
Mal I.
Tongoa I.
Sandwich I.
Huon Is.
Chesterfield Is.
Bellep Is.
Erromango I.
Tanna I.
Aniwa I.
Futuna I.
Aneityum I.
Balade
Uvea I.
LOYALTY ISLANDS
NEW CALEDONIA
Lifu I.
Mare I.
Walpole I.
Isle of Pines
Numbea
Mathew I.
Hunters I.
Bellona Reefs
Lakena
Nanumea I.
Nanumanga I.
Niutao
Netherland I.
Nukufetau
Vaitupu I.
Ellice I.
ELLICE ISLANDS
Mitchell Is.
Rotuma I.
Independence I. or Sophia I.
Futuna or Wallis I. (FRENCH)
Hoorn Is.
Savaii I.
Upolu I.
Tutuila I.
Apia
Pago-Pago
Manua
SAMOA OR NAVIGATORS ISLANDS
Rose I.
Vanua Levu
Rimgold Is.
Tavuiui
Yasawa Is.
Exploring Is.
Viti Levu
Suva
FIJI ISLANDS
Vatu Lele
Kandavu
Mbau
Matuku
Oncata I.
Vulanga
Vatoa
Tofoa
Vavau
Fonualei I.
Haapai
Savage or Niue I. (Br.)
Nomuka
Hunga Haabai
TONGA OR FRIENDLY IS.
Ono-Lau
Simbuoff
Tongatabu
Michaeloff
Ena
Kanfa or Pylstaart
Tokelau Islands
Gente Hermosa I.
Fukapuka or Danger I.
Nassau I.
Rakahanga I.
Manihiki I. (Humphrey I.)
Vostock
Roggevein I.
Flint I.
Souvoroff I.
Bellinghausen
Scilly I.
Mopelia I.
Tupai I.
Tahaa I.
Porapora I.
Raiatea I.
Makatea
Fakarava I.
Fasaiti
Anaa
Matahiva I.
Rangiroa I.
Arutua I.
Apataki I.
Takaroa I.
Aratika I.
SOCIETY ISLANDS
Taquarmaou I.
Tahiti I.
Tapuputeo
Maiea I.
Palmerston I.
Aitutaki I.
Cook Islands (BRITISH)
Rarotonga I.
Mangaia I.
Manuae
Mauke I.
Hull I.
Rimatara I.
Rurutu I.
AUSTRAL ISLANDS
Tunual I.
Ravaival or Vavitao I.
Herchertua I.
Savage or Niue I. (Br.)
Norfolk I.
Philip I.
Elizabeth R.
Raoul or Sunday I.
Macauley I.
Curtis I.
KERMADEC ISLANDS
Lord Howe I.
Three Kings Is.
North Cape
C. Maria Van Diemen
Ahipara Bay
Hokianga
Kawakawa
Gt. Barrier I.
Auckland
Thames
Tauranga
East Cape
Hamilton
Albatross Pt.
Tapatahi
Gisborne
Napier
Hawke Bay
New Plymouth
Cape Egmont
Wanganui
Cook Strait
C. Farewell
C. Turnagain
Nelson
Wellington
C. Palliser
Greymouth
Hokitika
Hurunui R.
Christchurch
Akaroa
Timaru
Oamaru
Fort Chalmers
Dunedin
Molyneux
Cascade Pt.
Milford Sound
Resolution I.
C. Providence
Stewart I.
S. W. Cape
NORTH ISLAND
SOUTH ISLAND
NEW ZEALAND
Chatham Is
Cornwallis Is.
Kermadec Islands
Hiau I.
Motutii I.
Nukahiva I.
Uapu I.
Tauata I.
Ooatz Islands
Uauka I.
Hivaoa I.
Motane
Fatuhiva
MARQUESAS ISLANDS (FRENCH)
Rangiroa I.
Matahiva I.
Ahii I.
Apataki I.
Mahiai I.
Takaroa I.
Aratika I.
Taiopoto I.
Napuka I.
Tikahau I.
Arutua I.
Pukapuka I.
TUAMOTU OR LOW ARCHIPELAGO
Elmao I.
Fakarava I.
Papeete
Tahanea I.
Haraiki I.
Reitoru I.
Hikuero I.
Nengonengo I.
Parsoa I.
Pinaki I.
Tahiti I.
Makemo I.
Raroia I.
Marutea I.
Aspatuan I.
Fakarea I.
Fakaina I.
Amanu I.
Tatakoteroa
Natupe I.
Nukutavaki I.
Vahitahi I.
Pukaruka I.
Hao I.
Hercheretua I.
Anuanuranga I.
Nukutipipi I.
Vaoavano I.
Tunoa I.
Temarunga I.
Temataugi I.
Maruroa I.
Anaaiti I.
Ahunui (Fangateofa)
GAMBIER ISLANDS
Morane I.
Mangarera I.
Timoe I.
Oeno I.
Elizabeth I.
Pitcairo I.
Rapa or Rapaiti I.
Rasa Is.
(FRENCH)
Raraival or Vavitao I.
Tubual I
S. Juan Bautista Is.
Easter I.
EASTERN PORTION OF POLYNESIA
On Same Projection.

Rand, McNally & Co.'s New 14 x 21 Map of Oceania. Copyright, 1896, by Rand, McNally & Co.

COUNTRIES.

BISMARCK ARCHIPELAGO D 6
(German Protectorate)
Area, 19,000 sq. m.
Pop. 190,000

FIJI....E 9
(British Colony)
Area, 7,740 sq. m.
Pop. 121,180

HAWAII ....H 4
(Republic)
Area, 6,640 sq. m.
Pop. 89,990

KAISER WILHELM'S LAND D 6
(German Protectorate)
Area, 72,000 sq.m.
Pop. 110,000

MARQUESAS ISLANDS..F 12
(French Colony)
Area...480 sq. m.
Pop. 5,145

MARSHALL ISLANDS..C 8
(German Protectorate)
Area...150 sq. m.
Pop. 10,000

NEW CALEDONIA..H 2
(French Colony)
Area, 6,000 sq. m.
Pop. 62,752

NEW GUINEA D 6
(British Colony)
Area, 90,000 sq. m.
Pop. 135,000

NEW SOUTH WALES..G 6
(British Colony)
Area, 310,700 sq. m.
Pop....1,132,234

NEW ZEALAND H 9
(British Colony)
Area, 104,471 sq. m.
Pop. 626,658

QUEENSLAND F 6
(British Colony)
Area, 668,497 sq. m.
Pop. 393,718

SAMOA ....E 11
(Kingdom)
Area, 1,701 sq.m.
Pop. 36,000

SOCIETY ISLANDS..E 12
(French Colony)
Area..1,412 sq. m.
Pop. 25,050

SOLOMON ISLANDS..D 7
(German Protectorate)
Area..9,000 sq.m.
Pop. 80,000

SOUTH AUSTRALIA..F 5
(British Colony)
Ar..903,690 sq. m.
Pop. 315,048

TASMANIA..H 6
(British Colony)
Area..26,215 sq.m.
Pop. 146,667

TONGA....F 10
(Kingdom)
Area...374 sq. m.
Pop. 20,000

TUAMOTU AND GAMBIER ISLANDS..G 12
(French Colony)
Area...390 sq. m.
Pop. 6,536

VICTORIA...G 6
(British Colony)
Area..87,884 sq.m
Pop. 1,140,411

COUNTRIES.
(Continued)

WALLIS ISLANDS..E 10
(French Colony)
Area....60 sq. m.
Pop. 3,500

WESTERN AUSTRALIA..F 4
(British Colony)
Ar..975,920 sq. m.
Pop. 49,782

CHIEF CITIES.

Pop.—Thousands.

458 Melbourne G 6
220 Sydney.. G 7
49 Brisbane.. F 7
38 Adelaide..G 5
36 Hobart ... H 6
31 Wellington H 9
29 Auckland..G 9
22 Dunedin .. H 9
22 Launceston H 6
20 Geelong ..G 6
20 Newcastle G 7
20 Honolulu.. H 4
16 Christchurch H 9
12 Goulburn ..G 6
12 Rockhampton..F 7
9 Maryborough F 7
9 Townsville E 6
8 Bathurst ..G 6
8 Napier ....G 9
8 Brighton ..H 6
8 Perth .. ....G 3
6 Fremantle ..G 3
4 Hilo....H 5
4 Noumea(Port de France) H 2
2 Gawler .... G 5
2 Kapunda .. G 5
1 Geraldton ..F 3
1 Port Augusta..G 5
1 Port Moresby..D 6

course of *A.* with the U. S. is relatively small, though it is steadily increasing, and promises eventually to become an important part of our foreign trade. Our exports thither are particularly on the increase. It appears from a general view of Australian progress in the last 20 years, that the provinces less rich in gold than Victoria have been enabled to advance in prosperity by other means. Wool continues the great staple of *A.* But New South Wales, possessing both coal and iron, is becoming a seat of manufactures; while Queensland is also favored with much mineral wealth, including tin. Meantime South *A.*, besides its production of copper and a fair share of wool, has become the great wheat growing province of the continent.—HISTORY. The first authentic knowledge of *A.* was acquired in 1606, from Torres, a Spanish voyager, who, passing through the strait that now bears his name, discovered the N. part of the continent. The Dutch continued to be the chief explorers for the next 40 years, and between 1642 and 1644, Tasman completed the discovery of a large portion of the *A.* coast, together with Van Diemau's Land, or, as it is now very properly termed, Tasmania. The Dutch gave to different sections of their newly found country the names of Carpentaria, De Witt's Land, Arnheim's Land, &c. It was late before the English people entered on the path of Australasian discovery; but when they did, they followed it with characteristic energy. Dampier, between 1684 and 1690, explored and completed a survey of the W. and N.W. coasts. Wallis, Carteret, and Cook succeeded to his exploratorial career, and the latter, in 1770, traced the whole E. coast of the continent. In 1788, the British established a colony at Sydney, and also a penal settlement. During successive years, new discoveries in *A.* were made by quite a host of explorers, as Bass, Flinders, Oxley, King, Sturt, Mitchell, Grey, Eyre, Lauder, Leichardt, and Roe. On the 8th of May, 1851, Hargreaves discovered the existence of gold in Ophir, near Bathurst, in the colony of Victoria. The local government claimed the right of search for the precious metal on behalf of the crown on the 17th; and, before two days had elapsed, the Ophir diggings had a population of 600 miners. Dr. Kerr, in one day, July 14th, discovered a cwt. of gold, and at the end of 1857, the total value of the article derived from *A.* had amounted to $330,677,420. From 1855 onward *A.* was further explored by Gregory, Stuart, Warburton and various others, and knowledge of it greatly increased. The expedition sent to Central Australia in 1895 by W. A. Horn made valuable scientific and geographical observations. It was found that though wide areas were desert, yet that a vast tract of country is watered by streams which at times of flood overflow their banks and produce a luxuriant growth of vegetation over broad regions. This country has been named the Australian Steppes. In 1864, the colonists obtained from the English government the abolition of the penal system as regarded the transportation of convicts to their country. The uninterrupted and rapid progress of the country since that time was made known to the world in the two International Exhibitions held at Sydney in 1879–1880, and at Melbourne in 1880–1881. More specific information on the separate colonies of *A.* is given under their respective names. See AUSTRALIA, SOUTH, NEW SOUTH WALES, and QUEENSLAND.

Austra'lia, in *Mississippi*, a post-office of Bolivar co.

Austra'lian, *a.* Pertaining to Australia.

—*n.* A native or denizen of Australia.

Aus'tralize, *v. n.* To tend toward the south, as one pole of a magnet.

Austra'sia, (the "East Kingdom.") The name given, under the Merovingians, to the eastern possessions of the Franks, embracing Lorraine, Belginm, and the right bank of the Rhine. These districts, thickly inhabited by Franks, and forming the connection with the Germau mother-country, were of great importance at the time of the rise of the Frankish power. *A.* was allotted to Thierry I. on the death of his father Clovis I., A. D. 511. Siegbert I. transferred the capital from Rheims to Metz, in 561. It was united to Neustria by Clotaire II. in 613, and separated from it by Dagobert I. in 622. Charles Martel annexed it to his dominions in 737. Carlomau received *A.* on the death of Charles Martel in 741, and Charlemagne annexed it to his empire in 772. From this time the division of the Frankish kingdom into *A.* and Neustria lost its political importance.

Aus'tria (Archduchy of), or, as it is frequently termed, the "Hereditary States," forms the two provinces called, respectively, UPPER AUSTRIA, and LOWER AUSTRIA, belonging to the Austrian empire. It is bounded N. by Bohemia and Moravia; E. by Hungary; S. by Styria and Carinthia; and W. by Bavaria and Salzburg. The river Enns divides the two provinces into which *A.* is divided, and which have an area of 11,612 sq. m. *A.* (or *Austria Proper*) has a fertile soil, and is for the most part well cultivated, yielding excellent crops of wheat, oats, and barley. It also possesses large forests and vineyards, the latter producing annually about 25,000,000 gallons of wine.—*Min.* Gold, silver, lead, copper, iron, alum, arsenic, and graphite.—*Manf.* Woollens, cottons, and fabrics of flax.—*Chief Towns.* Vienna (the capital of the empire), Linz, and Wiener-Neustadt. *Pop.* 3,447,630.

Aus'tria, or, more correctly, **Austria-Hungary,** an empire in the southern portion of Central Europe, lying between 9° and 26° E. Lon., and 42° and 51° N. Lat., and thus extending through 17 degrees of lon. and 9 degrees of lat. With the exception of the islands in the Adriatic, and the narrow projecting tract of Dalmatia, it forms a compact region of country, but of an irregular shape. It ranks second in extent among the countries of Europe, exceeded only by Russia, and third in point of population (after Russia and the German Empire). This empire—exclusive of the Turkish provinces which were annexed in 1878—is divided into 19 provinces, whose area and population, according to the latest official information, are as follows:

Provinces.	*Area in Eng. sq. m*	*Population*	*Capitals.*
GERMAN MONARCHY: (*Cis-leithan countries.*)			
Austria (Lower)	7,654	2,661,799	VIENNA.
Austria (Upper)	4,631	785,831	Linz.
Salzburg	2,767	173,510	Salzburg.
Styria	8,670	1,282,708	Grätz.
Carinthia	4,005	361,008	Klagenfurt.
Carniola	3,856	498,958	Laybach.
Coastland; (Gœrtz, Gradisca, Istria, and Trieste)	3,084	695,384	Trieste.
Tyrol and Vorarlberg	11,324	928,769	Innsbruck.
Bohemia	20,060	5,843,094	Pragne.
Moravia	8,583	2,276,870	Brüun.
Silesia	1,987	605,649	Brüun.
Galicia	30,307	6,607,816	Lemberg.
Bukowina	4,035	646,591	Czernowitz.
Dalmatia	4,940	527,426	Zara.
KINGDOM OF HUNGARY. (*Trans-leithan countries.*)			
Hungary	87,043	12,485,727	Pesth
Croatia and Slavouia	16,773	2,200,977	Agram.
Trausylvauia	21,215	2,746,432	Klausenburg.
Town of Finme	8	30,337	Temesvar.
Total	240,943	41,358,886	
TURKISH PROVINCES. *Placed under Austrian administration by the Treaty of Berlin.*			
Bosnia	16,417	1,188,517	Bosna-Serai.
Herzegovina	4,308	197,574	Mostar.
Novi-Bazar	3,572	175,000	Novi-Bazar.
Total	24,247	1,561,591	

GENERAL DESC.—The empire of *A.* exhibits every variety of surface; and the geographical features and physical characteristics of the many countries comprised within its limits are so various and individually peculiar, that we shall here but group together the more salient features of their natural appearance as a whole. By referring the reader to the several divisions and states as they will appear under their alphabetical heads in this work, we shall better present a more intelligible and succint account of their special topographical attributes.—*Mountains.* The principal mountain systems are: 1. The *Hercyno-Carpathian* chain, which divides the regions of the German Ocean and Baltic Sea from those of the Black Sea and the Mediterranean. Rising in Switzerland, this range traverses the Vorarlberg and Bavaria to the N.E. frontier of Bohemia, where it throws out an offshoot called the *Erzgebirge*, stretching into the latter country, and into Saxony. Proceeding S.W., this chain runs, under the name of the *Bohemian Forest*, nearly to the Danube, where, dividing Moravia from Bohemia, it sends out a branch into Silesia, called the *Riesengebirge.* The central Carpathians extend through Hungary as far as the sources of the Save and Dniester, and their eastern link covers N.E. Hungary, the Bukowine, and Transylvania. 2. The second mountain range, covering a larger tract of country, and possessing more elevated summits than the Carpathian chain, divides the region of the Mediterranean from that of the Black Sea; it stretches in three chains from the frontiers of Switzerland and Italy, which, through the Tyrol, run nearly parallel to each other. Its summits, above the line of 8,000 feet, are covered with eternal snow. The central chain takes a N.E. direction through Styria into Hungary; the northern covers Northern Tyrol and the greater portion of Austria Proper; the southern strikes out from S. Tyrol into Italy, and passing through Illyria and Croatia, joins the Balkan in Bosnia. Three important branches spring from the latter chain, one of which, called the *Bakony Forest*, penetrates Hungary; a 2d divides the region of the Drave from the valley of the Save; and the 3d, stretching along the Adriatic through Dalmatia, forms the range called *Montenegro*, from its black color.—*Valleys and Plains.* The chief valleys are situated in the S. provinces, principally in Tyrol, Salzburg, Styria, and Illyria. Large plains are also found forming the basins of the principal rivers, as those of Vienna, the two great plains of Hungary, and the plain of the Vistula in Galicia.—*Rivers and Lakes.* The more noticeable rivers are those of the Danube, with its numerous affluents; the Oder, Vistula, Dniester, and Adige. The Rhine bounds the extreme W. frontier of the empire for a small portion of its course. The principal lakes are those of Atter-Gmünden or Traun, Hallstadt, and Augsee, Monelsee, and the Neusiedler and Balaton lakes in Upper Hungary.—*Clim.* Four distinct climates are found within the limits of this empire. The air is for the most part clear and salubrious, but the heats of summer and the colds of winter are both in extremes. Heavy rains occur in Tyrol and Vorarlberg, while, on the other hand, Hungary and Dalmatia often suffer from excessive drought.—*Nat. Prod. and Min.* Gold and silver, iron, coal, salt, titan, tellurium, precious stones; about 100 kinds of marble; quartz, and porcelain clays. *A.* possesses many famous mineral springs, as those of Carlsbad, Toplitz, Marienbad, &c.—*Zöol.* All the common domestic animals are indigenous. The brown bear roams in the Alps and the Carpathians, along with the wolf and the lynx. The chamois, red and fallow deer, wild boars, and many varieties of feathered game, are objects of the chase. Herds of small wild horses formerly ranged in Hungary. The golden eagle inhabits Slavouia, and other large species are found in the Rhætian and Norio Alps.—*Bot. and Vg. Prod.* All kinds of cereal and cultivated grasses, vines, flax, hemp, tobacco, hops, saffron, galls, and an immense variety of fruits, &c. The forests are of vast extent and great value. Beech, pine, larch, alder, and oaks of gigantic size abound.—*Inhab.* The Austrian Empire naturally comprises a greater variety of races, religions, and languages. than, perhaps, any other of the great divisions of Europe. Of the first, we may mention Germans, Bohemians, Moravians, Slavacks, Magyars, Poles, Russians, Slavonians, Croats, Servians, Bulgarians, Italians, inclusive of Latins and Hianls, Eastern-Romans, Jews, and Gypsies. The state religion is the Roman Catholic, but there are, besides, vast numbers who profess the doctrines of the Greek and United Greek churches, Lutheranism, Calvinism, Unitarianism, Judaism, &c. The German, Slavonic, and Hungarian (or Magyar), are the ruling languages, each with their distinct sub-languages or dialects. The most advanced of the populations are those of the German provinces, while the Dalmatians stand on the lowest footing of civilization in Europe.—*Gov.* Since the year 1867, the Austro-Hungarian monarchy forms a bipartite state, consisting of a German, or 'Cis-leithan,' monarchy, and a Magyar, or 'Trans-leithan,' kingdom, the former officially designated as Austria, and the latter as Hungary. Each of the two countries has its own parliament, ministers, and government, while the connecting ties between them consists in the person of the hereditary sovereign, in a common army, navy, and diplomacy, and in a controlling body known as the Delegations. The Delegations form a parliament of 120 members, one-half of whom are chosen by and represent the legislature of Austria, and the other half that of Hungary. Their jurisdiction is limited to foreign affairs and war, on which they have a decisive vote. Each of these has its own executive department, the finances of the two being in charge of a third. The constitution of Austria was put in force in Dec., 1867. Its main features are a double Legislature, consisting, first, of the Provincial Diets, representing the various states of the monarchy, and secondly, a Central Diet, called the Reichsrath, or Council of the Empire. The Provincial Diets are competent to make laws concerning local administration. The Reichsrath, or Congress, consists of an Upper and a Lower House. The Upper House (Herrenhaus) is formed, 1st, of the princes of the Imperial family who are of age; 2d, of a number of nobles possessing large landed property, in whose families the dignity is hereditary; 3d, of the archbishops, ten in number, and bishops, seven in number, who are of princely title, inherent to their episcopal seat; and 4th, of any other life-members nominated by the emperor, on account of being distinguished in art or science, or who have rendered signal services to Church or State. The Lower House (Abgeordneteuhaus), consists of about 350 members, elected for 6 years by the direct vote of all citizens possessed of a small property qualification.—The constitution of the eastern part of the Empire, or the Kingdom of Hungary, dates from the foundation of the kingdom, about 895. There exists no charter, or constitutional code, but in place of it are fundamental statutes, published at long intervals of time. The present sovereign, on the 8th of June, 1867, swore to maintain the Constitution, and was crowned King of Hungary. The legislative power rests conjointly in the King and the Diet, or Reichstag. The latter consists of an Upper and a Lower House, the first known as the House of Magnates, and the second as the House of Representatives. The House of Magnates was composed of about 700 Princes, Archbishops, Bishops, Peers, and dignitaries of Hungary. The House of Representatives, consisting of about 450 members, of representatives of the nation, elected for 3 years by the vote of all citizens, of full age, who pay direct taxes.—*Fin.* The revenue and expenditure of *A.* Proper are very intricate, and show generally large deficits. In 1890 the total amt. of the debt of *A.*—including that of the whole Empire, exclusive of the special debt of Hungary—was $2,028,410,703, including a floating debt esti. at $325,000,000. The total annual interest was $66,648,000. To this Hungary contributed $15,087,635, as per agreement made in May, 1868, by the Delegations and the govt. of the *A.* and *H.* parts of the monarchy, by which *H.* had to pay 30 per cent. towards the common debt. This was renewed with some modifications in 1877. From May, 1868, all loans were made separately by either *A.* or *H.* The special debt of *H.* in 1890 was $837,928,836.—*A. and N.* The army, as actually organized, is, on a peace footing, Infantry, 189,084; Cavalry, 38,640; Artillery, and other troops, 50,941; total, 279,285. War footing, 1897: Officers, 46,554; Non-com. officers and men, 1,667,755; total war forces, 1,714,309. The army is founded on the principle of universal military service, embracing 3 years of active duty and 7 years in the reserve. The military forces of the whole empire are divided into the Line, the Landwehr (or militia), and the Landsturm. The regiments of the Line are under the control of the Minister of War of the empire, and the Landwehr under that of the Austrian and Hungarian ministers of war. *A.* has 24 fortresses of the 1st and 2d rank; of which Pola, on the Adriatic, is the chief naval fortress and arsenal of the empire. The navy consists of 15 armored,

and 14 unarmored vessels, 28 gun boats, 77 torpedo boats, with store-, receiving-, and other ships. These carry a total of 871 guns, of which 181 are heavy and the remainder light guns. This navy is manned by 1,121 officers and 12,590 men. *Com.* Nearly two-thirds of the commerce of the empire is carried on with Germany; next to which the chief share is absorbed by Turkey.—*Exports.* Grain and flour, hemp, tallow, beads, oil, quicksilver, wool, &c.—*Imports.* The principal are cotton, woollen, and other manufactured goods. Value of imports, $250,000,000; exports, $300,000,000. The chief articles of import are vegetable fibres and manufactures; exports, food-stuffs, fuel, &c. The commercial intercourse of *A.* with the U. S. is very small; and it appears in the official returns even smaller than it is in reality, owing to the geographical position of the empire, which necessitates the transit of many American and Austrian goods through other countries, as the imports and exports of which they come to figure. The Austrian Lloyds, of Trieste (the principal seaport of the empire), absorbs the greatest part of the trade of *A.* with the East. This Co. owns a large fleet of steamers. The total length of railroads in the Empire, open to traffic and under construction, is 18,664 m., of which about two-thirds the total are in *A.* proper. There are in Austria and Hungary more than 40,000 m., of telegraph lines.—HIST. Noricum, bordering on Pannonia, and made a Roman prov. B.C. 15, was the original seat of the Austrian empire. The two provinces of Noricum and Pannonia consisted of the extensive territories between the Inn, the Save, and the Danube. During the decline of the Roman empire, Noricum was overrun by various barbarian tribes, and one of these, the Avari, having penetrated into Bavaria, was defeated and driven across the Raal by Charlemagne, in 791 and 796. A colony was placed in the territory from which they had been driven, and it was called the Eastern Mark, or *Ostreich*, whence its present name. On the division of the empire, in 843, it was annexed to Bavaria. The Hungarians took it in 900, but it was wrested from them by Otho I. in 955. Leopold I., grandson of Adalbert of Bamberg, was made Margrave of Austria in 984; and one of his successors, Leopold III., obtaining Bavaria in 1139, the two provinces were again united. Frederick I., (Barbarossa,) adding to it the province west of the Enns, erected it into a separate duchy in 1156, and bestowed it upon Henry IX., who had previously resigned his former duchy of Bavaria. The extinction of the male branch of the ducal line in 1246 was the beginning of a long anarchy, which ended, on Nov. 25, 1276, by the resignation of Ottocar II., in favor of Rodolph of Hapsburg, from whom is derived the power of the great House of Hapsburg, which has ever since ruled Austria. In 1307, the Swiss revolted, and after a lengthened contest achieved their independence. The marriage, 18th Aug., 1477, of Maximilian, son of the Emperor Frederick III., with Mary, daughter and heiress of Charles the Bold, the last Duke of Burgundy, brought to the House of Austria all the rich inheritance of the latter in the Low Countries, Franche Comté, and Artois. Another marriage opened to the House of Austria the succession to the Spanish monarchy, including its vast possessions in Italy and the New World. And Ferdinand I., having married, in 1521, Anne, sister of Louis, King of Hungary and Bohemia, succeeded, on the death of the latter at the battle of Mohacz, in 1526, to these States. Charles V., the most powerful monarch of this Imperial House, concluded, in 1522, a treaty with his brother Ferdinand, by which he assigned to him the hereditary possessions of the family in Germany. The great power and ambition of the princes of this race excited a well-founded alarm among the other European powers. For a lengthened period the whole politics of Europe, its alliances, and its wars, had little other object than the humbling of the Austrian power. This was the motive of the Thirty Years' War, terminated by the treaty of Westphalia, in 1648, which secured the independence of the different States of the Germanic empire, and the free exercise of the Protestant religion. In 1699, the Turks were finally expelled from Hungary; and the genius of Prince Eugene gave the Austrians an ascendency over the Ottomans, which they have ever since preserved. On the 20th Oct., 1740, the male line of the House of Hapsburg terminated by the death of the Emperor Charles VI., whose only daughter, Maria Theresa (*q. v.*), gave her hand to Duke Francis I., of Tuscany, of the House of Lorraine; who thereby became the founder of the present dynasty of Hapsburg-Lorraine. Shortly after the accession of Maria Theresa and her consort, Frederick the Great, of Prussia, seized upon the greater part of Silesia. The recovery of this province was the principal object of *A.* and her allies in the Seven Years' War. Silesia was, however, finally ceded to Prussia, 5th Feb., 1763. Joseph II. afterwards acquired Galicia from Poland, and Bukowina from Turkey. It would be unnecessary, even if our limits admitted of it, to detail the fluctuations of the Austrian power from the breaking out of the French revolution, in 1789, to the downfall of Napoleon I., in 1815. Suffice it, that, on the establishment of the Confederation of the Rhine, in 1806, Francis I. laid down the dignity of German emperor, held by his family for 500 years, and assumed the title of "Kaiser." or Emperor of Austria. At the close of the great European struggle, in 1815, *A.* was left as powerful as ever, the loss of the Low Countries being fully compensated for by the acquisition of the Italian provinces of Lombardy and Venice. In the revolutionary period of 1848–9, Hungary, aroused by the eloquence and energy of Kossuth, (*Fig.* 246,) made a determined but unsuccessful attempt to recover its independence. In 1859, a short but sanguinary and decisive war broke out between *A.* and France and Italy; the result of which, after the battle of Solferino, was the cession by *A.* of her Lombard provinces to Italy, by the treaty of Villafranca, July 11th.—The death of Ferdinand VII., king of Denmark (Nov. 15th, 1863), gave rise

Fig. 246.—KOSSUTH.

to a general ferment in Germany on the subject of the duchies of Schleswig, Holstein, and Lauenburg. Notwithstanding the treaty of London (1852), which fixed the succession to the Danish crown, and was signed by Austria and Prussia, they laid claim to the duchies as part of Germany, and their troops crossed the Schleswig frontier (Feb. 1, 1862.) The Danes, after a short but heroic stand, were forced to succumb.—*Continued in* SECTION II.

Chronological Table of the Sovereigns of Austria, (House of Hapsburg.)

DUKES OF AUSTRIA.

1276. Rodolph I.
1282. Rodolph II., and Albert I.
1290. Albert I. (alone.)
1308. Frederick I., and Leopold I.
1326. Frederick I. (alone.)
1330. Albert II., and Otto.
1339. Albert II. (alone.)
1358. Rodolph II. (IV.)
1365. Albert III., and Leopold II.
1386. Albert III. (alone.)
1395. Albert IV., William I. and Leopold III.
1404. Albert V., emperor of Germany in 1438, by the title of Albert II.
1439. Ladislaus Posthumus.
1458. Frederick III., Albert VI., and Sigismund.

ARCHDUKES OF AUSTRIA, AND EMPERORS OF GERMANY.

1493. Maximilian I.
1519. Charles I. "the Fifth."
1556. Ferdinand I.
1564. Maximilian II.
1576. Rodolph II. (V.)
1611. Matthias.
1619. Ferdinand II.
1637. Ferdinand III.
1657. Leopold I.
1705. Joseph I.
1711. Charles II.
1740. Maria Theresa.

House of Hapsburg-Lorraine.

1780. Joseph II.
1790. Leopold II.
1792. Francis I.

EMPERORS OF AUSTRIA.

1804. Aug. 11, Francis I. resigned the title of Emperor of Germany, and assumed that of Emperor of Austria.—Aug. 6th, 1806, he formally abdicated the imperial crown of Germany.
1835. Ferdinand IV.
1848. Dec. 2d, Francis Joseph I.

Aus'tria, (House of.) See AUSTRIA.

Aus'tria, (Lower and Upper.) See AUSTRIA, ARCHDUCHY OF.

Aus'trian, *a.* [Ger. *Oesterreich*, Eastern kingdom.] Pertaining to Austria.

—*n.* A native, or an inhabitant of Austria.

Aus'tromancy, *n.* [Lat. *auster*, and Gr. *manteia*, prophecy.] Soothsaying, or predicting events from a study of the winds.

Autancur'ry, or AUTANCURAY, a seaport of British India, in the presidency of Madras, 11. m. E. of Ramnad.

Autau'ga, in *Alabama*, a creek entering Alabama river from the N. about 12 m. W. of Montgomery.

—A co., bounded S. and E. by Alabama and Coosa rivers, and also drained by Autauga and Mulberry creeks. *Surf.* generally hilly; *soil*, fertile; *cap.* Prattville.

Autau'gaville, in *Alabama*, a township of Autauga co.; *pop.* 2,387.

Autenil, (*ō-tweel'*,) formerly a small town of France, at the entrance of the Wood of Boulogne, near Paris, has been included, for some years past, in the boundary of the French capital. Men of literary reputation have often resided there. The country-seat of the poet Boileau is still shown, where the *beaux esprits* of France often banqueted. On a certain occasion, heated with wine at a supper, Racine, Molière, and Boileau complained of the degeneracy of the age, and lamented their misfortune in having been born at such a period. All agreed to plunge into the neighboring Seine, and the flower of the French writers were already on their way to the river, when the thought struck Molière, that such an act, by such men, ought not to be performed in the darkness of night. His companions stopped, found he was in the right, and agreed to drown themselves at daybreak, after drinking the remainder of their wine. The ingenious Andrieux brought this anecdote upon the stage in the piece *Molière avec ses Amis, ou le Souper à Auteuil.*—While the physician Gendron was in possession of this house, he was visited by his friend Voltaire, who wrote the following inscription for it:—*Sous le nom de Boileau ces lieux virent Horace; Esculape y parait sous celui de Gendron.* Madame Helvetius, finally, occupied it. Her evening parties here were celebrated. All who were distinguished in the walks of literature or of active life, were always welcome, whether French or foreigners. All were without restraint. Her society was therefore called *La Société libre des Égoïstes.* In 1798 or 1799, Bonaparte here became acquainted with several men of liberal minds, and often used to walk with the celebrated owner in her garden. She soon perceived his soaring ambition, and said to him one day with a smile, "*Vous ne vous doutez pas combien on peut trouver de bonheur dans trois arpents de terre.*"

Authen'tic, Authen'tical, *a.* [Fr. *authentique*, from Gr. *authentikos*, from *authent-ēs*, *auto-entēs*, one who does anything with his own hand.] Having a genuine original or authority; having the author or authority clearly ascertained;—applied to things; as, an *authentic* document.

"She joy'd th' *authentick* news to hear,
Of what she guess'd before with jealous fear."—*Cowley.*

—Not counterfeit; of approved authority; trustworthy; genuine; true; warranted; as, an *authentic* writer.

"But censure's to be understood
The *authentick* mark of the elect."—*Swift.*

Authentic Act. (*Law.*) An act which has been executed before a notary or other public officer authorized to execute such functions, or which is testified to by a public seal, or has been rendered public by the authority of a competent magistrate, or which is certified as being a true copy of a public register.

Authen'tically, *adv.* In an authentic manner; having the genuine authority.

Authen'ticalness, *n.* Authenticity; the quality of being authentic. (R.)

Authen'ticate, *v. a.* To render authentic.

—To prove authentic; to establish by ascertaining the real or original author or authority; as, to *authenticate* a book.

Authentica'tion, *n.* Act of authenticating; confirmation.

(*Law.*) Acts done with a view of causing an instrument to be known and identified. Under the Constitution of the U. States, Congress has power to provide a method of authenticating copies of the records of a State with a view to their production as evidence in other States.

Authentic'ity, *n.* [Fr. *authenticité.*] Quality or state of being authentic, or of resting upon proper authority.

—Genuineness; the quality of being of genuine originality.

Authen'tics, or AUTHENTICA, *n.* (*Hist. of Law.*) A barbarous Latin version of the Novellæ of Justinian; so called by early writers on the civil law, from its being a literal translation from the original Greek.

Au'thor, *n.* [Lat. *auctor*, from *augeo*, *auctus*, to increase; Fr. *auteur.*] One who increases, promotes, or furthers anything: one who produces, creates, or brings into being; the first beginner, framer, inventor, or mover; the efficient cause of a thing; he to whom anything owes its original.

"Thus king Latinus, in the third degree,
Had Saturn *author* of his family."—*Dryden.*

—The writer or composer of a book or original work, as distinguished from a translator or compiler.

"In him an *author's* luckless lot behold,
Condemned to make the books he once had sold."—*Byron.*

Au'thoress, *n.* A female author.—Indifferently used; *author* being as commonly applied to a female writer, as to a male.

Autho'rial, *a.* Pertaining or belonging to an author. (R.)

Au'thorism, *n.* Authorship. (R.)

Author'itative, *a.* Having due authority; so established or expressed as to demand credit or acceptance.

"I dare not give them the *authoritative* title of aphorisms."
Sir Henry Wotton.

—Positive; peremptory; dictatorial; having an air or show of authority.

"The mock *authoritative* manner of the one."—*Swift.*

Author'itatively, *adv.* In an authoritative manner.

"Till it be received, and *authoritatively* engrafted into the law of England."—*Sir Matthew Hale.*

Author'itativeness, *n.* The quality of being authoritative; acting by authority.

Author'ity, *n.* [Fr. *autorité*; Lat. *auctoritas*, from *auctor.*] The quality of a person, or thing, by which he, or it, promotes anything; legal power; rule; sway; right; as, the *authority* of a parent over a child.

"But man, proud man,
Drest in a little brief *authority*."—*Shaks.*

—Government; body of men in power; persons in command;—chiefly used in the plural; as, the state *authorities.*

"I know, my lord,
If law, *authority*, and power deny not,
It will go hard with poor Antonio."—*Shaks.*

—Influence of character or office; mental or moral superiority; credit.

"But *authority* arising from opinion, is in those that govern."
Sir W. Temple.

—Testimony; witness; warrant.

"Dost thou expect th' *authority* of their voices whose silent will condemns them?"—*Ben Jonson.*

—Precedent; official declaration, opinion, or saying worthy of being cited as a precedent; also a book containing them, or the name of its author.

Au'thorizable, *a.* Having warrant; possessing authority.

Authoriza'tion, *n.* [Fr. *autorisation.*] Establishment by authority; the act of giving legal power or authority.

"But from their admission and reception, and *authorization* in this kingdom."— *Sir Matthew Hale.*

Au'thorize, *v. t.* [Fr. *autoriser.*] To give authority to; to empower; to give a right to act.

"Deaf to complaints, they wait upon the ill,
Till some safe crisis *authorize* their skill."— *Dryden.*

—To make legal; to legalize.

"Yourself first made that title which I claim,
First bid me love, and *authoriz'd* my flame."— *Dryden.*

—To establish by authority.

"*Authorized* in a nation by custom and use."— *Sir W. Temple.*

—To accredit; to countenance; to support; as, to *authorize* a report.

Au'thorized, *p. a.* Having authority; supported by authority.

Au'thorless, *a.* Without an author or authority.

Au'thorly, *a.* Pertaining or belonging to an author. (R.)

Au'thorship, *n.* Quality or state of being an author.

Au'to, is a prefix which enters into the composition of many English words derived from the Greek pronoun *autos*, self; as *autocrat, autobiography.* In some cases it is applied to the subject, as *autocrat, automaton;* in others, to the object, as *autobiography, autocritic;* and sometimes it denotes a mere reference to the subject, as *autochthon.* These differences of meaning sometimes lead to ambiguity; as in *autograph*, which means either a machine that writes of itself, or a writing done by one's own hand.

Autobiog'rapher, *n.* One who writes his own life or biography.

Autobiograph'ic, Autobiograph'ical, *a.* Pertaining to, or containing autobiography.

"Traits of the *autobiographic* sort."— *Carlyle.*

Autobiograph'ically, *adv.* In the way or style of autobiography.

Autobiog'raphist, *n.* An autobiographer. (R.)

Autobiog'raphy, *n.* [Gr. *autos*, one's self, and *biography*, from Gr. *bios*, life, and *graphō*, to write.] Biography, or memoirs of one's life, written by one's self.

Autocar'pous, *a.* [Gr. *autos*, and *karpos*, fruit.] (*Bot.*) Applied to a fruit not adhering to the calyx; superior.—*Sunney.*

Autoch'thon, *n.; pl.* Autoch'thones. [Lat. *autochthon;* Gr. *autochthon*, from the land itself—from *autos*, self, and *chthōn*, gen. *chthonós*, earth, land.] One who is supposed to spring from the land he inhabits; an aborigiual; a native. Several ancient nations assumed this name, to indicate the antiquity of their origin; *e.g.* the Athenians.

—That which is derivable from, or original to, a particular country.

Autochthon'ic, Autoch'thonous, *a.* Aboriginal; native.

Autoc'racy, *n.* [Fr. *autocratie;* Gr. *autos*, self, and *kratos*, power.] A form of government in which the sovereign exercises uncontrolled power, uniting in himself the legislative and executive powers of the State. Russia, and almost all the Eastern states, have this form of government.

(*Philos.*) A term used by Kant to denote the mastery of the reason over the rebellious propensities.

(*Med.*) Independent force; action of the vital principle, or of the instinctive powers, towards the preservation of the individual.

Au'tocrat, *n.* [Fr. *autocrate;* Gr. *autokratēs, autokratōr*, from *autos*, self, and *kratos*, strength; *kratein*, to be strong, to govern.] A person vested with absolute independent power; a sovereign who rules despotically. The title was first given by the Athenians to a commander-in-chief vested with undisputed powers, and not liable, like others, to be called to account at the expiration of his office. The title was afterwards assumed by the Byzantine emperors, and at the present time the emperor of Russia uses it, as *A. of all the Russias.*

—A person invested with unlimited power, which renders his actions unaccountable; as, "The *autocrat* of the breakfast-table."— *Holmes.*

Autocrat'ic, Autocrat'ical, *a.* Pertaining to autocracy; absolute.

Autocrat'ically, *adv.* In an autocratic manner.

Autoc'ratice, Autoc'ratrix, *n.* A female sovereign who is autocratic or absolute; as, the *autocratrix* Catherine.

Autoc'rator, *n.* An autocrat. (R.)

Au'tocratship, *n.* Quality or office of an autocrat; autocracy.

Au'to da Fé, [Pg.,] or **Au'to de Fé,** [Sp.,] *n.; pl.* Au'tos da Fé. ["Act of Faith," from Lat. *actus*, act, and *fides*, faith.] (*Eccl. Hist.*) This was, in certain Catholic countries, a solemn day formerly held apart by the Inquisition for the punishment of heretics, and the absolution of accused persons found innocent. Thousands of persons perished in this manner in Spain, Portugal, and their colonies. It was instituted in Spain in 1556, and the first instance occurred in 1560, at Valladolid. An *A.* was held at Lisbon so late as the 20th Sept., 1761, when Gabriel Malagrida, an old man of 70, was burned alive for his supposed heretical notions; 54 other persons also suffered at the same time. A nun was burned at Seville, 7th Nov., 1680. — See Inquisition.

Autoge'neal, Autog'enous, *a.* [Gr. *autogenēs*, from *autos*, self, and *gēnein, gignesthai*; Lat. *genere, gignere*, to bring forth.] Self generating

(*Anat.*) Relating or appertaining to spontaneous generation. Applied by Mr. Owen to parts or elements that are usually developed from distinct and independent centres; as in the case of the different parts or elements that form a vertebra.

Au'tograph, *n.* [Fr. *autographe;* Gr. *autos*, one's self, and *graphein*, writing.] A person's own handwriting; an original manuscript or signature, as opposed to an *apograph* or copy.—Autographs, particularly of celebrated persons, have in recent times become of eager pursuit, and form a distinct branch of literary trade. In general, the value of an *A.* depends upon the eminence of the individual, the scarcity of specimens of his handwriting, and the contents of the writing. An original Bible, in the handwriting of Wickliffe, the early Reformer, was sold in London, in March 1869, for $5,000. Lithography has been very useful in affording the means of making fac-similes of autographs. Among the best works of this class are, "*Autographs of Royal, Noble, Learned, and Remarkable Personages conspicuous in English History from the Reign of Richard II. to that of Charles II.*," by John Gough Nichols, folio, 1829; "*Iconographie des Hommes Célèbres*," 3 vols., Paris, 1828–30, and *Supplement*, 1839; "*Autographen Pracht-Album zur 200-jährigen Gedächtnissfeier des Westfälischen Friedensschlusses*," folio, Leipzig, 1848. Lavater believed that the character of an individual was shown by his handwriting; and of late years persons have professed to be able to determine characters in this way. There are, however, generally so many circumstances that have an influence in forming one's handwriting, that it is but seldom that it can afford much insight into character.

Autograph'ic, Autograph'ical, *a.* Pertaining or relating to an autograph, or to autography.

Autog'raphy, *n.* [Fr. *autographie.*] An autograph; the science of autography; one's own handwriting.

—A process in lithography by which a writing or drawing is transferred from paper to stone, so that the stone in a manner becomes its own writer.

Autol'ycus, (*Myth.*) a son of Mercury, by Chione, a daughter of Dædalion, and one of the Argonauts. His exploits as a thief have been greatly celebrated. He stole the flocks of his neighbors, and mingled them with his own, after he had changed their marks. He appropriated some of those of Sisyphus son of Æolus; but Sisyphus knew his own by a mark which he had made under their feet, which piece of cleverness greatly pleased Autolycus.

Automat'ic, Automat'ical, *a.* [Fr. *automatique.*] Belonging to an automaton; self-acting or moving; as, an *automatic* operation.

—Not depending on the will; self-regulating or adjusting, as certain machines; carried on by such machines.

Automatic Actions. (*Psychol.*) A term applied to certain muscular movements which are influenced simply by sensation, and not by the will, as winking.

Autom'atism, *n.* The power of self-motion; automatic action.

Autom'aton, *n.; pl.* Lat. Automata; *pl.* Eng. Automatons. [Fr. *automate;* Gr. *automatos — autos*, self, and *maō*, to move; Lat. *automatum.*] A self-moving machine, or one which moves by invisible machinery; a self-regulating machine; ingenious mechanical toys. The Chinese long ago contrived to impart motion to puppets by means of quicksilver; and several specimens of *A.* constructed by the Greeks are mentioned by different authors. The wooden pigeon made by Archytas of Tarentum, about B. C. 400, though it could fly, was not able to resume its flight when it had once settled. In the 13th century Albertus Magnus is said, after 30 years' labor, to have constructed a speaking head, which so frightened Thomas Aquinas that he shattered it to pieces. These accounts, however, like that of John Müller's, or Molitor's (*Regiomontanus*), artificial eagle, which it is alleged flew to meet Maximilian on his arrival at Nuremberg, 7th June, 1470, more than 20 years before he ascended the throne, are not supported by satisfactory evidence. Beckmann has no doubt that in the 14th and following centuries several *A.* were made. The Emperor Charles V., during his cloister life, amused himself with contrivances of this kind. Vaucanson exhibited at Paris, in 1738, a flute-player sitting, who performed 12 tunes; another that played upon a shepherd's pipe and a drum at the same time; and a duck that imitated all the motions of the living animal. Du Moulin, in 1752, produced similar *A.* The "*Anthropoglossus*," an automaton speaking and singing machine, in the shape of a human head, was exhibited at St. James' Hall, London, during the winter of 1864–5; the *Sphynx*, at Egyptian Hall, London, in 1865–6; and subsequently many others both here and abroad.

Automobile', *n.* (Gr. *autos*, self, and *maō*, to move.) A self-moving carriage, propelled by electric or other power. Carriages of this kind have been greatly perfected of late years and are now coming rapidly into use, displacing the horse-drawn carriage. They are fitted with pneumatic rubber tires and run very easily. The principle is also being applied to wagons and drays, and to cars—called *autocars.* See Carriages, Motor.

Autonom'ic, *a.* Possessing, or pertaining to autonomy, or the power of self-government.

Auton'omy, *n.* [Fr. *autonomie;* Gr. *autonomia*, from *autos*, self, and *nomos*, law.] (*Politics.*) That form of government in which the citizens of a State make their own laws and manage their own public affairs. The term *A.* is principally used to designate the characteristics of the political condition of ancient Greece, where every city or town community claimed the right of independent sovereign action.

(*Philos.*) This term was used by Kant to denote the sovereignty of reason over all our actions, as opposed to *heteronomy*, in which our actions are directed by motives or desires contrary to the dictates of reason.

Antoph'oby, *n.* Fear of one's self; apprehension of egotism. (R.)

Autoph'ony, *n.* [Fr. *autophonie*, from Gr. *auto*, and *phonē*, voice.] (*Med.*) An auscultatory sign, which consists in noting the character of the observer's own voice, while he speaks with his head placed close to the patient's chest. The voice, it is alleged, is then modified by the condition of the subjacent organs.

Au'topsy, *n.* [Fr. *autopsie;* Gr. *autopsia*, from *autos*, one's self, and *opsis*, sight.] Personal observation. — Applied to the knowledge which one acquires by ocular observation, in contradistinction to that which is communicated to him by the accounts of others.

(*Med.*) *Autopsia cadaverica*, attentive examination after death,—practised for the purpose of investigating the causes and seat of an affection of which a person may have died, or for medico-legal purposes: called, also, *Examination post-mortem.*

Autothe'ism, *n.* (*Theol.*) The doctrine of God's self-existence. (R.)

Autrefois-acquit, *n.* [Fr., formerly acquitted.] (*Law.*) A plea made by a defendant indicted for a crime or misdemeanor, that he has formerly been tried and acquitted of the same offence.

Autrefois-convict, n. [Fr., formerly convicted.] A plea made by a defendant indicted for a crime or misdemeanor, that he has formerly been tried and convicted of the same. — The Constitution of the U. States, Amend. Art. 5, provides that no person shall be subject for the same offence to be put twice in jeopardy of life or limb. — *Bouvier.*

Au'tumn, *n.* [Fr. *automne;* Lat. *autamnus*, from *auctus*, from *augeo*, to increase.] The name given to the fall of the year, or that one of the four seasons in which the fruits of the earth are gathered in. Astronomically speaking, it is the period during which the sun is passing from the autumnal equinox to the winter solstice. (from 23d Sept. to 21st Dec.) The inhabitants of the southern hemisphere have spring, when those of the northern have autumn.

Autum'nal, *a.* [Fr. *automnal;* Lat. *autumnalis.*] Belonging, or peculiar to autumn; produced in autumn; as, *autumnal* fruits.

—In the third stage of life; past the grand climacteric.

"No spring or summer's beauty hath such grace,
As I have seen in one *autumnal* face."—*Donne.*

—*n.* A plant that flowers in autumn.

Autun, (*ō-toon',*) a city of France, dep. Saone-et-Loire, on the Arroux, 43 m. S.W. of Dijon, on the railroad to Nevers. It is picturesquely situated, but the city has generally a mean appearance. The church of St. Martin, built by Queen Brunehaut, and containing her tomb, furnishes a variety of architectural styles. *A.* has manf. of cotton-velvet, hosiery, and coarse stuffs. *A.* is one of the most ancient French cities, and was made a Roman colony by Augustus, from whom it derived its old name of *Augustodunum.* It still presents many fine Roman remains. *Pop.* 12,976.—Prince de Talleyrand (*q. v.*) was bishop of *A.* at the commencement of the French revolution. The Abbé Roquette, whom Molière is said to have taken for a model, was also one of its bishops. Hence the following epigram: —

"Roquette dans son temps. Talleyrand, dans le nôtre,
Furent les évêques d Autun;
Tartuffe est le portrait de l'un;
Ah! si Moliere eut connu l'autre!"

Auvergne, (*o-vairn',*) an ancient and central province of France, now divided into the dep. of Puy-de-Dôme, and Cantal. — Between the Allier and the upper course of the Dordogne and the Lot, *A.* rises into a highland region, having Bourbonnais, Limousin, and Rouergne, as terraces of descent into the western plains, while on the east it joins the Cevennes and the southern highlands. Not only do the cone and dome-like shapes of the summits betray a volcanic formation, but also the great masses of basalt and trachyte that break through the crust of granite and gneiss, render it probable that this was a chief focus of plutonic action. Among the summits that have apparently been at one time volcanoes, the most remarkable are Cantal (6,634 ft.), Mont-d'Or (6,188), Puy-de-Dôme (4,806), and Pariou: the latter, adjoining Puy-de-Dôme, is basin-shaped on the top, and one of the finest specimens of an ancient and extinct volcano: all are now covered with verdure. *A.* falls naturally into two divisions — *Upper A.*, to the south, and *Lower A.*, to the north; in which last the valley of Limagne, on the left bank of the Allier, is distinguished for extraordinary fertility. The lava-colored plateaux are desert; but the pulverized volcanic earths that cover the slopes and valleys form a rich and fruitful soil, as is shown by the crops of grain, garden produce, fine fruits, wine, abundance of chestnuts in the south, and of walnuts in the north, as well as by extensive thriving forests, along with flax and hemp fields, and meadow lands, in the poorer districts. Agriculture is in a rather neglected condition; but the breeding of cattle, especially of mules, is well managed. *A.* produces iron, lead, copper, antimony, and coal, and is rich in mineral springs. — The country derived its name from the *Averni*, who long defended their fastnesses against Cæsar, as later against the Goths, Burgundians, and Franks, with whom they at last coalesced. — The Auvergnese are a highland people, rude in their manners, poor, ignorant, but at the same time honest and kind. They live by cattle-keeping and agriculture, and by going to Paris as laborers. Domestic manufactures, therefore, remain confined to weaving, tanning, and paper-making. *A.* has, however, produced distinguished men. It was the native place of statesmen, and warriors of the 15th and 16th centuries; and also of the Arnauld family, so distinguished in the history of Port-Royal and of Jansenism. In more recent times,

Lafayette and Polignac may be named. *Chief towns*, Clermont and Aurillac.

AUVERGNE, COUNTS AND DAUPHINS OF. This title was, about the middle of the 8th century, conferred on Blandin, who served the Duke Waifre in his opposition to Pepin le Bref, founder of the Carlovingian dynasty.—The name figures through a great part of early French history.

AUVERGNE, LATOUR D'. See LATOUR D'AUVERGNE.

Aux-Cayes, a seaport of the W. Indies, in the island of Hayti, on its S. coast, 92 m.W.S.W. of Port-au-Prince, or as it is now called, Port Republican. It is one of the most flourishing towns in the Haytien republic, is a bishop's see and the seat of various provincial, civil and criminal courts.

Auxerre, (*o-zair'*,) the anc. *Antissiodurum*, a town of France, cap. of dep. of the Yonne, on the Yonne river, 93 m. S.E. of Paris. It is pleasantly seated on a hill, but is generally a gloomy and ill-built place. The cathedral is one of the finest Gothic edifices in France.—*Manuf.* Calicoes, woollens, hosiery, earthenware, &c.; and it has a considerable trade in wines, of which good descriptions are produced in its vicinity. *Pop.* 16,154.

Auxet'ic, *a.* [Gr. *auxetikos.*] Increasing; amplifying; enlarging.

Auxil'iar, Auxil'iary, *a.* [Fr. *auxiliaire;* Lat. *auxiliaris*, from *auxilium*, from *augeo*, to increase, to strengthen.] Augmenting: strengthening; helping; aiding; subsidiary; as, an *auxiliary* force.

"And from his brother of the seas he craves,
To help him with *auxiliary* waves."—*Dryden.*

Auxil'iarly, *adv.* By way of help or auxiliary.

Auxil'iary, *n.*; *pl.* AUXILIARIES. A helper; an assistant; a confederate in an enterprise; used in the plural generally to denote foreign troops in the service of a nation engaged in war.

"There are, indeed, a sort of underling *auxiliaries* to the difficulty of a work, called commentators and criticks."—*Pope.*

(*Gram.*) *Auxiliary verbs* are distinguished from other verbs in the following way: Verbs express the notions of action; auxiliary verbs, though they originally expressed notions of action, only express *relations of action*, when considered as auxiliary verbs, and are accordingly employed, in connection with other verbs, to give to them certain relations called by grammarians tense, mood, and voice. The modern languages, and our own more particularly, abound in such forms, as, *have*, *be*, *can*, *do*, *must*, *shall*, *will*; in French, *avoir* and *être;* in Italian, *avere* and *essere*; in Spanish, *haber* and *estar.*

(*Math.*) *Auxiliary quantity* is a quantity introduced for the purpose of simplifying some mathematical operation. The practice of employing *A.* quantities in solving groups of operations, is often of great utility.

(*Anat.*) *Auxiliary muscles* are those which concur in the same movement. Some anatomists have applied the term to several ligaments, as well as to the fleshy fibres, which hang from the *sacrospinalis* muscle.

Aux'is, *n.* (*Zoöl.*) A fish belonging to the *Scamberidæ* or Mackerel family, found in the Mediterranean.

Auxonne', a fortified town of France, dep. Côte d'Or, on the Saone, 18 m. E.S.E. of Dijon.—*Manuf.* Cloth, serges, and muslins. *Pop.* 7,597.

Anzo'nia, in *Louisiana*, a hamlet of Claiborne par.

Auzont, (*o-zoo'*,) ADRIAN, a French mathematician; inventor of the micrometer, which is still in use among astronomers to measure the apparent diameter of celestial bodies. He was the first who thought of applying the telescope to the astronomical quadrant. D. 1691.

A'va, a fortified city of Burmah, in Farther India, and formerly the capital of the Burmese empire. It is seated on the Irrawaddy, 350 m. N. of Rangoon, in Lat. 21° 51′ N.; Lon. 95° 58′ 10″ E. *A.* consists of an outer and an inner city, each surrounded by walls. The inner is almost entirely occupied by the royal palace and its gardens. The houses are generally mere huts, thatched with grass. The markets are supplied with British and Chinese manufactures, but there is comparatively only a meagre trade carried on. In 1839, *A.* was almost entirely destroyed by an earthquake, since which event the seat of government has been transferred to Mandalay. *Pop.* about 30,000.

A'va, in *Illinois*, a post-village of Jackson co., on M. & O. R.R., 75 m. S.E. of St. Louis, Mo. *Pop.* (1898) 1,000.

A'va, in *New York*, a post-village and township of Oneida co., 50 m. N.E. of Syracuse.

A'va, in *Ohio*, a post-office of Noble co.

A'va, AR'VA, or CA'VA, an intoxicating liquor used by the South-Sea Islanders. In Tahiti, the use of it is said to have swept away many of the inhabitants. In the Tonga Islands it is prepared and drunk on every festival; and in the Feejee Islands the preparation of the king's morning drink of *A.* is one of the most solemn and important duties of the courtiers. The use of *A.* was forbidden in the Sandwich Islands some years ago. The liquor is prepared by a very disgusting process from the root of the intoxicating long-pepper shrub, the *Macropiper methysticum*. The root, either fresh or dried, having been scraped clean and cut into small pieces, is handed to the *A.*-makers, who at once commence to chew it with great formality. The pulp obtained by the chewers, who are required to have good teeth and clean mouths, is thrown into a bowl and mixed with cold water. After this mess has stood for a little while, the liquor is strained from the chewed fibre through cocoa-nut husks, and is then ready for use. Professor Johnston, in describing the preparation of *A.*, suggests that the saliva may produce a chemical change in the ingredients of the root, and that the intoxicating properties of the liquor may depend, in some measure, on such change.—See MACROPIPER.

Avail', *v. a.* [Fr. *valoir*, from Lat. *valeo*, to be strong.] To be strong for; to be serviceable or efficacious to; to be profitable or beneficial to; to profit:—used reflexively with *of* before the thing used; as, let me *avail* myself *of* his chance.

"Then shall they seek t' *avail* themselves *of* names, places, and titles."—*Milton.*

—To assist, promote, or aid; to benefit.

"Of Jove on high Dodona's holy hill,
What means might best his safe return *avail*"—*Pope.*

—*v. i.* To have power or efficacy; to be of use or advantage; to answer the purpose; as, this method will not *avail.*

"Nor can my strength *avail*, unless, by thee
Endu'd with force, I gain the victory."—*Dryden.*

Avail', *n.* Profit; advantage; use; benefit; service.

"For all that else did come were sure to fail;
Yet would he further none but for *avail*."—*Spenser.*

—*pl.* Proceeds; profits; as, the *avails* of their own industry.

Availabil'ity, *n.* Quality or state of being available; state of suitability to a certain purpose.

Avail'able, *a.* [O. Fr. *available.*] That one may avail one's self of; profitable; advantageous.

—Having efficacy; able or sufficient to effect the object; valid.

"Drake put one of his men to death, having no authority nor commission *available*."—*Sir W. Raleigh.*

Avail'ableness, *n.* State or quality of being available.—Competent power; legal force; validity.

Avail'ably, *adv.* In an available manner; validly; profitably.

Aval', *n.* [Fr.] (*Law.*) In French, and in Canadian law, an *aval* is an act of suretyship, or guarantee on a promissory note.

A'val Island. See BAHREIN.

Avalanche, (*ăv-a-lânsh'*,) *n.* [Fr., from O. Fr. *avaler*, to descend; Dut. *vallen;* A.S. *feallen*, *afeallan*, to fall.] A large body of snow or ice descending from the precipitous slopes of a high mountain into the valley below. Avalanches generally result from the partial melting of the snow in spring. The earth, warmed by the sun's rays, melts the under layer, and thus destroys the adhesion of the mass to its surface. The least agitation of the air will sometimes cause the fall of an *A.*; and for this reason, experienced Alpine travellers generally preserve strict silence when in the neighborhood of dangerous masses of snow. In Switzerland, avalanches are common, and sometimes destroy entire villages. Four kinds of avalanches are distinguished.—A *drift A.* consists of loose and powdery snow, set in motion by a strong wind; a *rolling A.* is that produced by a detached mass of snow rolling down the steep, and licking up the snow over which it passes; a *sliding A.* consists of an immense mass which has lost its adhesion to the surface through partial melting; lastly, a *glacial A.* is that made up of masses of frozen snow, and ice, from the higher regions of the mountain.

Av'alanche, in *Wisconsin*, a post-office of Vernon co.

Av'alon. (*Lit.*) In mediæval romances, *A.* is the name of an island in the ocean, possessing a castle of loadstone. It is most fully described in the old French romance of *Ogier le Danois.*—*A.*, as the abode of King Arthur, the old British hero, is generally identified with what is called the "Isle of Glastonbury," in Somersetshire, England.

Avalon, or **Av'allon,** (*av'a-long,*) (anc. *Aballo.*) A handsome, and ancient town of France, dep. Yonne, cap. of an arrond. on the Cousin, 25 m. S.S.E. of Auxerre.

Av'alon, in *New Jersey*, a seaside resort of Cape May co.

Av'alon, a large peninsula of Newfoundland, in its S.E. part, between Trinity Bay on the N., and Placentia Bay on the S.

Av'alon, in *Maryland*, a village of Baltimore co., on the Patapsco river, about 10 m. W.S.W. of Baltimore.

Av'alos, a noble Neapolitan family of Spanish origin, of whom we mention:—*A.*, FERDINAND D', *Marquis de Pescara*; B. at Naples in 1490. He served with distinction in the army of Charles V., and was taken prisoner by the French at the battle of Ravenna, in 1512. He beguiled the hours of captivity by writing a *Dialogue on Love*, which he dedicated to his wife, the beautiful and accomplished Vittoria Colonna. He soon recovered his liberty, and subsequently displayed extraordinary ability in the wars of Charles V. The honor of the battles of Biocca and Pavia was due to *A.* alone; he was severely wounded in the latter engagement, and died in consequence, 1525.

Avant, (*ä-vŏng'*,) a French preposition answering to our *before.* It is found in many French compound words; as, *avant-goût*, fore-taste, pregustation; *avant-propos*, preliminary matter, preface.

Avant-courier, (*ä-vŏng'-kōō'reer,*) *n.* [Fr. *avant-coureur.*] A messenger sent in advance of a person, or company of persons, to announce his, or their approach.

Avant'-guard, *n.* [Fr. *avant-garde.*] (*Mil.*) The van, or advanced body of an army.—See VANGUARD.

Avan'turine, *n.* (*Min.*) See AVENTURINE.

Avar'es, or **Avar'i.** (*Hist.*) The name of a Mongolian race that, about 100 years after the Bulgarians, made their appearance in Europe, in the countries about the Don and Volga. They have been surmised to be the *Aorsi*, or *Adorsi*, of Strabo. A portion of them remained at the Caucasus, while another portion of them, about the middle of the 6th century, passed on to the Danube, and settled in Dacia. Here they served in Justinian's army, assisted the Lombards to destroy the kingdom of the Gepidæ, and gradually conquered, toward the end of the 6th century, under the powerful Khan Bajan, the region of Pannonia. Afterwards they conquered Dalmatia; devastated Germany as far as Thuringia; made incursions into Italy, where they combated the Franks and Lombards; and extended, finally, their dominion over the Sclavonians dwelling on the Danube and northward, as well as over the Bulgarians on the Black Sea. At length, these various nations confederated against the *A.*, and, in 640, drove them out of Dalmatia. Confined to Pannonia, they were subjugated by Charlemagne in 796, and were afterwards nearly extirpated by the Moravians and Petscheneges. After 827 they disappear from history.

Avar'es, AWARES, or OAR, a town, and political division of the prov. of Leghistan, in the Caucasus, under nominal subjection to Russia. *Area*, 2,287 sq. m. Its surface is wild and mountainous, and its inhabitants are all nomad and predatory tribes, who live by plunder and the chase. *Pop.* of the prov. about 25,000.

Av'arice, *n.* [Fr. *avarice;* Lat. *avaritia*, from *avarus*, *aveo*, to strive after, to covet; from Gr. *aō*, *auō*, to blow, to breathe.] An eager panting after; covetousness; greediness; cupidity; inordinate desire for procuring and hoarding up wealth.

"So for a good, old, gentlemanly vice,
I think I must put up with *avarice*."—*Byron.*

Avari'cious, *a.* [Fr. *avaricieux.*] Covetous; greedy of gain; niggardly; sordid; insatiably desirous of wealth.

"Luxurious, *avaricious*, false, deceitful."—*Shaks.*

Avari'ciously, *adv.* In an avaricious manner; covetously.

Avari'ciousness, *n.* Quality of being avaricious; avarice; an immoderate lust for gain.

Avarie', *n.* (*French Mar. Law.*) The loss and damage suffered in the course of navigation;—the same as the Eng. AVERAGE, *q. v.*

Ava'si, Avad'si, in Japan. See AWADSI.

Avast', *n.* [A.S.] (*Mar.*) An order to stop or pause in any exercise or operation; thus seamen use the phrase "*avast heaving*," to desist from drawing in the cable or hawser by means of the capstan.

Ava'tar, *n.* [Skr. *avatâra*, a descent, or the act of descending.] (*Hindoo Myth.*) A term applied to the incarnations of the Hindoo deities, or their appearance, in some manifest shape, upon earth. It appears that the doctrine of the Avatars belongs to a comparatively recent period. Those portions of the Vedas or sacred writings of the Hindoos, to which, from the style and structure of their language, the highest antiquity may with safety be attributed, inculcate the worship of elements and deified natural powers, but do not allude to those apparently more spiritualized deities that require to be invested with a bodily frame to operate in the material world. The number of the Avatars mentioned in the Puranas, or legendary poems of the Hindoos, is

Fig. 247.—TRIMÛRTI, (*the Trinity of the Vedas.*)
(From Moore's "Hindoo Pantheon.")

very great. Those of Vishnu alone, who is distinguished by the character of *Preserver* in the *Trimûrti*, or triad of the principal Hindoo deities, are stated to be endless. The principal are MATSYA, RÂMA, KRISHNA, and BUDDHA, *q. v.* See also MANU, TRIMÛRTI, VISHNU, &c.

Avat'cha, or AVATCH'KA, (*a-vat'cha,*) a spacious bay of Asiatic Russia, in Kamtschatka, on its E. coast, into which the rivers Avatcha and Paratonnka empty. Lat. 53° 15′ N.; Lon. 158° 5′ E. There is also a volcanic mountain of the same name here, which burst into eruption in 1827; its height is 9,000 ft.—Here, also, stands a town formerly called *A.*, and now PETROPAULOVSKI.

Avaunt', *interj.* [Fr. *avant*, before, from *avancer*, to advance; from Lat. *ab*, from, and *ante*, before.] Go forward! depart! begone!—used in a sense of contempt or abhorrence.

"Conscience *avaunt!* Richard's himself again."—*Shaks.*

Ave'bury, or ABURY, a village of England, in Wiltshire, 29 m. from Salisbury. In the vicinity are found some of the largest Druidical temples, cromlechs, and barrows in Europe.

Aveiro, (*a-vai-e'ro,*) a seaport of Portugal, prov. of Beira, 34 m. N.N.W. of Coimbra. Lat. 40° 38′ 24″ N.; Lon. 8° 37′ 54″ W. The harbor is full of shifting sands. *Pop.* 5,340.

Avei'ro, a town of Brazil, prov. of Para, on the Tapajos, 70 m. S.E. of Santarem. Lat. 3° 28′ S.; Lon. 55° 25′ N.

A'velghem, a town of Belgium, prov. W. Flanders, on the Scheldt, 9 m. E.S.E. of Courtrai; *pop.* 4,981.

Avella, (*a-vel'a,*) (anc. *Abella,*) a town of S. Italy, prov. Avellino, 5 m. N.E. of Nola, in a charming situation, commanding a view of Naples.

Av'ellane, *n.* [Fr. *aveline*; Lat. *avellana*, a filbert-nut.] (*Her.*) The name given to a peculiar form of cross, composed of 4 hazel-nuts or filberts enclosed in their perisperminm or shell.

Avellino, (*a-vel-e'no,*) a town of S. Italy, prov. Principato Ultra, 28 m. E. of Naples. *Manuf.* Paper, woollens, &c. *A.* suffered severely from earthquakes in 1694 and 1731. Near this place is the *Val di Gazzano*, where the Samnites gained a victory over the Romans, 321 B. C. *Pop.* about 16,500.

A'ye Mari'a, *n.* [Lat. *Hail, Mary!*] (*Eccl. Hist.*) A prayer of the Roman Catholic Church to the Virgin Mary, so called from the words with which it commences. It is also called *Angelica Salutatio*, or the Angelic Salutation; these words being the beginning of the salutation which the angel addressed to Mary, when he announced to her that she was to be the mother of the Saviour. The invocation was first used by the priests during mass on the 4th Sunday after Advent, by an ordinance of Gregory I. With the extended worship of the Virgin since the 11th century, the *A.* has come to be a lay prayer nearly equal in use with the Pater-Noster, and was sanctioned as such at the end of the 12th century. In the first half of the 16th century, the prayer came generally to receive, as a conclusion to the earlier formula, the words, "*Holy Mary, mother of God, pray for us sinners now and at the hour of our death. Amen.*" — John XXII., in 1326, ordained that every Catholic should, at the ringing of the bells, morning, noon, and night, repeat 3 *Aves*, which prayer is called *Angelus*. The Aves are reckoned by the small beads of the rosary, which are hence called *Ave Marias*, while the large beads are used in the *Pater Nosters*.—As in Italy, according to the division of time peculiar to the country, the close of the 24th hour coincides always with sundown, — when the bells call pious persons to prayer,—it was usual, and it is even now very common to say, at *Ave Maria*, instead of at 24 *o'clock*. To this custom Byron alludes in these fine lines:

> "*Ave Maria!* blessed be the hour!
> The time, the clime, the spot where I so oft
> Have felt that moment in its fullest power
> Sink o'er the earth so beautiful and soft,
> While swung the deep bell in the distant tower,
> Or the faint dying day-hymn stole aloft,
> And not a breath crept through the rosy air,
> And yet the forest-leaves seem'd stirr'd with pray'r."
> *Don Juan*, Canto III.

A'ven, (Loch,) in Scotland, a lake in the county of Banff, surrounded by the great mountains of Cairngorm, and Ben-Macdhui.

A'ven, or **A'von,** a name common to some English and Scottish rivers. — See Avon.

Ave'na, *n.* (*Bot.*) The Oats, a genus of plants, order *Graminaceæ*, including the genus *Arrhenatherum* of Palis. — Char. Spikelets 2–5-flowered; glumes 2, loose and membranaceous, sub-equal, longer than the flowers; paleæ 2, mostly hairy at base, the lower one bifid, with a twisted or bent arm at the back. The common oat, *A. sativa*, is that which is most generally cultivated for the use of man; like most other cereal plants, its native country is unknown. It is said to have been first discovered in the island of Juan Fernandez. — The Tartarian oat, *A. orientalis*, is considered a distinct species, on account of its more compact and one-sided panicle, and of both its florets having a beard; it is, however, doubtful if it can be regarded as anything more than a variety of *A. sativa*.—The naked oat, *A. nuda*, so called because its grain is loose in the husk, is found wild in many parts of Europe, and by some is thought to be a mere degeneration of the common oat. Its grain is small and not much esteemed. — The Chinese oat, *A. Chinensis*, is another species, the grain of which is loose in the husk; it is said to have been procured by the Russians, from the north of China, along with their tea. This species is the most productive of all the known kinds, every flower producing from three to five grains, which are large and of excellent quality. It is, however, said to be difficult to harvest, on account of the grains not adhering to the husks, but being very easily shaken out. It is known in England under the name of *Avenacea farina*. Besides the species cultivated for the grain which they yield, there is another that deserves to be noticed, on account of its remarkable hygrometrical action. This plant, the animated oat of gardeners, *A. sterilis*, is somewhat like the commou oat when young; but when ripe, its grains are enclosed in hard, hairy, brown husks, from the back of which rises a stout bent and twisted awn; usually two such husks grow together, and separate from the stalk by a deep oblique scar. Taking the scar for the head of an insect, the husks, with their long stiff brown hairs, resemble its body, and the two bent awns represent its legs. In this state, fishermen use a smaller but nearly allied species, called *havers* (*A. fatua*), instead of artificial flies, for catching trout. When the animal oat is ripe, it falls out of its glumes, and in warm dry weather may be seen rolling and turning about on its long ungainly legs, as they twist up in consequence of their hygrometrical quality. It necessarily advances as it turns over, because the long stiff hairs upon its body catch against every little projecting point on the surface of the soil and prevent its retreat. Nothing can be more curious than to see the path of a garden-walk covered with these things tumbling and sprawling about in different directions, until their awns are so twisted that they can twist no further. They then remain quiet till the dews fall, or they are moistened by a shower, when they rapidly untwist and run about with renewed activity, as if they were anxious to get out of the way of the wet. The animated oat is a native of Barbary, and is only cultivated as a curiosity.

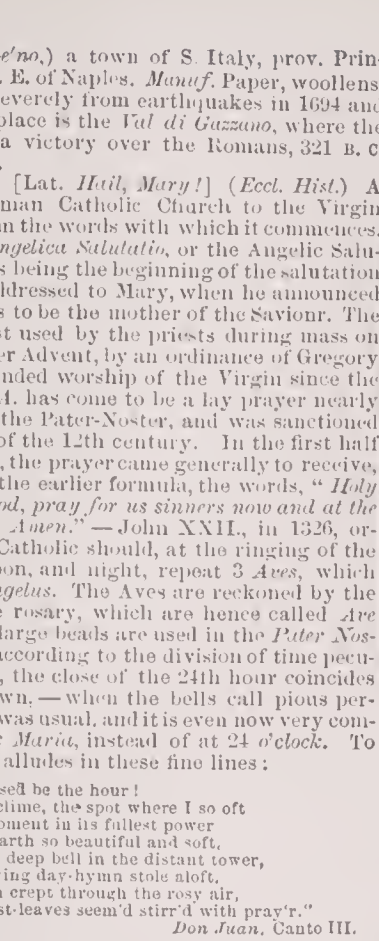


Fig. 248. — AVENA ORIENTALIS. (Oat of Tartary.)

Avena'ceous, *a.* Belonging to, or resembling, oats.

Aveuches, (*a-vanzh'*,) (anc. *Aventicum*,) a town of Switzerland, canton of Vaud, 18 m. of Berne. *A.* was formerly the capital of the Helvetii, and afterwards a flourishing Roman colony, destroyed by the Huns in 447. *Pop.* about 1,500.

A'vendale, in Scotland. See Avondale.

Ave'neæ, *n. pl.* (*Bot.*) A tribe of plants, order *Graminaceæ*. — Char. Inflorescence paniculate. Spikelets solitary, few-flowered. Glumes and paleæ of similar texture. Upper flowers generally pedicellate, with awn-like processes or abortive rudiments between the upper and the lower ones. Upper palea with two keels. *Avena* is the principal genus of this tribe.

Avenge', *v. a.* [Fr. *venger;* Lat. *vindicare*, from *vindica*, to assert authority or power.] To take or inflict vengeance on; to take satisfaction for an injury by punishing the offender; to vindicate; to defend; to punish; as, to *avenge* a wrong.

> "Till Jove, no longer patient, took his time
> T' *avenge* with thunder your audacious crime." — *Dryden.*

Avenge'ment, *n.* Punishment on a wrong-doer; satisfaction for injury. (R.)

> "That he might work th' *avengement* for his shame." — *Spenser.*

Aven'ger, *n.* One who avenges or vindicates; a vindicator.

> "Time, the *avenger*, unto thee I lift
> My hands, and eyes, and heart, and crave of thee a gift."—*Byron.*

Avenger of Blood. See Blood, (Avenger of.)

Aven'ine, *n.* (*Chem.*) The casein of the oat-seed (*Avena sativa*).

Av'enôr, or Avener, *n.* [O. Fr. *avennier*, from *avene*, from Lat. *avena*, oats.] An officer belonging to the royal stables, whose duty it was to provide oats for the horses.

Av'ens, *n.* (*Bot.*) See Geum.

Av'entaile, Av'entaille, *n.* [O. Fr. *aventail;* N. Fr. *ventail*, from Lat. *ventus*, wind.] The movable part of a helmet in front; the ventail.

Av'entine, *a.* Pertaining to *Mons Aventinus*, one of the 7 hills of ancient Rome. — See Rome.

Aven'ture, *n.* [Fr. *aventure.*] (*O. Law.*) A mischance whereby a man's death is occasioned without felony; as when he is drowned or burnt, or has fallen from the roof of a building.

Aven'turine, *n.* [Fr.] (*Min.*) A variety of quartz, of a brownish-red color, due to spangles of mica. A successful imitation of this mineral was accidentally discovered at Venice during the Middle Ages, by a workman who let some copper filings fall into colored glass in a state of fusion. This process, improved by Fremy and Clemandot, was superseded in 1865 by Pelouze, who obtained beautiful specimens of *A.* by fusing sand, carbonate of soda, carbonate of lime, and bichromate of potash.

Av'enue, *n.* [Fr., from *à*, to, and *venir*, to come; Lat. *ad*, and *venio*, to come.] An opening, entrance, or passage, by which anything may be introduced. The term is also used in landscape-gardening, in order to distinguish the path leading from some other road, and forming the direct approach to a house. Any broad walk or road, bordered on either side by trees, is also called an *A.* In the latter case, the trees may be either in rows or on the sides, or in clumps at some distance from one another. The trees mostly used in England for avenues are the English elm, the lime, the horse-chestnut, the common chestnut, and the beech. — A broad, straight street is also called an *A.* in most of the principal cities of the U. States; as *Fifth Avenue* in New York.

Aven'zoar, or, to give his complete name, Abu-Merwan-Mohammed-ben-Abdalmalec-ben-Zohar. An Arabian physician of the 12th century, born at Seville, in Spain, where his father practised medicine. He became eminent in his profession, travelled much, and passed through many adventures, among which was a long imprisonment at Seville. He had the care of an hospital, and composed a work entitled *Al Theiser*, containing a compendium of medical practice, and including many facts and observations not found in preceding writers, which were probably the result of his own experience. He died at Morocco, in 1169. The report of his having lived to the age of 135 is probably an error arising from his having been confounded with his son, of the same name and profession, who lived at Morocco, and was the author of a treatise on the regimen of health.

Aver', *v. a.* [Fr. *avérer*, from Lat. *verus*, true.] To declare to be true; to affirm confidently; to declare positively; to assert.

> "The reason of the thing is clear;
> Would Jove the naked truth *aver.*"—*Prior.*

(*Law.*) To avouch; to verify; to offer to verify. — See Averment.

Av'erage, *n.* [O. Fr. *average;* Fr. *moyenne;* L. Lat. *averagium*, the service which a vassal or tenant was bound to render to his lord with his *averia*, or horses, oxen, carriages. *Averia* signifies generally goods, possessions, money, from Fr. *avoir*, from Lat. *habere*, to have.] A mean proportion, medial sum or quantity, made out of unequal sums or proportions: as, A pays 25 dollars, B 50, and C 75, forming a total sum of 150, of which the *average* is 50.

—Any general estimate or medial statement, formed from a comparison of diverse specific cases.

(*Mar. Law.*) [Fr. *avarie.*] Damage sustained by goods in transportation; money contributed by those concerned, in proportion to their respective interests, to make good a specific loss. *General A.*, is the quota or proportion which each proprietor in the ship or cargo is adjudged, upon an approximate estimate, to contribute in order to make good any damage, loss, or extraneous expense (arising from sea-risk) which has been incurred by any one for the general good. *Particular A.*, is the specific amount of loss or damage arising to any individual interest or interests, and indemnifiable by the underwriters on such particular risk or risks only.

Av'erage, *a.* Medial; containing a mean proportion; as, an *average* harvest.

(*Com.*) According to the laws and customs of average; as, the loss must be made good by *average* contribution.

Av'erage, *v. a.* To find the mean of unequal sums or quantities; to reduce to a medium.

—*v. i.* To form a mean or medial sum or quantity; as, these spars *average* ten feet in length.

Av'erage Adjuster or Stater, *n.* (*Mar. Law.*) A person employed to adjust all claims for loss or damage arising from marine insurance risks, and whose duty it is to prepare a judicial statement of the same, as an impartial decision on the conflicting interests at stake.

Av'erage Bond, *n.* (*Com.*) A deed or instrument drawn up by a public notary, and subscribed to by the persons concerned in a case of general average, whereby they agree to refer it for adjustment to an average stater or adjuster. The latter will decide what proportion of the general loss shall attach to the *pro ratâ* value of each individual interest involved.

A'verasboro', (Battle of.) See Averysborough.

Aver'eest, a town of the Netherlands, prov. of Overyssel, 21 m. E.N.E. of Kampen; *pop.* about 4,000.

A'verill, in *Vermont*, a township of Essex co., 35 m. N. by E. of Guildhall.

Aver'ment, *n.* [O. Fr. *averement;* L. Lat. *averamentum.*] That which is averred; affirmation; positive assertion.

—Verification; substantiation by evidence.

> "For *averment* of the continuance of some estate."—*Bacon.*

(*Law.*) In pleading, a positive statement of facts, as opposed to an argumentative or inferential one. There must be an *A.* of every substantive material fact on which the party relies, so that it may be replied to by an opposite party.

Aver'nian, *a.* Pertaining to Averno or Avernus.

Averno, (*a-vair'no.*) [Lat. *avernus*, without a bird.] A lake in the neighborhood of Naples, about 2½ m. N.W. of Puzzuoli, and near the coast of Baiæ, the waters of which were so unwholesome and putrid, that no birds ever visited its banks. The ancients made it the entrance of hell, by which Ulysses and Æneas descended into the lower regions. In the time of Virgil, a communication between it and the neighboring Lucrine lake was made by Agrippa; but, in 1538, the latter was filled by a volcanic eruption, when Monte Nuovo rose in its place, rendering the Averno again a separate lake. On its banks, instead of pestilential marshes, are now beautiful gardens and vineyards. The grotto of the Cumæan sibyl is still to be seen here. — It may be observed, that all lakes whose stagnated waters were putrid and offensive to the smell, were indiscriminately called *Averna*.

Averrho'a, *n.* [From *averrhoes.*] (*Bot.*) A gen. of plants, order *Oxalidaceæ*. It consists of two species, both of which form small trees in the East Indies. They are remarkable for their leaves, which are pinnated, possessing, in a slight degree, the kind of irritability found in the sensitive plant: and for their fleshy oval fruits with five thick longitudinal wings. — In the Carambola (*A. aciambola*), the leaves are smooth, the flowers of a violet purple, and the fruit about the size of a goose's egg; it is of a pale yellow color, and is said to be agreeably acid in the East Indies. — The other species, called the Blimbing (*A. bilimbi*), has downy leaves, and fruit resembling a small cucumber. The latter is intensely acid, and cannot be eaten raw. It is pickled or candied, or a syrup is obtained from it by boiling with sugar, and its juice is found an excellent agent for removing iron-moulds or other spots from linen. To the Malays it answers the same purposes as the citron, the gooseberry, the caper, and the cucumber of Europe.

Averro'es, or Averrho'es. [Corrupted from Ebn or Ibn Rosnd or Rushd.] A famous Arabian philosopher and physician, B. 1120. He succeeded his father in the chief magistracy of Cordova, capital of the Moorish dominions in Spain, was afterwards nominated chief judge in Morocco, and having there appointed deputies to his office, he returned to Spain. The liberality of his opinions, however, caused him to be persecuted by the more orthodox Moslems, and he was imprisoned; but after doing penance and making recantation, he was liberated. *A.* greatly admired Aristotle, and his commentaries on the writings of that philosopher procured for him the title

of the *Commentator*. Of the personal character of *A.* almost nothing is known. Renan says, with perfect truth, that neither by his studies nor his character does he appear to have departed much from the type of the "learned Mussulman." He knew what the others knew: in medicine, Galen; in philosophy, Aristotle, or his translators; in astronomy, the *Almagest*. Like every Mohammedan, he cultivated jurisprudence; and, like every distinguished Arabian, he was devoted to poetry. D. at Morocco, 1198.

Averrun'cate, AVERUN'CATE, *v. a.* [O. Fr. *averronquer*; Lat. *ab*, and *eruncare*, to weed out.] To root up; to tear up by the roots. (R.)

"Unless by providential wit,
Or force, we *averruncate* it."—*Butler.*

Averrunca'tor, *n.* See AVERUNCATOR.

Aversa, (*a-vair'sa.*) a town of Italy, in the Terra di Lavoro, 10 m. S. of Capua. It is situate in a very fine plain, covered with vineyards and orange-trees, and is a sort of nursery for the artists and artisans of the kingdom. Its sweetmeats are in great repute in Naples. This place had formerly a castle, which served for an occasional palatial residence of the kings of Naples: it was replaced by a convent, in which Andreas of Hungary, the husband of Queen Joanna I., was strangled, in September, 1345. *Pop.* (1895) 21,173.

Averse', *a.* [Lat. *aversus*, from *averto*—*ab*, and *verto*, to turn.] Having a repugnance of mind to; having a feeling of disinclination, dislike, ill-will, hatred, or loathing towards; unfavorably inclined to.

"*Averse* alike to flatter, or offend,
Not free from faults, nor yet too vain to mend."—*Pope.*

Averse'ly, *adv.* In a backward manner; with aversion; unwillingly.

Averse'ness, *n.* Quality of being averse; repugnance or opposition of mind; dislike; unwillingness; backwardness.

Aver'sion, *n.* [Fr. *aversion*; Lat. *aversio.*] A turning away from; repugnance of mind; dislike; ill-will; hatred; antipathy; disinclination; reluctance; disgust.

"He died of the slow fever call'd the tertian,
And left his widow to her own *aversion.*"—*Byron.*

—Contrariety or antagonism of nature; applied to inanimate substances.

—The cause or object of aversion or dislike.

"For which they were the *aversion* of the gentlemen of the long robe."—*Arbuthnot's History of John Bull.*

(*Med.*) Extreme repugnance for anything whatever. It is also, in Therapeutics, a synonym of *revulsion* or *derivation*; meaning the action of medicines which turn the afflux of fluids from one organ, and direct them to others.

Aver'sively, *adv.* With aversion; in a reverse direction.

Avert', *v. a.* [Lat. *averto—ab*, and *verto*, to turn.] To turn from; to turn aside or away from; to keep off or prevent.

"Thro' threaten'd lands they wild destruction throw,
Till ardent prayer *averts* the public woe."—*Prior.*

—*v. i.* To turn away. (R.)

"By *averting* them from their company."—*Government of the Tongue.*

Avert'er, *n.* One who, or that which averts.

Av'ertin, *n.* [Fr., from Lat. *avertere*, to turn away.] (*Med.*) A disease of the mind, which renders the patient obstinate and furious.—Also a disease in sheep, like the vertigo.

Averruca'tor, *n.* [See AVERRUNCATE.] (*Hort.*) An instrument for pruning from the ground, trees, whose branches are beyond reach; it operates by means of a level moved by a cord and pulley. An *A.* of large size cuts off easily branches of an inch and a half in diameter. The *A.* is also used for gathering fine fruits which when cut fall into a basket attached to the instrument when used for this purpose.

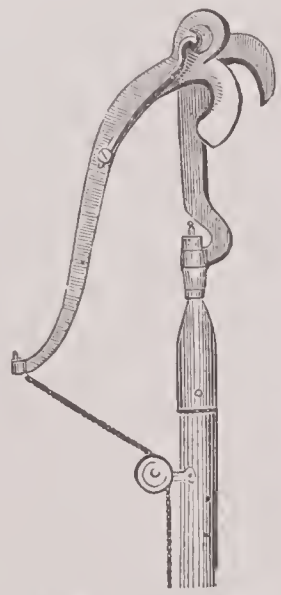


Fig. 249.—AVERUNCATOR.

A'very, in *Illinois*, a post-village of Jo. Daviess co.

A'very, in *Iowa*, a village of Monroe co., about 100 m. W.N.W. of Keokuk.

—A township of Hancock co.

A'very, in *Michigan*, a village of Berrien co., 19 miles E.N.E. of Michigan City.

A'very, in *Missouri*, a village on the line dividing Phelps and Maries counties, about 10 m. N.N.E. of Rolla.

A'verysbor'ough, in *North Carolina*, a village of Cumberland co., on Cape Fear river, 40 m. S. of Raleigh. On the 16th March, 1865, a battle was fought here between the Union troops (four divisions) under General Sherman, and the Confederates estimated at 20,000 men, under Hardee; after a severe action, the latter retreated with a loss of about 500 killed and wounded; the Union loss was about equal.

—A post-office of Harnett co.

A'very's Creek, in *North Carolina*, a village of Buncombe co.

A'very's Gores, in *Vermont*, the name given to tracts of land granted to Samuel Avery in 1791. One of these forms the township of *Avery Gore*, in Franklin co., about 45 m. N. by W. of Montpelier.

A'ves, plural of AVIS.

Aves, (*ai'vees*) or BIRD ISLANDS, a small group of islands of the W. Indies, in the Lesser Antilles, belonging to Holland. Lat. 15° 30′ N.; Lon. 63° 15′ W. The islands are named from the vast numbers of birds frequenting them. They are inhabited by a few fishermen only.

Avesnes, (*a-vain'*,) a fortified town of France, dep. of Nord, 50 m. S.E. of Lille. It is ill-built and dull. The cathedral has a spire 300 feet high. Here is made the cheese of *Marolles*. *Pop.* about 4,000.

A'vestad, a town of Sweden, on the Dal, 35 m. S.E. of Falun. Here are extensive copper-smelting and iron works. Lat. 60° 7′ N.; Lon. 16° 9′ E.

Aveyron, (*a-vai-rong'*,) a dep. of France, separated from the Mediterranean by the dep. of Herault, between N. Lat. 43° 41′ 30″, and 44° 55′ 25″; and E. Lon. 1° 50′ 15″ and 3° 26′. *Area*, 3,429 square miles. *A.* is one of the most mountainous dep. of France, a branch of the Cevennes passing through it. *Soil*, fertile in the valleys, but agriculture still in a backward state. Sheep are numerous. At *Roquefort*, the famous cheese known by that name, is made. The coal and iron mines of *A.* are among the most important in France. *Manf.* Cotton, hosiery, hats, leather, &c.—*Principal Towns.* Rhodez (cap. of the dep.), Milhau, Villefranche, Espalion, and St. Affrique. *Pop.* 400,070. This dep. takes its name from the river *Aveyron*, which rises near Severac-le-Château, and after a course of 90 m. falls into the Tarn, below Montauban.

Avezza'no, a town of S. Italy, prov. Aquila, about 1 m. from Lake Fucino. There is a castle here belonging to the Colonna family. *Pop.* 4,927.

Avia'no, a town of N. Italy, 30 m. W. of Udine, near Monte Cavallo; *pop.* about 5,000.

A'viary, *n.* [Lat. *aviarium*, from *avis*, a bird.] A building or enclosure for keeping birds. A bird-cage is an *A.* on a small scale.

Avicen'na, (corruption of IBN SINA,) the most celebrated of Arabian physicians, and the greatest Eastern philosopher of that race. B. at Afschena, in Bokhara, 980 A. D. In his 22d year he composed his great work the *Canon of Medicine*, which carried his name through Europe as well as Asia, and sustained his reputation for several centuries. He settled at Hamadan in Persia, at which court he was made vizier, and there composed his greatest production, the "*Al-Schefâ*." D. 1037.—The philosophy of *A.* was the Peripatetic, although several elements are found in it which Aristotle would have disowned. He certainly inclined towards the Pantheism peculiar to the East. He also held firmly by the personality of the human soul, and its indestructibility apart from the body. History must award to *A.* the merit of having first explained to modern times the nature of the Stagyrite philosophy.

Avi'cula, *n.* (*Zoöl.*) A genus of mollusks, fam. *Aviculidæ*, q. v.

Avicula'ria, *n.* (*Bot.*) A name of the gen. POLYGONUM, *q. v.*

Avicul'idæ, *n. pl.* (PEARL-OYSTER FAMILY.) (*Zoöl.*) A family of the order *Lamellibranchiates*, embracing acephalous molluscs which have the valves unequal and very oblique. They inhabit tropical and temperate seas, and yield the mother-o'-pearl and the Oriental pearls, so highly prized. There are about 100 living and 600 fossil species.—See PEARL.

Av'id, *a.* [Fr. *avide*; Lat. *avidus*, from *avēre*, to long.] Greedy; eager; appetitive.

Avid'nously, *adv.* Eagerly; greedily; insatiably.

Avid'ity, *n.* [Fr. *avidité*; Lat. *aviditas*; from *aveo*, to desire eagerly, to covet.] An eager desire for something; greediness; strong appetite; eagerness; desire; as, to seize with *avidity*.

Aviga'to, *n.* See ALLIGATOR PEAR.

Avigliana, (*a-veel'ye-a-na*,) a town of N. Italy, prov. of Turin, 14 m. W. of Turin. *Manf.* Cotton and silk. *Pop.* about 4,000.

Avigli'ano, a town of S. Italy, prov. Potenza, 11 m. N.N.W. of the latter city. In 1824, a great land-slip destroyed much of the town. The surrounding country produces the finest oxen in Italy.

Avign'on-Berry, *n.* [From the city *Avignon.*] (*Chem.*) The common name of the fruit of the *Rhamnus infectorius, saxatilis, and amygdalinus.* It is a small berry, bitter, astringent, and of a yellowish-green color. It is used by dyers and painters for coloring yellow.

Avignon, (*a-veen'yong*,) (anc. *Avenio.*) A celebrated city of France, cap. of the dep. of Vaucluse, on the left bank of the Rhone, 76 m. N.N.W. of Marseilles, on the railway to Paris. *A.* was for a long time the residence of the popes, and accordingly filled with convents, churches, &c., many of which are now in decay. It is situated in a fine plain, and is surrounded by high walls, flanked with numerous towers. The promenades along the walls, and the quays along the river, are both very fine. The streets are, in general, narrow and gloomy. The ancient palace of the popes stands on the declivity of a rock. It is a Gothic building of different periods, and of vast extent, and now serves as a prison, military depôt, and barracks. The cathedral church of Nôtre Dame des Dons is very ancient, as is also the spire of the Church of the Cordeliers. The latter church contained the tomb of "Laura," immortalized by Petrarch.—*Manf.* Silk stuffs and velvets, woollen and cotton fabrics, &c.—*A.* existed before the Roman invasion, and afterward became a Roman colony. In 1309, Clement V. transferred thither the abode of the popes, who continued to reside here till 1377, when they returned to Rome; but two schismatical popes, or popes elected by the French cardinals, resided at *A.* till 1409. *A.* and its territory remained the property of the Holy See until 1797, when it was incorporated with France. *Pop.* 36,407.

Fig. 250.—PALACE OF THE POPES.
(Avignon.)

Avila, (*a-ve'la.*) a province of Spain, in Old Castile, near the centre of the peninsula. *Area*, 4,917 sq. m. *Desc.* Level in the N., and mountainous in the S.—*Rivers.* The Alberche, Adaja, and several smaller streams.—*Prod.* Grapes, mulberries, and other fruits, and the usual cerealia. A great many sheep, pigs, and horned cattle are reared.—*Min.* Not plentiful: but silver, copper, lead, iron, and coal are found and partially wrought.—*Manf.* Linen, silk, cloth, paper, earthenware, hardware, and leather. *Pop.* 133,000.

AVILA, cap. of the above province, on the Adaja, 64 m. W.N.W. of Madrid. It was formerly a flourishing place. *Pop.* 6,970.

Avi'la, JUAN DE, a celebrated Spanish preacher, commonly called the "Apostle of Andalusia," was B. at Almodavar del Campo in 1500. His missionary labors in Andalusia were prosecuted with untiring zeal and singular success, until he arrived at the age of 50, when, with a worn-out constitution, he was obliged to desist. D. 1569. His *Cartas Espirituales* ("Spiritual Letters") have been translated into most European languages.

Avi'la y Zuni'ga, LUIS DE, a Spanish historian and diplomatist, who was ambassador to the courts of popes Paul IV. and Pius IV., and afterwards followed Charles V. into Germany. He commanded the cavalry at the siege of Metz, and published, after his return to Spain, an account of Charles' wars in Germany, in the years 1546 and 1547.

Avil'la, in *Indiana*, a post-village of Noble co., 24 m. N. by W. of Fort Wayne.

Avil'la, in *Missouri*, a post-village of Jasper co.

A'vim, or A'VITES, (*Scrip.*) were descendants of Canaan, (*Gen.* x. 17,) who occupied a portion of the coast of Palestine from Gaza towards the river of Egypt, but were expelled and almost destroyed by the invading Philistines or Caphtorim, before the time of Moses (*Deut.* ii. 23). Some yet remained in the time of Joshua (*Josh.* xiii. 3). They were idolaters, worshipping Nibhaz and Tartak, and are probably the same with the Hivites.

A vin'culo matrimo'nii. [Lat., from the bond of matrimony.] A Latin sentence expressing dissolution of the marriage relation, or a total divorce.

A'vis, *n.*; *pl.* AVES. [Lat., a bird.] (*Zoöl.*) See BIRD.

Av'iston, in *Illinois*, a post-village of Clinton co., about 80 m. S. of Springfield.

Avi'tus, MARCUS MÆCILIUS, an emperor of the West. He was of a Gaulish family in Auvergne, and gained the favor of Constantius, the colleague of Honorius, and of Theodoric, king of the Visigoths. He served with distinction under Ætius, became prefect of Gaul, and concluded a favorable treaty with the Goths. He afterwards retired into private life until the invasion of Attila, when he induced the Goths to join the Romans against the common enemy. *A.* was proclaimed emperor in 455, took for his colleague Marcianus, and D. the year following.

A'viz, (ORDER OF,) an institution created in 1147, by Alphonso I., the founder of the Portugnese monarchy, and raised by him, in 1162, to the rank of an ecclesiastical order of chivalry. The knights were then called "Knights of Evora," but took their present title in 1287, from their gallant defence of the fortress of Aviz against the Moors. The order was changed from an ecclesiastical to a civil institution in 1789. The king of Portugal is the Grand Master of the Order.

Av'lona, in Turkey in Europe. See AULONA.

Avo'ca, or OVO'CA, a beautiful valley and river of Ireland, near Glendalough, in the co. Wicklow, and celebrated as being the scene which gave rise to one of the finest of Moore's *Irish Melodies*:

"Sweet vale of *Avoca!* how calm could I rest,
In thy bosom of shade with the friends I love best," &c.

Avo'ca, in *Alabama*, a village of Lawrence co.

Avo'ca, in *Illinois*, a township of Livingston co., on the S. Fork of Vermilion River, distant N.E. from Springfield 98 miles, and from Pontiac 10 miles southeast.

Avo'ca, in *Missouri*, a post-village of Jefferson co., about 14 m. W.S.W. of the Mississippi.

Avo'ca, in *Nebraska*, a post-village of Cass co.
Avo'ca, in *New York*, a post-village and township of Steuben co., on Conhocton Creek, 225 m. W. by S. of Albany.
Avo'ca, in *Wisconsin*, a village of Fond du Lac co., 80 m. N.E. of Madison.
—A post-village of Iowa co., 43 m. W. by N. of Madison.
Avoca'do Pear, *n.* (*Bot.*) The fruit of the *Persea gratissima*. — See PERSEA.
Av'ocat, *n.* The French name for an ADVOCATE, *q. v.* See also BARREAU.
Avoca'tion, *n.* [Lat. *avocatio*, from *avoco* — *ab*, and *voco*, to call.] A calling aside or away from; as, "The *avocations* of our senses."— *Glanville.*
—Business, engagement, or employment which calls one aside, or which demands time and attention.

"By the secular cares and *avocations* which accompany marriage." — *Atterbury.*

Avoid', *v. a.* [Fr. *éviter*; Lat. *evitare.*] To separate or go away from; to shun; to escape from; to eschew.

"The wisdom of pleasing God, by doing what he commands, and *avoiding* what he forbids." — *Tillotson.*

—To annul; to set aside; to make void.
(*Law.*) To render void.
—*v. i.* (*Law.*) To become vacant, void, or empty.
Avoid'able, *a.* That may be avoided; liable to be annulled; susceptible to vacation.

"The charters were not *avoidable* for the king's nonage."—*Hale.*

Avoid'ance, *n.* Act of avoiding; shunning of a person or thing.
—The state of being vacant; used specifically in an ecclesiastical sense; as, "*Avoidance* of St. Peter's chair."
—The act of annulling; the course whereby anything is drained off.

"For *avoidances* and drainings of water, where there is too much, we shall speak of." — *Bacon.*

(*Law.*) A making void, useless, or empty.
Avoid'er, *n.* One who avoids or shuns. — Any person who carries a thing away, or the vessel in which things are carried away.
Avoid'less, *a.* Inevitable; that which cannot be avoided.

"That *avoidless* ruin in which the whole empire would be involved." — *Dennis.*

Avoirdupois', or AVERDUPOIS', *n.* [Fr. *avoir du poids*, to have weight.] (*Com.*) The name given to the system of weights used both in England and the U. States, for general commerce. The ounce contains 437½ grains, whereas the ounce in both troy and apothecaries' weights, contains 480 grains. There is but one grain which was, or may be taken as, a common unit in comparing the three systems of weights used here and in Great Britain. The value of the grain is set forth by Act of Parliament in these words:—"*A cubic inch of distilled water, weighed in air by brass weights, at the temperature of 62° of Fahrenheit's thermometer, the barometer being at 30 inches, is equal to 252 grains and 458,000 parts of a grain.*" The pound *A.* contains 7,000 such grains. The lowest term in *A.* weight is the drachm, which contains 27 $\frac{11}{32}$ grains. The drachm is, however, seldom, if ever, used now, small weights being expressed either in grains or in fractions of the ounce. The following table displays the comparative values of the different denominations in *A.* weight:

Ounces.		Pounds.		Quarters.		Cwts.		Ton.
16	=	1						
448	=	28	=	1				
1,792	=	112	=	4	=	1		
35,840	=	2,240	=	80	=	20	=	1

The usual contractions are as follows:—ounce, *oz.*; quarter, *qr.*; pound, *lb.*; hundred-weight, *cwt.*
Avo'la, or **Au'la,** a seaport of Sicily, prov. of Syracuse, 12 m. S.W. of Syracuse. It is a clean and well-built town, prettily situated, and has a large trade. *Pop.* 11,324.
Avolation, *n.* [L. Lat. *avolatio.*] The act of flying away; flight. (R.)

"Hindering the *avolation* of the favillous particles."—*Browne.*

A'von, the name of several English and Scottish rivers. We may mention of these that *A.* which rises in Northamptonshire, and flows into the Severn at Tewkesbury, after a course of 100 m. On its banks is Stratford-on-Avon, (*q. v.*) the birthplace and abode of the immortal Shakspeare, who has hence been styled the "*Bard of Avon.*"
A'von, a river of W. Australia, in Swan River Colony, which, after a N.W. course, joins the Swan River at Northam.
A'von, in *Connecticut*, a post-township of Hartford co., 9 m. W. by N. from Hartford.
A'von, a v. of France. Dep., Seine-et-Marne.
A'von, in *Ill.*, a p.-v. of Fulton co.
—A village of Kane co., about 48 m. W. of Chicago.
—A township of Lake co.
A'von, in *Iowa*, a post-village of Polk co., on the right bank of the Des Moines river, about 8 m. from Des Moines City.
A'von, in *Kansas*, a township of Coffey co.
A'von, in *Maine*, a post-township of Franklin co., on Sandy River, 40 m. N.W. of Augusta.
A'von, in *Michigan*, a township of Oakland co.; also the name of prosperous v. in Ind., Va., and Wis.
A'von, in *Minnesota*, a village of Dodge co., about 35 m. W. by N. of Rochester.
A'von, in *Missouri*, a post-village of St. Genevieve co., about 15 m. S.W. of Mississippi river.
A'von, in *New York*, a post-village of Avon township, Livingston co., beautifully situate on the E. bank of the Genesee river, 18 m. from Rochester. Near this place are celebrated mineral springs, much resorted to for the efficacy of their waters, and the beauty of the surrounding country. There are three sulphuro-saline, and one iodine, springs.
A'von, in *Ohio*, a post-township of Lorain co., about 20 m. E. by S. of Cleveland.
A'von, in *Pennsylvania*, a post-village of Lebanon co.
A'von Centre, in *Wisconsin*, a post-office of Rock co.
A'vondale, a par. of Scotland, in the county of Lanark. *Area.* 40,000 acres. At the battle of Drumclog, fought near this place, 1st June, 1679, Grahame of Claverhouse, the famous Viscount Dundee, was defeated by the forces of the Scottish Covenant. A graphic description of this battle is found in Sir Walter Scott's *Old Mortality.*
A'vondale, in *Pennsylvania*, a post-village of Chester co., 38 m. W.S.W. of Philadelphia.
A'von Lake, in *Ohio*, a post-village of Lorain co.
Av'oset, or **Av'ocet,** *n.* [Fr. *avocette.*] (*Zoöl.*) The common name of the *Recurvirostra*, a genus of birds, family *Recurvirostridæ.* The *A.*, whose great singularity is in the form of its bill, is aquatic, the shores of the ocean being its favorite haunts. It is about 18 inches in

Fig. 251. — AMERICAN AVOSET.

length; very erect, and has legs unusually long for its size. The bill of the *Recurvirostra avocetta*, or common *A.*, a species widely diffused through the temperate climates of Europe and Asia, is 3½ inches in length, turns up like a hoop, and is flat, thin, sharp, and flexible. The American *A.* (*R. Americana*) has the bill less recurved, but its habits are similar to those of the common *A.* The plumage, in both species, is black and white, the tail consisting of twelve white feathers; the legs are of a fine blue color, naked and well calculated for wading, the feet are palmated, but not so much adapted for swimming as for supporting the bird upon the mud. It feeds on worms, &c., which it scoops out of the mud with its bill; and it lays two eggs, which are greenish, spotted with brown and black.
Avouch', *v. a.* [O. Fr. *voucher*; Fr. *avouer*; Lat. *advocare* — *ad*, and *voco*, to call.] (Originally, to call upon a feudal lord to defend a tenant's right when impugned; to acknowledge, as a tenant, the right of the lord.) To avow; to vouch; to affirm; to warrant; to defend or maintain; to acknowledge; to confess to be; to take as one's own.

"They boldly *avouched* that themselves only had the truth." *Hooker.*

Avouch'able, *a.* That may be avouched; capable of being vouched for. (R.)
Avouch'er, *n.* A person who avouches.
Avow', *v. a.* [Fr. *avouer*; Lat. *votum*—*vovere*, to vow.] To admit; to declare strongly or openly; to acknowledge or confess frankly; as, he *avowed* his crime.

"Then blazed his smother'd flame, *avow'd* and bold."—*Thomson.*

(*Law.*) To acknowledge the commission of an act, and claim that it was done with right.
Avow'able, *a.* That may be avowed.
Avow'ably, *adv.* In an avowable manner.
Avow'al, *n.* An avowing; an open declaration; a frank acknowledgment; as, "The *avowal* of such principles."—*Hume.*
Avow'ance, *n.* The act of avowing; avowal.
Avow'ant, *n.* (*Law.*) One who makes an avowry.
Avow'edly, *adv.* In an open manner; with frank acknowledgment.

"Wilmot could not *avowedly* have excepted against the other." *Lord Clarendon.*

Avowee', *n.* [Fr. *avoué.*] One who has a right of presentation to a benefice; a patron of a living; an advowee. — See ADVOWSON.
Avow'er, *n.* A person who avows.

"Virgil makes Æneas a bold *avower* of his own virtues."—*Dryden.*

Avow'ry, *n.* [O. Fr. *avourie*; L. Lat. *advocaria.*] (*Law.*) The answer of a defendant in an action of replevin brought to recover property taken in distress, in which he acknowledges the taking, and, setting forth the cause thereof, claims a right in himself or his wife to do so.
Avoyelles, in *Louisiana*, a parish at the mouth of the Red River. *Area*, about 800 sq. m. It is bounded E. by Red River and the Atchafalaya, and N.E. by the Saline Bayou. The E. part is periodically inundated, but the W. consists of fertile prairies. *Cap.* Marksville. *Pop.* in 1890, 25,112; in 1897, about 26,200.
Avranches, (*av'ranzh,*) (anc. *Ingena,*) a town of France, dep. Manche, cap. of an arrond., 32 m. S.S.W. of St. Lô, and 3 m. from the sea. This is a very ancient town. Its cathedral, consecrated in 1121, is now in ruins. In it, in 1172, Henry II. of England did penance, and received absolution for the murder of A'Beckett. *Pop.* 9,397.
Avulsed', *a.* [Lat. *avulsus* — *avellere*, to tear off, from *ab*, *a*, from, off, and *vellere*, to pluck.] Pulled off; torn from.
Avul'sion, *n.* [Lat. *avulsio*, from *avellere*, to tear away.] A pulling or tearing from or asunder; a rending, or forcible separation. A piece or fragment torn off.
(*Law.*) Lands torn off by an inundation or current from property to which they originally belonged, and gained to the estate of another; or, where a river changes its course, and, instead of continuing to flow between two properties, cuts off part of one and joins it to the other property. The property of the part thus separated continues to belong to the original proprietor, in which respect *A.* differs from *alluvion*, q. v.
Avun'cular, *a.* [From Lat. *avunculus*, uncle.] Of, or pertaining to an uncle.
Await', *v. a.* [*a* and *wait.* See WAIT.] To lie on the watch, &c.; to watch for; to wait for; to look for or expect; to observe.

"Even as the wretch, condemn'd to lose his life,
Awaits the falling of the murd'ring knife."—*Fairfax.*

—To be in store for; to attend upon.

"An eternity of torments *awaits* the object of his displeasure." *Rogers.*

Awake', *v. a.* [A.S. *awacian*, *wacian*, or *weccan.* — See WAKE.] To rouse from sleep; to awaken.

"Take heed,
How you *awake* our sleeping sword of war."—*Shaks.*

—To put into action; to rouse from a state of torpor, inaction, or stupor.

"Nor mote my shell *awake* the weary Nine
To grace so plain a tale — this lowly lay of mine."—*Byron.*

—*v. i.* To break from sleep: to wake; to be in a state of vigilance; to revive, or be aroused from a state of inaction or torpor.

"Alack, I am afraid they have *awak'd*,
And 'tis not done!"— *Shaks.*

Awake', *a.* Not sleeping; in a state of vigilance or action.

"But wide *awake* she was."— *Byron.*

Awak'en, *v. a.* and *i.* To awake; to rouse from sleep or torpor. Used generally in a moral or religious sense.

"Their consciences are thoroughly *awakened.*"—*Tillotson.*

Awak'ener, *n.* He who, or that which, awakens.
Awak'ening, *p. a.* Awaking; rousing from sleep or torpor.
—*n.* Act of awaking; most frequently used to denote a restoring to a sense of religion.
Awak'eningly, *adv.* In a manner to awaken.
Awak'enment, *n.* An awakening, or rousing. (R.)
Awant'ing, *a.* Wanting; missing.
Award', *v. a.* [Prov. *eswarder*; Fr. *regarder*; It. *guardare*, to look at, to look upon.] To look at; to consider; to give by sentence or judicial determination; to assign by sentence.

"A pound of that same merchant's flesh is thine;
The court *awards* it, and the law doth give it."—*Shaks.*

—*v. i.* To make an award; to judge; to determine.

"Th' unwise *award* to lodge it in the tow'rs,
An off'ring sacred."—*Pope's Odyssey.*

Award', *n.* [From Lat. *award*a, *awardum.*] (*Law.*) The judgment or decision of arbitrators or referees, on a matter submitted to them. — The writing containing such judgment. — An *A.* is a final and conclusive judgment between the parties on all the matters referred by the submission. It transfers property as much as the verdict of a jury, and will prevent the operation of the statute of limitations. — It may be enforced by an action at law, which is the only remedy for disobedience when the submission is not made a rule of court, and no statute provides a special mode of enforcement. Under a rule of court, an *A.* may be enforced by the court issuing execution upon it as if it were a verdict of a jury, or by attachment for contempt. — A court has no power to alter or amend an award; but may recommit to the referee, in some cases. — An *A.* may not be disturbed, except for very cogent reasons. It can be put aside for *misconduct*, corruption, or irregularity of the arbitrator, which has, or may have, injured one of the parties; for *error* in fact, or in attempting to follow the law, apparent on the face of the *A.*; for *uncertainty* or inconsistency; for an *exceeding* his authority by the arbitrator; when it is not *final* and conclusive, without reserve; when it is a *nullity*; when a party or witness has *been at fault*, or has made a mistake; or when the arbitrator acknowledges that he has made a mistake or error in his decision. Prominent among historical awards is the Geneva Award, or decision of the tribunal of arbitration which sat at Geneva, Switzerland, for the settlement of the Alabama Claims (*q. v.*).
Award'er, *n.* A person who awards: one who assigns by sentence or judicial decision; a judge.
Aware', *a.* [A.S. *gavarian*, to take care; from *warian*, to beware, to guard, to ward off. See WARE.] On guard; on the watch; vigilant; cautious; informed; apprised; conscious; made acquainted.

"Ere I was *aware*, I had left myself nothing but the name of a king."—*Sir P. Sidney.*

"And she glides
Into his darker musings with a mild
And gentle sympathy that steals away
Their sharpness ere he is *aware.*"—*Bryant.*

Awarn', *v. a.* To caution; to warn. (O.)
Away', *adv.* [A.S. *aweg*; from *a*, from, and *weg*, way.] Out of the way; absent; gone; at a distance; in a state of absence.
—Used to imply a departure, or going from: in motion from.

"*Away*, old man; give me thy hand; *away*;
King Lear hath lost."—*Shaks.*

—By degrees; in continuance.

"Summer suns roll unperceiv'd *away.*"—*Pope.*

—On the way; on the road.

"Sir Valentine, whither *away* so fast?"—*Shaks.*

—Used in an exclamatory sense; depart; begone.

"*Away*, ye gay landscapes, ye gardens of roses!"—*Byron.*

—Out of one's own hands; as, to transfer *away*.

—To throw a thing off in a trifling manner.

"It concerns every man who will not trifle *away* his soul."
Tillotson.

Away with, as applied to a person or thing, signifies to take him, or it, *away*.

"If you dare think of deserving our charms,
Away with your sheephooks, and take to your arms."—*Dryden.*

To make away with, to kill; to remove; to destroy.

To throw away, to throw out of one's reach, so as to lose.

Awe, *n.* [A.S. *aga, eye;* probably allied to Gr. *a-gē*, wonder, from *agamai*, to wonder, to be astonished.] Fear; dread; terror; fear, or dread, mingled with reverence or submission.

"It was *awe* without amazement, and dread without distraction."—*South.*

—*v. a.* To strike with fear and reverence; to influence by fear, terror, or respect.

"Heav'n that placed this island to give law,
To balance Europe, and her states to *awe*."—*Waller.*

Awe, (Loch,) a lake of Scotland, in Argyleshire, 18 m. N.W. of Inverary. It is 23 m. long, by 3 broad. On one of its many islands stand the magnificent ruins of Kilchurn Castle, for centuries the baronial fortress of the Campbells, Earls of Breadalbane. In allusion to the vast territorial possessions of this family, extending over a tract of country for 100 miles, there is a saying in the Highlands—"*It is a far cry to Loch Awe.*" This lake receives the river Urchan; and at its N.W. extremity rises the great mountain of Ben Cruachan, 3,670 feet in height.

A-wea'ry, *a.* [Prefix *a*, and *weary*, q.v.] Weary. (O. and R.)

"She only said,
I am *a-weary*,—I would that I were dead!"—*Tennyson.*

A-weath'er, *n.* [A.S.] (*Mar.*) A term signifying that the situation of the helm is to the weather side of the ship, in contradistinction to *a-lee*.

A-weigh', *adv.* (*Naut.*) Noting the position of an anchor, when just loosened from the ground, and hanging vertically in the water; a-trip.

Awe'some, *a.* Fearful or appalling; respectful; capable of inspiring awe; as, an *awesome* being.

Awe'-struck, *a.* Impressed or struck with awe.

Aw'ful, *a.* Full of awe; that strikes or fills with awe, terror, or dread; dreadful; terrible; solemn.

"Thy *awful* brow, more *awful* thus retir'd,
Fairest resemblance of thy Maker fair!"—*Milton.*

—Detestable; ugly; unsightly; used in a vulgar sense; as, an *awful* hat.

Aw'fully, *adv.* In an awful manner; apprehensively.

Aw'fulness, *n.* Quality or state of being awful.

"Night heightens the *awfulness* of the place."—*Addison.*

Awhile', *adv.* [*a*, and *while*, time or interval.] A time; a space of time; for some time; for a short time.

"The wary fiend
Stood on the brink of hell, and look'd *awhile*."—*Paradise Lost.*

Awk, *a.* [Properly equivalent to *left*; e. g., on the left hand; abbreviated from O. Eng. *gauk;* Fr. *gauche*.] Awkward; clumsy; odd; out of order. (R.)

"And professors ringing as *awk* as the bells to give notice of the conflagration."—*L'Estrange.*

Awk'ward, *a.* [O. Eng. *awk*, odd, clumsy, awkward, unhandy, and A.S. *weard*, towards.] Inclined to the left hand; wanting dexterity; unhandy; inexpert; clumsy.

"So true, that he was *awkward* at a trick."—*Dryden.*

—Inelegant; ungraceful in manner; ungainly.

"They are judged of by their handsome or *awkward* way of expressing themselves in it."—*Locke.*

—Perverse; untoward; difficult to manage or control; —used vulgarly; as, an *awkward* customer.

Awk'wardly, *adv.* In a rude or bungling manner; badly; inelegantly.

"*Awkwardly* gay, and oddly merry;
Her scarf pale pink, her head-knot cherry."—*Prior.*

Awk'wardness, *n.* State or quality of being awkward; want of grace or dexterity.

Awl, *n.* [A.S. *æl;* Ger. *ahl;* Fr. *ail.*] A pointed iron instrument for piercing small holes in leather or wood.

Aw'less, *a.* [From *awe* and *less.*] Wanting reverence; void of respectful fear.

"The *awless* lion could not wage the fight."—*Shaks.*

—Without the power of causing reverence, or exciting awe.

"Insulting tyranny begins to jut
Upon the innocent and *awless* throne."—*Shaks.*

Awl'-shaped, *a.* Having the shape of an awl.

(*Bot.*) Narrow and terete, or nearly so, and tapering to a point, as the leaves of the *Juniper*.

Awl'-wort, *n.* (*Bot.*) The common name of the aquatic plants *Subularia aquatica*, from its awl-shaped leaves.—See SUBULARIA.

Awm, Aum, *n.* (*Com.*) See AAM.

Awn, *n.* [Icel. *ögn;* Dan. *avne;* Sw. *agn;* A.S. *egla;* Gr. *ach-nē*, chaff.] That which comes off the surface of anything; a scale or husk.—(*Bot.*) A stiff and pointed bristle which occurs in the flowers of many grasses, forming the extremity of a glume or palea, as the beard of wheat and barley. The flowers of some grasses are awnless.

Awn'ing, *n.* [Low D. *havenung*, from *haven*, a shelter, or place of shelter, with *ing* annexed.] A covering of canvas spread over the deck of a vessel, or other roofless place, as a shelter from the weather.

"Of these boards I made an *awning* over me."—*Defoe.*

(*Mar.*) On ship-board, the *A.* is generally supported by a range of light posts, called *stanchions*, erected along both sides of the ship; in the middle it is supported by a complication of small cords called a *crow's-foot*. This name is also applied to that part of the poop-deck which extends forward from the bulkhead of the cabin.

Awn'less, *a.* Without an awn or beard.

Awn'y, *a.* Having awns; full of beard.

Awoke', The preterite and past-participle of AWAKE, *q.v.*

Awork', AWORK'ING, *adv.* [*a* and *work.*] At work in, or into; a state of working or action. (O.)

Awry', *a.* or *adv.* [A.S. *writhan*, to writhe.] Writhed, turned, or twisted toward one side; distorted; crooked; asquint; with oblique vision; as, her head-dress is *awry*.

"With jealous eyes has looked *awry*."—*Sir J. Denham.*

—Perversely; deviating from right reason.

"All *awry*, and which *wried* it to the most *wry* course of all."
Sir P. Sidney.

Ax, a town of France, dep. of Ariège, 20 m. from Foix. It is much resorted to on account of its sulphurous springs, the temperature of which varies from 77° to 162° of Fahrenheit. *Pop.* about 2,500.

Ax'al, *a.* The same as AXIAL. (R.)

Axajacatl, or **Axayacatzlin,** emperor of the Aztecs or ancient Mexicans, who flourished in the 15th century. He was the father of the famous Montezuma, and was himself one of the greatest monarchs of his race, having subdued many nations, and added 37 provinces to his empire. D. 1477.

Axe, (*aks,*) *n.* (Often, but, we believe, incorrectly, written *Ax* in the U. States.) [A.S. *æx, cax, acas;* Gr. *axi-nē*, probably from *agnumi, axō*, to break.] An iron instrument generally used with both hands in hewing timber and chopping wood. It consists of a head with an arching edge, and a handle. There are several forms of the *A.*, the two principal being the *broad A.* for hewing, and the *narrow A.* for cutting and rough-hewing. The *hatchet* is a smaller form of the *A.*, and is used with one hand. The Franks in their expedition into Italy, in the 6th century, made use of an *A.* with a large blade. This was termed *francisca*. The principal weapons of this kind were the *taper A.*, the *broad A.*, and the *double A.* The *pole A.* and the *adze A.* were varieties of these. The *Lochaber A.* was used in Scotland in the 16th century.

—An axis. (R.) See AXIS.

Axe, *v. a.* and *i.* Vulgarly used for to ask; to inquire, or inquire of.

"The king *axed* after your grace's welfare."—*Pegge.*

Axe'-form, Axe'-shaped, *a.* (*Bot.*) Dolabriform; having a resemblance to an axe or hatchet.

Ax'elsen, or **Ax'elsen Tott,** a powerful Danish family who flourished in the latter half of the 15th century, and the members of which figured in the wars of Christian I. and John IV. of Denmark; and Karl Knutsen, and Eric the Pomeranian, kings of Sweden. Peter *A.* was the head of the family. Of his 9 sons, the eldest, Olaf, made himself master of Gothland; the 2d, Iver, retained that possession, and became a corsair; the 3d, Eric, was governor of Stockholm; and the 4th, Aage, became a Danish councillor of state.

Axe'-stone, *n.* (*Min.*) A green variety of jade found in New Zealand, and on the banks of the Amazous, and used by the natives for making hatchets.

Ax'holme, (ISLE OF,) a fertile district of England, in the county of Lincoln, insulated by the rivers Trent, Idle, and Don. It contains 47,800 acres.

Ax'ial, *a.* Pertaining, or having resemblance to, an axis.

Ax'ially, *adv.* In relation to, or in a line with, an axis.

Axif'erous, *a.* [Lat. *axis*, and *ferre*, to bear.] (*Bot.*) Applied to plants which have an axis or stem.

Ax'il, Axil'la, *n.* [Lat. *axilla*, the armpit; Fr. *aisselle.*] (*Anat.*) The cavity under the upper part of the arm, called the *arm-pit*. It is covered with hair, contains much areolar membrane, lymphatic ganglions, important vessels and nerves, and numerous sebaceous follicles, furnishing an odorous secretion.

(*Bot.*) The angle formed by the branch and stem of a plant, or by the leaf with either, on the upper side.

Ax'ile, *a.* (*Bot.*) Belonging to the axis.

Ax'illar, *a.* Same as AXILLARY.

Ax'illary, *a.* (*Anat.*) Of or belonging to the axilla; as, the *axillary* arteries, nerves, or veins.

(*Bot.*) Belonging to or growing in the axil; as, an *axillary* bud.

Ax'im, a town of W. Africa, on the Guinea coast, 73 m. W. of Cape Coast Castle. *A.* was taken by the Portuguese in 1642, and restored to the Dutch (its original possessors) by the treaty of Westphalia. The Dutch have a garrison here.

Ax'inite, *n.* [From Gr. *axine*, an axe.] (*Min.*) A triclinic mineral, so named from the resemblance of its crystals to an axe. Sp. gr. 3·271. Streak white; lustre vitreous; commonly splendent; very fragile; transparent, often translucent. It is chiefly composed of silica, alumina, lime, and peroxide of iron. B.B. it melts into a green glass, which becomes black in the oxidizing flame.

Axiom, (*ak'se-um,*) *n.* [Fr. *axiome*; Gr. *axiōma*, from *axio-ō*, to deem worthy of, to assume.] (*Philos.*) A universal proposition, which the understanding must perceive to be true as soon as it perceives the meaning of the words, though it cannot be proved, because it is impossible to make it plainer. It is therefore called a *self-evident truth*. To these propositions belong, indisputably, those in which the subject and predicate are either the same, or are only expressed in different words, since we cannot think a thing is really different from itself; for instance, *A* is *A*; *Every quantity is like itself; A thing is like itself; A thing cannot, at the same time, be, and not be;* &c. To axioms belong also propositions, of which the predicate expresses only some idea which enters necessarily into our conception of the subject. Such is the proposition, *A triangle has three sides*, because the subject, *triangle*, cannot be conceived otherwise than three-sided. All reasoning must start from axioms. There has been much dispute as to what proposition is to be regarded as absolutely first in all human knowledge. Some have considered as such the position: *It is impossible for a thing to be and not to be at the same time;* others, *Whatever is, is;* others, *Everything either is or is not;* others, the principle of the sufficient reason, *We cannot regard any thing as true without proofs, or any thing false against established proofs.* All these positions are fundamental truths. They all have this in common, that we cannot help regulating our thoughts, in the judgment of truth, conformably to them. They are all necessarily believed to be true. Many principles, however, are esteemed, by one class of men, self-evident, which another will not admit. There can never, therefore, exist perfect uniformity in human reasoning. There is only one science which starts from axioms acknowledged by all mankind, and which, therefore, is of a more general character than any other — viz., mathematics. But about some principles of every other science, which are generally considered axioms, great doubts have existed. Thus it is regarded as an axiom of moral philosophy, that *There exists a distinction, in the nature of things, between moral good and evil.* This cannot be proved, but it is generally admitted; and all our social, political, and religious relations are regulated by this principle; yet there have existed men of acute minds, who have disavowed this *A.* altogether, and made interest the sole rule of conduct. It has always been a great question in Philosophy whether these axioms are *innate*, or *drawn from experience.*

(*Math.*) Some of the most useful of the axioms employed in mathematical reasoning are these: 1. A whole is greater than any of its parts.—2. A whole is equal to the sum of all its parts.—3. Things which are equal to equal things are equal to each other.—4. Things which are like parts of equal things are equal to each other.—5. If equals be multiplied or divided by the same quantity, the products or quotients will be equal.—6. If equals be added to equals, the sums will be equal.—7. If equals be subtracted from equals, the remainders will be equal.—8. The like powers of equals are equal.

Axiomat'ic, Axiomat'ical, *a.* Pertaining to an axiom.

Axiomat'ically, *adv.* By the use of axioms.

Axis, (*aks'sis,*) *n.*; *pl.* AXES, (*aks'ēz.*) [Lat.; Fr. *axe;* A.S. *æx, eax;* Gr. *axōn*, an axle, probably from *agō*, to drive or impel; Skr. *achsha.*] This word presents a variety of forms of acceptations, inasmuch as it is used in all sciences, from each of which it derives a more or less precise signification, according as the science is in itself more or less exact. Nevertheless, whatever may be the use to which this term is applied, it resolves always, to a certain point, the principle of its origin, (*an axle.*) It may thus be generally defined as a line which traverses the centre of any object.

(*Geom. and Mech.*) When used by itself, *A.* generally means either an *A.* of *Rotation*, or of *Symmetry*. An *A.* of rotation, or revolution, is the line about which a body turns; an *A.* of symmetry is a line on both sides of which the parts of the body are disposed in the same manner, so that to whatever distance it extends in one direction from the *A.*, it extends as far in the direction exactly opposite. Or, if perpendiculars to the *A.* be drawn from all points and in all directions through the body, the whole of each perpendicular which is within the limits of the body will be bisected by the axis. Such is the middle line of a cone, any diameter of a sphere, the line drawn through the middle of the opposite faces of a cube, &c.

(*Astron.*) The *A. of the earth* is the imaginary line drawn through its two poles and its center.—*A. of the ecliptic, horizon,* &c., is a straight line passing through its center and perpendicular to its plane.

(*Phys.*) The word is used in many different senses. The *A. of a lens* is an imaginary line joining the centres of the two opposite surfaces of the glass. The *A.* of a *telescope*, or *microscope*, is a right line which passes through the centres of all the lenses in the tube. The *A. of the eye*, or *visual A.*, is the right line passing through the centres of the pupil and crystalline lens.—The *axes of a crystal* are imaginary lines about which the planes are symmetrically arranged. The *A. of rotation* is the line around which a body turns when revolving. The *A. of oscillation* is a line passing through the point about which an oscillating body—a pendulum, for instance—makes its vibrations.

(*Bot.*) The term *A.* is applied to the central part, both above and below ground, around which the whole plant may be said to be arranged. The stem is called the *ascending A.*; the root, the *descending A.*

(*Crystal.*) The hypothetic lines connecting the opposite sides of a crystal.

(*Anat.*) The second vertebra of the neck.

Ax'is, *n.* (*Zöol.*) The *Cervus Axis*, a species of Indian deer, of which there are three varieties. 1. The *Common Axis* is about the size of a fallow-deer, and of a light-red color. Its body is beautifully marked with white spots; its horns are slender and tri-forked. It is extremely docile, and possesses the sense of smelling in an exquisite degree. Though it is a native of the banks of the Ganges, it appears to bear the temperate climates without injury. 2. The *Great Axis.* This animal, native of Borneo and Ceylon, is about the height of a horse, and of a reddish-brown color. The horns are trifurcated, thick, strong, and rugged. 3. The *Lesser Axis* is a gregarious animal, inhabiting Java, Ceylon, Borneo, &c. It is hunted with ardor, the sport affording the highest diversion, and the flesh being esteemed excellent.

Axle, Axle-tree, (*aks'l, aks'l-trē,*) *n.* [A. S. *æx*, axis.] The shaft or pole on which a wheel turns, or which drives or impels the wheels of a vehicle.

Ax'le-box, *n.* The journal-box of an axle, more especially a railway axle.

Ax'led, *a.* Furnished with an axle or axles.

Ax'minster, a town of England, in Devonshire, 147 m. from London, noted for the beautiful carpets which are made there, and woven all in one piece. *Pop.* 5,000.

Axoto'mous, *a.* (*Min.*) A term applied to minerals cleavable in two directions of their axis.

Axum, (*ăks'um,*) or AXOUM, (*anc. Auxume.*) The ancient capital of Abyssinia, in the prov. of Tigré. It is situate about 85 m. from Antalo, but few remains now exist of its former importance. A fine obelisk is still seen here. *Adulis*, on Annesley Bay, in the Red Sea, was anciently the port of *A.*, and a great mart for the trade of Ethiopia, Egypt, Arabia, &c., more especially in slaves. *A.* was founded about B.C. 650. Justinian formed an alliance with the Axumites, A. D. 533. Gibbon is of opinion that the Axumites, or Abyssinians, as he calls them, were a colony of Arabs, and there can be no doubt that the Arab element is blended with the Ethiopian in their compositiou. They were converted to Christianity in the 4th century; and in its defence came into collision with the Moslems, who deprived them of their possessions and destroyed their commerce. The *Chronicles of Axum*, a kind of history of Abyssinia, a copy of which the traveller Bruce brought to England in 1744, are deposited in a Christian church in *A.*, built about 1657. *A.* was made a bishopric about 330, and Frumentius was the first bishop.

Ay, Aye, (*æ,*) *adv.* [Sw., Ger., and Dan. *ja*; A.S. *ja*; Fr. *oui*, perhaps allied to Lat. *aio*, I say.] Yes; yea; a word expressing assent, or an affirmative answer to a question; indeed.

> "What sayest thou? Wilt thou be of our consort?
> Say *ay*, and be the captain of us all?" — *Shaks.*

Ay, or **Ai,** (*ai,*) a town of France, dep. of Marne, 15 m. S. of Rheims; *pop.* 3,486. It is famous for its wine, the best of the *vins mousseux* of Champagne. Dr. Henderson says, that, "It is unquestionably an exquisite liquor, being lighter and sweeter than the *Sillery*, and accompanied by a delicate flavor and aroma, somewhat analogous to that of the pine-apple. That which merely creams on the surface (*demi mousseux*) is preferred to the full frothing (*grand mousseux*) wine." (*History of Wines*, p. 154.)

Ayacucho, (*a-ya-koo'cho,*) a prov. of S. Peru, between Lat. 12° and 16° S., and Lon. 72° and 76° W., bounded N. by Junin, E. by Cuzco, and on the S. and W. by the Andes. — *Estim. area*, 33,280 sq. m. — *Chief rivers*, the Apurimac, with its many tributaries. — *Towns.* Huamanga, (the capital,) Huancavelica, and Ayacucho. At the latter place, the combined Colombians and Peruvians utterly defeated the Spanish forces, 9th Dec., 1824, and so put an end to Spanish rule on the American continent.

A'yah, *n.* [Hindoo; Sp. *aya*, a governess, *ayo*, a tutor; It. *aja*, *ajo*.] In India, the name given to a waiting-maid, or to a nurse having the charge of children. In the latter capacity they are singularly remarkable for their fidelity of attachment to the youthful objects of their care.

Ayala, (*a-ya'la,*) PEDRO LOPEZ DE, a Spanish chronicler, B. in Murcia, 1332. He was taken prisoner by the Black Prince, at the battle of Najera in 1367, and sent to England. After his release he became councillor to Henry of Trastamara. *A.* died in 1407. His works gave a marked impulse to Spanish literature, and his *History of Castile* is one of the most valuable records that have come down to us from the Middle Ages.

Ayamonte, (*a'ya-mon'tai,*) a fortified town of Spain, prov. of Seville, on the E. side of the embouchure of the Guadiana, 25 m. of Huelva. Lat. 37° 13′ N.; Lon. 7° 19′ 15″ W. *Pop.* 6,497.

Ayant Cause, *n.* [Fr., concerned in the cause.] (*Law.*) A French legal term, used in Louisiana. It signifies one to whom a right has been assigned, either by will, gift, sale, bill of exchange, or the like; an assignee. — An *ayant cause* differs from an heir who acquires the right by inheritance.

Ayasalouk', in Asia Minor. See EPHESUS.

Aye'-Aye', *n.*; *pl.* AYE-AYES. (*Zoöl.*) The *Cheiromys Madagascariensis*, a singular quadruped (which in some descriptions has been confounded with the *Ai*, or Sloth, whose habits it somewhat resembles.) It is placed by Cuvier in the order *Rodentia*, but other naturalists have classed it with the Monkey tribe, from the hand-like structure of its hinder feet. It is a native of Madagascar; it burrows under the ground, is very slothful, and is altogether a nocturnal animal. It has large flat ears, like those of a bat, and a tail resembling a squirrel's; but its most distinguishing peculiarity is the middle toe or finger of the fore-foot, the two last joints of which are very long, slender, and destitute of hair. It measures about eighteen inches from the nose to the tail; and its general color is a pale ferruginous brown, mixed with gray.

Fig. 252. — AYE-AYE.

Aye, *adv.* [A.S. *aa*, *a*, or *awa*; Gr. *aei*, ever, forever; allied to *aiōn*, a lifetime, an age, eternity; Lat. *ævum.*] Always; ever; continually; for an indefinite time.

For aye, always; eternally; for ever.

> "The soul, though made in time, survives *for aye*;
> And, though it hath beginning, sees no end." — *Davies.*

Aye, *n.*; *pl.* AYES. An affirmative; one who votes in the affirmative; as, "the *ayes* have it." This expression is more particularly applied to the voting of the members of the English House of Commons, whose affirmative voices are called "*Ayes*;" their negatives, "*Noes*." In the U. States Congress, the demonstration by votes bears the correlative denominations of "*Yea*," and "*Nay*."

Aye'-green, *n.* (*Bot.*) The House-leek, *Sempervivum arboreum.* — See SEMPERVIVUM.

Ayers'burgh, in *Kansas*, a post-village, former cap. of Ottawa co.

Ayers'ville, in *Missouri*, a post-office of Putnam co.

Ayers'ville, in *North Carolina*, a P O. of Stokes co.

Ayers'ville, in *Ohio*, a post-office of Defiance co.

Ayesha, (*ai-e'sha,*) or AÏXA, one of the wives of Mohammed, the daughter of Abu-Beker, the first caliph, and successor to the prophet. She was only 9 years of age when she married her husband. The latter loved *A.* deeply, although she bore him no issue; and he died in her arms. After the death of the prophet, she became venerated by the Moslems, who styled her "*Mother of the Faithful.*" *A.*, after an eventful life, D. in the 58th year of the Hægira, 677 A. D., aged 67.

Ay'ish Bayou, in *Texas*, a small stream of San Augustin co., intersecting it from N. to S., and emptying into the Angelina river.

Ayle, *n.* [O. Eng. *ayel, aiel*; O. Fr. *ayle*; Fr. *ayeul, aïeul*; Lat. *avolus, avus*, grandfather.] (*O. Eng. Law.*) A grandfather.—See BESAYLE.

Ayles'bury, a borough and par. of England, in the co. of Buckingham, 38 m. N.W. of London. It is a flourishing town, situate in the centre of the celebrated *Vale of Aylesbury*, one of the richest pasture and dairy districts in the kingdom. *A.* is celebrated for its ducks, of which vast numbers are sent to the London markets.

Ayles'ford, a town and par. of England, in the co. of Kent, 3 m. from Maidstone. In its vicinity is the remarkable monument called *Kit's Coty House*, a kind of Druidical cromlech of which the origin is obscure, and much contested among antiquaries.

Fig. 253. — KIT'S COTY HOUSE, (*a Druidical cromlech.*)

Ay'lett's, in *Virginia*, a post-village of King William's co. on the Mattapony river, 25 m. N.E. of Richmond.

Ayl'mer, JOHN, an English prelate, who was tutor to Lady Jane Grey. On the accession of Mary, he was forced to leave his country, but found a quiet retreat amid the beautiful scenery of Zurich. When Queen Elizabeth came to the throne, he returned to England; and in 1576 was made bishop of London. He was a very diligent prelate, and severe against the Puritans, for which he has been severely censured by their writers; but it is said that he was learned in the languages, a deep divine, and a ready disputant. B. in Norfolk, 1521; D. at Fulham, 1594. An instance of the humor with which this prelate roused an inattentive audience while preaching, is given by Wood. "When his auditory grew dull and inattentive, he would, with some pretty and unexpected conceit, move them to attention. Among the rest was — he read a long text in Hebrew; whereupon all seemed to listen what would come after such strange words, as if they had taken it for some conjuration; but he showed their folly, that, when he spake English, whereby they might be instructed and edified, they neglected and hearkened not to it; and now when he read Hebrew, which they understood no word of, they seemed careful and attentive."

Ayl'mer, a lake in the Northwest Territories, about 80 m. N. of the N.E. end of Great Slave Lake. Its length is about 50 m.; its breadth, 30 m.

Ayl'mer, a post-town of Quebec, former cap. of Ottawa co., on Chaudière Lake, 8 m. from Ottawa.

Ayl'mer, a post-village of Ontario, co. of Middlesex, 137 m. W.S.W. of Toronto, and 30 m. from London.

Ay me! *interj.* Used instead of *Ah me!*—In Spanish, *Ay di mi!* as, "*Ay di mi*, España!"

Ay'mon, the surname of four brothers, called respectively Alard, Richard, Guiscard, and Renaud, sons of Aymon or Haimon, Count of Dordogne, who figure among the most illustrious heroes of the chivalric poetry of the Middle Ages; but their historic existence must be considered problematical, as the deeds attributed to them possess in so large a measure a miraculous character. Their career belongs to the cycle of marvels of which Charlemagne is the central point, and their adventures furnished rich material to the romantic narratives of Italy in the 15th and 16th centuries, and, in fact, were the exclusive subject of some of these. A novel, entitled *Les Quatre Fils Aymon*, by Huon de Villeneuve, a French poet of the age of Philip Augustus, details very minutely their exploits. Finally, Ariosto conferred a poetical immortality on the family by the publication of his *Roland*, in which Renaud, the bravest of the four brothers, plays continually the most distinguished part.

Ayo'las, JUAN D', a Spanish adventurer, B. about 1480. Accompanying Don Pedro de Mendoza in the discovery of the river La Plata, he occupied Buenos Ayres with a number of Spaniards, Germans, and Flemings, and was named governor of the settlement. In an expedition up the La Plata, *A.* was informed by Gonzales Romera, a Portuguese survivor of Sebastian Cabot's expedition, that a rich country was to be found in the interior, and he accordingly set out with 400 men to explore the Paraguay. He took possession of Lampere, and named it "Assumption," remaining there for 6 months on friendly terms with the Carios Indians. He then penetrated 80 leagues further into the country of the Payagoes, and is supposed to have been murdered by them.

Ayo'ra, a town of Spain, on a river of the same name, in the prov. of Valencia, 52 m. S.W. of Valencia; *pop.* 5,840.

Ayoti'tan, a village of Mexico, dep. of Jalisco, 120 m. S.W. of Guadalaxara.

Ayot'la, a town of Mexico, 20 m. E. of the city of Mexico.

Ay'oubites, or AYYUBITES, the Saracenic dynasty founded by Saladin, which in Egypt supplanted the Fatimite caliphs, about A. D. 1171. Several of the descendants of Saladin, known as *A.*, afterwards ruled in Egypt, Syria, Armenia, and Arabia Felix. In the 13th century their power was destroyed by the Mamelukes.

Ayr, (*air,*) a river of Scotland, which rises on the borders of Lanarkshire, and after flowing W. for 30 m. empties into the Frith of Clyde, and forms the harbor of Ayr. This river is celebrated in the poems of Robert Burns, the Scottish *Anacreon.*

AYR, a county of Scotland, bounded N. by Renfrew, E. by the counties of Lanark and Dumfries, S.E. by those of Kirkcudbright and Wigtown, and W. by the Irish Channel and Frith of Clyde. *Area*, 650,156 acres. It is divided into the 3 districts of Carrick, Kyle, and Cunningham. *Soil*, fertile, and producing excellent grain-crops. This county is especially famous for its breed of milch cows. Iron and coal are abundant, and exported in great quantities. *Prin. towns.* Kilmarnock, Ayr, Ardrossan, Largs, Manchline, Maybole, and Irvine.

AYR, a seaport and borough of Scotland, and cap. of the above co. is 65 m. S.W. of Edinburgh, and 30 S.S.W. of Glasgow. It is a fine and prosperous town. *Manf.* Cotton and carpets; iron foundries and tanneries are also in full work. There is here a splendid monument to the Scottish hero Wallace, consisting of a tower 115 feet high. Near Alloway Kirk, is still seen the cottage in which the poet Burns was born. (See ALLOWAY.) *A.* is a very ancient borough, and possesses a good and commodious harbor, with an extensive coasting-trade. *Pop.* about 24,000 in 1897.

Ayr, in *Minnesota*, a post-office of Goodhue co.

Ayr, in *Pennsylvania*, a township of Fulton county.

Ay'rao, a town of Brazil, prov. of Para, 110 m. N.W. of Rio Negro.

Ayr, (POINT OF,) the N. promontory of the Isle of Man, in the Irish Sea: Lat. 54° 24′ 59″ N.; Lon. 4° 21′ 59″ W. There is a lighthouse here with a revolving light in its lantern, 106 feet above the sea.

Ay'rer, JACOB, next to Hans Sachs the most prolific and important German dramatic writer of the 16th century. His history is involved in obscurity; but it is known that he was a citizen of Nürnberg in 1594, and a procurator in the courts of law. It was not till after his death, in 1605, that a collection of his pieces was published, consisting of 66 tragedies, comedies, and carnival plays (Nürnb. 1618.) *A.* has the same garrulous breadth of dialogue as Hans Sachs, but is inferior to him in wit and humor.

Ay'ry, *n.* A hawk's nest. See AERIE.

Aysene, or **Aysceugh,** (*ais'ku,*) SIR GEORGE, an English admiral in the service of the Commonwealth, and Charles II. He captured Barbadoes in 1651, and in 1658 entered the service of the King of Sweden. Returning to England, he commanded in the battles fought against the Dutch; and in the attack on Van Tromp, lost his ship, and was taken prisoner to Holland. His after fate is unknown.

Ayth'ya, *n.* (*Zoöl.*) The Pochards, a gen. of ducks, subfamily *Anatinæ*. It comprises two American species: the Red-Head, *A. Americana*, and the Cauvas-Back, *A. vallisneria.*

Ay'ton, or **Ay'toun,** SIR ROBERT, an English poet, B. 1570. He was employed both by James I. and Charles I. Burns founded his famous song of *Auld Lang Syne* upon one of *A.*'s poems. D. 1638.

Ay'toun, WILLIAM EDMONSTOUNE, D.C.L., an eminent English poet and dramatist, B. at Edinburgh in 1813. He was called to the Scottish bar in 1840, and in 1845 was appointed Professor of Rhetoric and Belles Lettres in the University of Edinburgh. He was for years one of the most brilliant contributors to "Blackwood's Magazine:" but his fame rests chiefly on his celebrated poems, the *Lays of the Scottish Cavaliers*, and *Bothwell.* These have the true ring of the old martial spirit of his country, and have gone through edition after edition. *A.* was also, in conjunction with Theodore Martin, one of the authors of the famous *Bon Gualtier Ballads*, and also of *Firmilian, a Spasmodic Tragedy*, in which he ably satirized the modern spasmodic school of poetry. D. Aug. 4, 1865.

Ayuntamien'to, *n. pl.* [Sp. from *juntar*, to join.] (*Pol.*) A name given in Spain and Spanish America to

the corporations or municipal bodies of their cities, towns, and villages. This has ever been the most cherished and carefully preserved institution of the Spanish people, and its existence may be traced to the earliest period of their history.

Ayn'thia, in Siam. See YUTHIA.

Azad'erine, *n.* (*Chem.*) An alkaloid found in the root of the *Melea azadirachta*, which is useful in fevers, and forms a crystalline salt with sulphuric acid.

Aza'lea, *n.*; *pl.* AZALEAS. [Gr. *azaleos*, dry, in allusion to its growing in dry places.] (*Bot.*) A genus of plants, order *Ericaceæ*, consisting of shrubs remarkable for the beauty and fragrance of their flowers, on which account they are generally cultivated. By some botanists, the genus is esteemed the same as *Rhododendron;* and it must be confessed that it is difficult to point out any positive character, except the thin and generally deciduous leaves, by which the *A.* may be distinguished from the *Rhododendron.* It will, however, be more conformable to popular usage if we speak of them apart: and as the subject is of general interest, we shall do so at some length.—The species are not very numerous; but the varieties have of late years been so exceedingly multiplied, and rendered so excessively intricate, as to be almost bewildering. No fancy ornamental shrub has been more profusely kaleidoscoped by the recent and powerful appliances of scientific culture. The Clammy species, *A. viscosa*, formerly called the white *A.*, and of which we have about 100 varieties, is a native of N. America, and is found in rocky woods from Canada to Georgia. From its root rise several slender brown stems to the height of about 4 feet. Its leaves are spear-shaped, narrow at the base, rough in the border, and grow in clusters. Its flowers come out between the leaves, and terminate the branches; they diffuse an agreeable fragrance; they closely resemble in their form the flowers of the honeysuckle, each having a tube of nearly an inch in length, divided at the top into 5 segments, 2 of which are reflexed; they are white, with a yellowish exterior in the normal plant, but are red in two of the varieties, and variegated in some others, and they bloom in July.—The Naked Flowered species, *A. nudiflora*, formerly called the Red *A.*, is also a native of N. America, and is widely spread over forests throughout the U. States. About 50 varieties are known. Its stems rise, and its flowers are formed like those of the preceding species; its leaves are oval, smooth, and entire, and are placed alternately on the branches; and its flowers appear in May and June, are produced in clusters on long, naked footstalks, from the sides of the branches, and are red in the normal plant, but exhibit the various hues of pink, scarlet, blush, and even white in the several varieties.—The Marigold-like species, *A. calendulacea*, about 4 feet high, and with twelve varieties, produce severally yellow, orange, saffron-colored, or red flowers in May and June.—The Pontic species, *A. pontica*, is a native of Turkey, is 6 feet high, and has about 10 varieties. It produces yellow, white, and copper-colored flowers, some in May and June, and others from March till May. The Canescent species, *A. canescens*, grows to the height of 3 feet, and produces red flowers. The Arborescent, *A. arborescens*, produces red flowers in July, and attains a height of 10 to 20 feet. The Showy species, *A. speciosa*, has been multiplied into a number of varieties, most of which carry red, scarlet, or orange-colored flowers. All the preceding species are hardy and deciduous, and, excepting the Pontic, are natives of N. America. But the Indian species, *A. indica*, is an evergreen, and a native of China, and requires, in temperate countries, a greenhouse culture.—The Chinese species, *A. sinensis*, is also

Fig. 254.—AZALEA INDICA.

a tender evergreen, and produces yellow flowers. Another, and a more recently introduced species, which has been called *Danielsiana*, is also an evergreen, and a native of China, and produces flowers of a carmine color. The Indian and the Shining species are propagated from cuttings in peat and loam, and all the other species are propagated from layers, or by the dividing of the root. The young shoots selected for layers must be slit and laid down in the same manner as the layers of carnations: when the layers have struck good root, they may be removed into the nursery, and planted in lines at a small distance from each other, there to stand during at least one year preparatory to final planting. The best season for layering is autumn. After a plant has stood during a few years, it throws up many stems, and some of these may easily be taken off with a portion of root at each, and planted either in the nursery ground, or in places where they are to remain. All the *A.* love a dry situation, and they are most at home in a soil of peat and loam or sandy peat.

Aza'lia, in *Indiana*, a post-village of Bartholomew co., on the E. fork of White River, 51 m. S.S.E. of Indianapolis.

Azamor', a fortified seaport of Morocco, on the Atlantic, 122 m. N.N.W. of Morocco; at the mouth of the river Morbeya, 8 m. N.E. of Mazagan. Lat. 33° 17′ 37″ N.; Lon. 8° 15′ W. *Pop.* about 2,000.

Aza'ni, an ancient city of Phrygia, on the Edrenos, (*Rhyndacus.*) The small modern village of Tjaudere-Hissar, 22 m. W. by S. of Kutalch, is built on its ruins. The latter, which are very fine, consist of two bridges connected by a superb quay, with a temple and a theatre, the latter being 232 ft. in diameter.

Aza'ra, DON FELIX DE, a Spanish author and traveller, B. 1746. His work entitled *Descripcion y Historia del Paraguay, y del Rio de la Plata*, was published at Madrid, in 2 vols., 1847. It is considered an authority on the natural history of Paraguay, and of the countries on the Plate. D. 1811.

Azari'ah, a king of Judah (2 *Kings* xv. 1–7), also called *Uzziah* (2 *Chr.* xxvi.) He began to reign at 16 years of age, B. C. 806. The first part of his reign was prosperous and happy; but afterwards, presuming to offer incense in the Temple, he was smitten with leprosy, and continued a leper till his death (2 *Chr.* xxvi. 16–23).—This name was very common among the Jews, and was borne by many who are briefly referred to in Scripture.

Az'arole, *n.* [Fr. *azerole.*] (*Bot.*) The *Cratægus azarolus*, a shrub of the genus CRATÆGUS, *q. v.*

Azcoi'tia, a town of Spain, prov. of Biscay, 20 m. from Tolosa. *Pop.* about 4,000.

Aze'glio, MASSIMO TAPARELLI, MARQUIS D', an Italian author, artist, diplomatist, and statesman, B. at Turin, 1801, was the descendant of an ancient and noble Piedmontese family. At the age of fourteen he was excommunicated for an assault upon his teacher, who was an ecclesiastic. In 1816 he accompanied his father to Rome, and there occupied his time principally with painting and music. He was already favorably known as a painter, when, in 1830, he went to Milan, married the daughter of Manzoni, the great novelist, and wrote several romances. The earliest of these was *Ettore Fieramosca*, published in 1833, which, conceived in the style of Manzoni, and full of patriotic sentiments, was received with great enthusiasm. His next romance, *Niccolò de' Lapi*, published eight years afterwards, became equally popular, and is esteemed, by Italian critics, the best historical novel in any language. Deeply imbued with the spirit of Italian nationality, in 1842 *A.* abandoned his favorite pursuits, and with his friends Balbo and Gioberti he made a tour through the provinces of Italy, awakening the revolutionary spirit which troubled the last years of Gregory XVI. After the revolution of 1848 he supported the cause of the king of Piedmont, and, at the head of the Papal troops, fought against the Austrians at Vicenza, where he was wounded. In 1849, Victor Emmanuel appointed him president of the cabinet of ministers, an office he undertook solely out of love for his king and country, and which he resigned in 1852 to his political adversary Count Cavour. In 1859, after the peace of Villafranca, he undertook a confidential mission as ambassador-extraordinary to England; and was afterwards appointed governor of the city of Milan. His failing health, his love of art, and some differences of opinion with his colleagues, caused him, however, to withdraw finally from public life. D. Jan. 15, 1866.

Aze'kah, (*Anc. Geog.*) a town of Judah, lying in the low land, near Socoh. (*Jos.* xv. 35). Between *A.* and Socoh the Philistines encamped before the battle in which Goliath was killed (1 *Sam.* xvii. 1). It was fortified by Rehoboam (2 *Chr.* xi. 9), was still standing at the invasion of Nebuchadnezzar (*Jer.* xxxiv. 7), and was reoccupied by the Jews after the captivity (*Neh.* xi. 30). The site of *A.* is possibly found at *Tell-zakariya*, a hill near *Ain-shems* (*Beth-Shemesh*).

Azerbi'jan, in Persia. See ADERBEITZAN.

A'zergue. See AZREK.

Azevé'do-Contin'ho, MARCOS, a Brazilian traveller, B. in the 16th century. He was an intrepid explorer of the virgin solitudes of Brazil: and, in 1596, is said to have discovered the famous emerald mine, during an expedition known under the name of *Jornada das Esmeraldas.* D. in the early part of the 17th century.

Az'im-Ed-Dow'lah-Bahadoor', the last titular Nabob of the Carnatic, in Hindostan; B. 1770; D. 13th Aug., 1819.

Azimghur, (*a'zim-gur'*,) an inland town of Hindostan, in the British presidency of Bengal, prov. of Allahabad, cap. of a district of its own name; 40 m. N.N.E. of Benares, in 26° 6′ N. Lat.; Lon. 83° 10′. Cotton stuffs are largely fabricated here. *A.* was ceded to the English by the Nabob of Oude, in 1801.

Az'imuth, *n.* [Ar. *As-samt*; from *al*, the, and *samt*, way, road, path, tract, country, quarter.] (*Astron.*) The *A.* of a body is an arc measured on the horizon, intercepted between the meridian or circle through the zenith of the place and the poles, and a circle through the zenith, the nadir, and the given body. The altitude of the body is measured along this circle, upwards from the nearest point where it meets the horizon. It is evident, that, when we have given the altitude and *A.* of a star at any given moment, we shall be able to point out its exact position in the sky.—*A. Circles* are those which extend from zenith to nadir, cutting the horizon at right angles, or those in which all the points have the same Azimuth.—For *A. Compass* and *A. Dial*, see COMPASS and SUN-DIAL.

Azimu'thal, *a.* Relating to the azimuth.

Az'incourt, in France. See AGINCOURT.

Azmerigunge, (*az'mer-i-goonj'*,) an inland town of Hindostan, in the British presidency and prov. of Bengal, beyond the Brahmapootra, in the district of Sylhet, 55 m. N.E. of Dacca; Lat. 24° 33′ N.; Lon. 91° 5′ E.

Azo'benzide, *n.* (*Chem.*) A red oil, solidifying to a crystalline mass; obtained at the close of the distillation of nitrobenzole with water, iron filings, and acetic acid. *Form.* $C_{12}H_5N$.

Azobenzoid'ine, *n.* (*Chem.*) Colorless, transparent, oblique crystals; nearly insoluble in alcohol, and little soluble in ether. Obtained by acting for some time in distilled bitter almonds with ammonia.

Azobenzoi'lide, *n.* (*Chem.*) White powder or plates, obtained by heating oil of bitter almonds with ammonia, and treating the brown viscid mass formed with alcohol and ether. This compound remains: *Form.* $C_{28}H_{11}N,N_2$.

Azobenzoyle', *n.* (*Chem.*) White tasteless powder; soluble in 100 boiling alcohol; insoluble in water; obtained by adding to crude oil of bitter almonds an equal volume of caustic ammonia, and allowing it to stand for a month: a yellow resinous mass results. Boiling ether takes up hydrobenzamide, and leaves azobenzoyle and some azotide of benzoyle, which is separated by boiling alcohol. *Form.* $C_{42}H_{15}N_2$.

A'zof, AZ'OFF, AZ'OPF, or AZ'OV, (SEA OF,) (anc. *Palus Mœotis,*) an inland sea in the S.E. quarter of Europe. It communicates by the narrow sea of Yenikalé (anc. *Bosphorus Cimmerius*), with the N.E. angle of the Black Sea, and is everywhere else surrounded by the Russian territories. It is of very irregular shape, its greatest length being about 235 m. from N.E. to S.W., with a maximum breadth of 110. *Area*, 14,000 sq. m. Where deepest, it has about 7 fathoms water. *A.* teems with fish, the trade in which is both extensive and valuable. The navigation opens early in April, and terminates at the end of Nov. During the rest of the year it is ice-bound. The coasting trade of this sea has nearly trebled itself since the Crimean war. During this war, *A.* was the scene of some important naval operations. An allied expedition, 15,000 strong, composed of English, French, and Turkish troops of all arms, with 5 batteries of artillery, arrived off Kertch, on the 24th May, 1855. The Russians blew up their fortifications on both sides of the Straits, destroyed 3 steamers, and several heavy-armed vessels, and large quantities of ammunition, provisions, and stores. The chief Russian positions were captured, a small garrison was left at Kertch and Yenikalé, and the expedition returned to Sebastopol on the 12th June.—See PUTRID SEA.

A'ZOF, a town of Russia in Europe, prov. of Ekaterinoslar, near the N.E. extremity of the above sea, to which it gives its name, and about 20 m. from the mouth of the Don. It is the anc. *Tanais*, a Greek colony mentioned by Strabo. In the Middle Ages it was called *Tana* by the Genoese, and received its present name from the Turks, who took possession of it in 1474. *A.* has been in the possession of Russia since 1774. The sand and mud of the river having obstructed its port, the trade of *A.* has been transferred to Taganrog, and it is now but a poor place. It was bombarded by an allied French and English squadron in 1855. *Pop.* (1895) 18,738.

Azo'ic, *a.* [Gr. *a*, priv., and *zoē*, life.] Destitute of organic life. The *azoic period* of the geologists is that before any living being appeared.

Azo'leic Acid. (*Chem.*) An oily fluid, insoluble in water; soluble in boiling nitric acid, and re-precipitated by water. Obtained from the oily substance which swims after the treatment of olive oil with nitric acid, by boiling with alcoholic sulphuric acid.

Azolit'mine, *n.* (*Chem.*) A dark-red substance, which is the principal coloring matter of the litmus. It differs from orcéine by its insolubility in alcohol. *Form.* $C_{18}H_{10}NO_{10}$.

Azol'la, *n.* [Gr. *azo*, to make dry, and *ollymi*, to kill; as the plants speedily die when taken from the water.] (*Bot.*) A genus of plants, ord. *Marsileaceæ.* The species *A. Caroliniana* is a small plant, resembling some of the mosses, floating in still or sluggish waters; found in the Northern and Western States. Its leaves are arranged in two rows upon the rhizoma, imbricated, spreading, fleshy; the floating ones reddish underneath.

Azoodyna'mia, *n.* [Gr. *a*, priv., *zoē*, life, and *dynamis*, strength.] Privation or diminution of the vital powers.

Azores, (The,) (*ā-zores'*,) or WESTERN ISLANDS, an archipelago of nine islands, belonging to Portugal, from which it is about 100 m. distant, occupying a line of about 100 leagues from E.S.E. to W.S.W., between 36° 59′ and 39° 44′ N. Lat., and 31° 7′ and 25° 10′ W. Lon. It is divided into 3 subordinate groups, forming a superficies of 715 sq. m. The 1st, lying at the W.N.W. extremity of the archipelago, includes Flores and Corvo; the 2d, or central, Fayal, Pico, St. George, Graciosa, and Terceira; and the 3d, at the E.S.E. extremity, St. Michael's, (the largest of the whole,) and St. Mary's. The name (*Ilhos dos Açores*) is said to be derived from the vast number of hawks, (*falco milvus,*) called by the

natives *açor*, by which they were frequented at the period of their discovery. These islands seem to be of comparatively recent formation. Their general aspect is picturesque and bold, presenting for the most part an irregular succession of isolated, conical, or acuminated hills, with table-lands rising from 2,000 to 5,000 ft. in height. The former are separated by valleys, and the latter by tremendous chasms or ravines. The whole are bounded by magnificent natural precipices rising abruptly from the sea. The Peak of Pico, 7,613 feet above the sea, is

Fig. 255. — PEAK OF PICO.

the highest elevation in these islands. When seen from a distance at sea, it appears like an isolated cone in the midst of the ocean. The *A.* are subject to severe earthquakes, but the climate is, on the whole, excellent. The finest oranges and fruits are produced, as well as all sorts of cereals, sugar-canes, coffee, tobacco, &c. Industry and agriculture are, however, but little practised, owing partly to the indolence, as well as ignorance, of the natives. The principal exports are oranges, wine, brandy, &c. The *A.* are governed by a Portuguese viceroy, whose seat of government is at Angra, in Terceira, although Ponte Delgada, in St. Michael's, is the principal town. The chief port of the *A.* is Fayal. *Pop.* 343,572. The *A.* are said to have been discovered about 1430; and in 1448 they were taken formal possession of by Prince Henry of Portugal. Alphonso V. gave them, in 1466, to his sister, the Duchess of Burgundy, and they were then colonized by the Dutch. In 1580, they were surrendered to Spain. The English, under the Earl of Essex and Sir Walter Raleigh, failed in an attempt to capture them in 1597. In 1640, they reverted to Portugal, in whose possession they remain.

Azo'rian, *n.* A native or an inhabitant of the Azores, or Western Islands.

—*a.* Pertaining to the Azores, or to their inhabitants.

Azote', *n.* [Gr. *a*, not, and *zoē*, life.] (*Chem.*) The old name for nitrogen. Nitrogen was so called from being destructive to life; but as numerous other gases have the same properties, the word has been almost given up by English chemists, except in such words as *azotized*, *azobenzole*, &c. The French, however, still use *A.*, *azotique*, *azotate*, &c., for nitrogen, nitric acid, and nitrate. See NITROGEN.

Azote'a, *n.* [Sp.] (*Arch.*) The name given to the flat roof which characterizes the house-tops in Mexican and Spanish-American cities.

Azotic, and **Azo'tous Acids.** (*Chem.*) Synonyms of NITRIC and NITROUS ACIDS, *q. v.*

Az'otite, *n.* (*Chem.*) A NITRITE, *q. v.*

Az'otize, *v. a.* To impregnate with azote, or nitrogen.

Az'otized bodies. (*Chem.*) Substances containing nitrogen.

Azpeytia, or AZPEITIA, (*ath-pa'te-a,*) a walled town of Spain, prov. of Guipuscoa, 15 m. S.W. of San Sebastian. *Manf.* Iron utensils, and shoes. Jasper quarries lie in the vicinity. About a mile from *A.* was born Ignatius Loyola, the founder of the Jesuits, or Order of Jesus. *Pop.* about 5,000.

Az'rael, *n.* The name given to the Angel of Death by the Mohammedans.

Az'rek, (BAHR-EL,) or the BLUE RIVER, the principal stream of Abyssinia, which, after a winding course through Abyssinia and Senuaar, falls into the Nile above Gerri.

Az'talan, in *Wisconsin*, a post-village and township of Jefferson co., on Rock River, 50 m. W. of the city of Milwaukee.

Az'tecs, *n. pl.* The name of the predominant tribe in a powerful Indian confederacy which, at the period of the Spanish conquest, controlled the inhabitants of the Valley of Mexico and had extended its conquests over a wide exterior territory. According to tradition, they migrated from Aztlan, somewhere in the North, to Mexico, where they conquered the earlier and more advanced Toltecs, and about 1325, or perhaps a century earlier, founded the city of Tenochtitlan (Mexico). Here they made considerable progress in the arts of civilization, derived in part from the Toltecs. In confederation with the Tezcucans and the Tlacopans they entered upon a career of conquest, and were rapidly extending their dominion at the time of the Spanish invasion, the territory subject to them reaching from the Atlantic to the Pacific. In 1519 they were assailed by the Spaniards under Cortez, their capital occupied, their monarch, Montezuma II, taken captive and killed, and their whole country made a Spanish province. Under the Spanish rule the peculiar civilization of the people quickly disappeared, and the hieroglyphic manuscripts, which they possessed in great numbers, and which might have proved of great archæological value, were nearly all destroyed. The Aztecs were fierce in war and cruel in their religious observances, the object of their wars being largely the capture of prisoners, whom it was their custom to offer in sacrifice to their stern God of War. The victim was stretched on a huge altar-stone, his breast cut open and his bleeding heart torn out and cast at the feet of the deity to whom the temple was consecrated. The body of the victim was served up by his captor in an entertainment to his friends. This cruel custom rapidly grew, till in the end it is said that from 20,000 to 50,000 prisoners were sacrificed annually. It is probable, however, that these numbers are exaggerated.—*Government.* The government was an elective monarchy, the new sovereign being selected from the brothers or nephews of the deceased king. The kingship was thus confined to one family.—*Industries.* The Aztecs were active agriculturists, cultivating in particular maize and the agave plant, which supplied them with food, drink and clothing. They had no animals of draught, yet had considerable proficiency in the art of cultivating the ground. Iron was unknown to them and was replaced by bronze, of which their tools and weapons were made. The mechanic arts were considerably advanced, and they showed much skill and dexterity in the working of the precious metals. They were skilled, also, in the making of pottery and of woven fabrics, while in their splendid feather work the gorgeous plumage of tropical birds was effectively laid on cotton cloth, in tasteful and brilliant designs. Some of their metal vessels imitated natural forms so neatly that the feathers of a bird, or the scales of a fish, were reproduced by alternate layers of gold and silver. Mining was largely conducted; silver, lead, tin and copper being obtained from galleries sunk into the rocks. Though iron ore was abundant, that metal was unknown, but their bronze was made so hard that it served many of the purposes

MONTEZUMA II.
From old Mexican painting.

AZTEC TEMPLE SCULPTURE.

of steel.—*Arts and Sciences.* The picture-writing practiced by many American tribes had become, in the hands of the Aztecs, a low form of hieroglyphic writing, inferior to that of the Egyptians in development. Their paper was prepared from cotton cloth and from a composition of silk and gum, but was principally a fine fabric made from aloe leaves, which was softer and more beautiful than parchment. The characters were made by persons instructed in the art, the manuscripts being formed into volumes somewhat like a book in shape. Multitudes of these were destroyed by the Spanish priests, very few escaping their destructive hands. The Aztecs had a simple system of notation, the larger numbers being reckoned by twenties, with separate signs for the square and the cube of twenty. But it was in chronology that they had made the most progress, the true length of the year being calculated by them with great precision. Their year was divided into eighteen months of twenty days each, with five complementary days to complete the full number. The month was divided into four weeks of five days each. This left each year a loss of nearly six hours, but of this they were well aware, and at the end of every fifty-two years they added thirteen (or, more probably, twelve and a half) days. This made their calendar so nearly correct that it would lose only one day in more than five centuries. This fifty-two year period was a solemn religious era to them, and its end was made the occasion of a remarkable festival. They feared that the world would be destroyed at the end of some one of these epochs, and when the five "unlucky days" that closed the year arrived they gave themselves up to grief and despair, breaking the images of their household gods, permitting the holy fires to go out in the temples, destroying their garments and furniture, and otherwise preparing for the expected coming of the evil genii. On the waning of the final day the priests moved in solemn procession to the top of a neighboring mountain, taking with them a noble victim, whom they sacrificed at the exact hour of midnight. Sticks were placed on his breast, and by the rubbing together of these a *new fire* was kindled. By this was lighted a funeral pyre, on which the body of the victim was placed. As the flames flashed up and met the eyes of the countless multitudes who gazed from afar upon the mountain summit, wild shouts of joy rose upon all sides. The hour was past, the sacrifice accepted, all was well again. Couriers, lighting torches at this holy flame, bore it with all speed throughout the kingdom, and long before the sun arose the new fire was blazing on altar and hearthstone long miles away from the temple of sacrifice. The succeeding thirteen days were given over to thanksgiving and festivity, it being felt that the world had won a new lease of existence.—*Sculpture and Architecture.* The Aztecs had marked proficiency in the arts of sculpture and architecture, their sculptures in particular being so numerous that we are told that the foundations of the cathedral in the great square of Mexico are entirely composed of them. The forms of animals were delineated with great accuracy, but the human figure was represented by them in grotesque or hideous forms. The most remarkable existing example of Aztec sculpture is the great Calendar-stone, an immense block of carved stone dug up in the great square of Mexico in 1790. The theory that the inscriptions on this stone represent the Aztec calendar is now questioned, it being considered simply a votive offering. Of their architecture few traces remain. Some of the bases of their temples exist, they being solid structures of stone or brick, somewhat like the Egyptian pyramids in form. They were in four or five stories, with a terrace at the base of each story, while temples and altars crowned the top. One of these, at Cholula, is 1400 feet square at the base and more than 160 feet high. The Aztec state was a mere aggregation of conquered tribes, held together by terror. This was the main cause of its rapid fall, the Spaniards gaining allies among the tribes, whom they reduced to servitude after their conquerers had been subjugated. Thus was established that heartless despotism which in afew centuries destroyed every trace of a once flourishing civilization and reduced its subjects to a state of abject slavery.

Azun (Val d'), (*a'zu(r)n*), a lovely valley in the S. of France, termed the *Eden of the Pyrenees*, reaching the base of the Pic du Midi, and crossing by an important road into Spain.

Azure, (*ăzh'ur* or *ā'zhur,*) *a.* [Fr. *azur*, from Ar. *azrak*, or Per. *azruk*, blue.] Of a light clear blue; sky-colored; cerulean.

—*n.* The fine blue color of the sky. — See SKY.

—Poetically, the sky itself; the blue vault above.

(*Paint.*) A sky-colored blue, a color made of lapis-lazuli, called ultramarine, and held in great estimation by painters. — See ULTRAMARINE.

(*Her.*) The blue color represented in engravings by lines drawn horizontally on the escutcheon, and parallel to the chief, as seen in the escutcheon of the house of *Bourbon*, which occupies the centre of the armorial escutcheon of Spain, in fig. 195. — *Azure* signifies justice, perseverance, and vigilance. French heralds rank this color before gules.

Az'ure, *v. a.* To color blue.

Az'ured, *p. a.* Colored blue; as, "The pure *azured* heaven."

Az'ure Spar, *n.* (*Min.*) See LAZULITE.

Az'urine, *a.* Azure. "Dark *azurine*." — *Hackluyt.*

Az'urite, *n.* (*Min.*) A monochnic mineral, lustre vitreous, almost adamantine. *Color.* Various shades of azure-blue, passing into Berlin-blue. Streak, blue lighter than the color. Transparent, subtranslucent. Conchoidal fracture, brittle. Found in the U. States. *Comp.* Carbonic acid 25·6, oxide of copper 69·2, water 5·2 = 100.

Az'ygos, Az'ygous, *a.* [Gr. *a*, priv., and *zygos*, a yoke; *i. e.*, that has no fellow.] (*Anat.*) A term applied to several single muscles, veins, bones, &c.; as the *A. uvulæ*, a muscle inserted into the tips of the uvula, the use of which is to raise the uvula upwards and forwards, and to shorten it; and the *A. vein*, situated in the right cavity of the thorax, upon the dorsal vertebra. It receives the blood from the vertebral, intercostal, bronchial, pericardial, and diaphragmatic veins, and evacuates it into the vena cava superior.

Az'yme, Azy'mus, *n.* [Gr. *azymos*, without ferment, unleavened.] (*Eccl. Hist.*) A term much used in the violent controversies between the Roman and Greek Catholics, the former of whom contend that the bread, in the mass, ought to be *azymus*; a very important matter indeed!

Az'ymite, *n.* [Fr. *azymite.*] (*Eccl. Hist.*) One of a Christian sect who administered the Eucharist with unleavened bread.

Az'ymous, *a.* Unleavened; unfermented. See AZYME.

Az'zah, (*Anc. Geog.*) The same as GAZA, *q. v.*

Azzano (Castel d'), (*ath-a'no,*) a village of N. Italy, 5 m. from Verona, where, in May, 1799, the French defeated the Austrians.

A.—SECTION II.

Abbe, Cleveland, M.A., Ph.D., LL.D., meteorologist and astronomer, born in New York City, Dec. 3. 1838; studied engineering and astronomy at Ann Arbor; was aide on the coast survey under Dr. B. A. Gould, 1860–64; and studied at the Pulkowa Observatory, Russia, 1864–66. On his return he assisted at the Naval Observatory, Washington; in 1868 became director of the Cincinnati Observatory; and in 1871 entered the Weather Bureau, under Gen. Meyer. In this service he has since continued. He devised the present system of standard time His scientific writings have been numerous and valuable, and he is a member of the National Academy and other learned bodies.

Abbey, Edwin Austin, painter and illustrator, born in Philadelphia in 1852, and studied in the Academy of Fine Arts of that city. He has been prolific as an illustrator of books and periodicals, and is noted as a story-teller in illustration. Is also skillful as a water-color painter. He has resided in England since 1883.

Abbot, Henry Larcom, U. S. Army officer, born at Beverly, Mass., Aug. 13, 1831, graduated at West Point 1854, and served through the civil war. In 1865 he was made brevet colonel and brigadier-general U. S. A., and brevet major-general U.S.V. After the war he engaged in active engineering service, and became a member of the leading scientific associations of this country. Received the degree of LL.D. from Harvard in 1886. Retired for age Aug. 13, 1895.

Abbott, Emma A., a popular opera singer, b. in Chicago, Dec. 9, 1849. Became soprano in a church in New York, which sent her to Paris for study of singing and acting. Here she married E. J. Wetherill in 1874. On her return to the U. S. she organized the "Emma Abbott Opera Company," which travelled widely and had great success. She died Jan. 5, 1891, at Salt Lake City, while on a professional tour.

Abbott, Jacob, a popular writer, b. at Hallowell, Me., Nov. 14, 1803; graduated at Bowdoin College in 1820, and in theology at Andover in 1824. He was occupied in educational duties till 1834, and as pastor of the Eliot Church in Roxbury till 1836. His subsequent life was spent in the writing of juvenile fiction, of which his most popular productions were *The Rollo Books* and *The Franconia Stories*. D. at Farmingham, Me., Oct. 31, 1879.

Abbott, John Stevens Cabot, brother of Jacob, was born at Brunswick, Me., Sept. 18, 1805, was graduated at Bowdoin in 1825 and in theology at Andover in 1829. He wrote a number of popular historical works, of which the best known is his eulogistic *History of Napoleon Bonaparte*. D. at Fair Haven, Conn., June 17, 1877.

Abbott, Lyman, a nephew of the preceding, b. at Roxbury, 1835, graduated at N. Y. University in 1853, abandoned the legal profession for that of theology, and after filling two pastoral charges in the Congregational Church and serving for two or three years as General Secretary of the Freedmen's Commision, he relinquished the duties of the ministry in 1869, and devoted himself to literary pursuits. Among his chief writings are an elaborate life of Christ under the title of *Jesus of Nazareth* (1869); *Old Testament Shadows of New Testament Truths* (1870); and *Morning and Evening Exercises* (1871). In 1870 he commenced the editorship of the *Illustrated Christian Weekly*, and in 1876 of *The Christian Union*, now *The Outlook*. In 1888 he resumed his pastoral duties, succeeding Henry Ward Beecher as pastor of Plymouth Church, Brooklyn. He edited Beecher's sermons in 1868, and in 1883 published a sketch of the life of Henry Ward Beecher. In 1890 he published a series of Lowell lectures on *The Evolution of Christianity*.

Ab'ercrombie, John Joseph, soldier, b. in Tennessee, 1798; graduated at West Point, 1822; served in the Black Hawk, Seminole and Mexican wars, and in the civil war as brigadier-general of volunteers. Breveted brigadier-general, U. S. A., in 1865, and retired from active service. D. at Roslyn, N. Y., Jan. 3, 1877.

Aberdeen', in *South Dakota*, a city, cap. of Brown co. The trade centre of a rich agricultural district. Has a water power from artesian wells, and various industries. *Pop.* (1898) 3,520.

Aberdeen', in *Washington*, a town of Chehalis co., Lumbering and salmon fishing are important industries. *Pop.* (1898) 2,100.

Ab'ernethy, James, F. R. S. E., civil engineer, born at Aberdeen, Scotland, in 1815. From 1842 to 1852 he was surveying officer to the Admiralty, and reported upon many important engineering works. Hydraulic power was first applied by him in the working of lock-gates at Swansea, and in 1850, as chief engineer, he completed the Birkenhead docks, built Laird's ship-building yards, &c. He subsequently performed various important works of engineering in Europe and England, including the Hull docks in the Humber. In 1877 he directed the works at Lake Abonkir, Egypt, by which 20,000 acres were reclaimed. In 1882 he became consulting engineer of the Manchester Ship Canal, whose construction he had advised. He became a member of the Institute of Civil Engineers in 1844 and its president in 1881.

Ab'ilene, in *Texas*, a flourishing town, cap. of Taylor co. *Pop.* in 1890, 3,194; in 1897, over 6,000.

Ab'ilone, *n.* (*Zool.*) A gastropod shell-fish of the order *Haliotis*, which has an ear-shaped, flattened, slightly spiral shell, with a series of perforations toward the outer edge of the back. The shell is used largely for inlaying, and for making buttons, beads, &c., while the animal is dried and used for food.

Abiogenesis, *n.* (*a-be-o-jĕn'e-sis.*) [From Gr. *a*, privative, *bios*, life, and *genesis*, generation.] (*Physiol.*) A mechanical theory of life, or of spontaneous generation, as often connected with the Darwinian doctrine of evolution, which has been stated as follows by Prof. Ernst Hæckel, of Jena. "1. The forms of organisms, and of their organs, result entirely from life, and simply from the interaction of two physiological functions, heredity and adaptation. 2. Heredity is a part of the reproduction; adaptation, on the other hand, a part of the maintenance of the organism. These two physiological functions depend, as do all forms of vital activity, on the character of the physiological organs through which they come into play. 3. The physiological organs of the organism are either simple plastids (cytods or cells), or they are parts of plastids (*e. g.*, nuclei of cells, cilia of protoplasm), or they are built up of numerous plastids (the majority of organs). In all these cases the forms and actions of the organs are to be traced back to the forms and actions of the individual plastids. 4. Plastids are either simple cytods (structureless bits of protoplasm without nuclei) or cells; but since these last have originally arisen from cytods by a differentiation of the inner 'nucleus' and the outer 'protoplasm,' the forms and vital properties of all plastids can be traced back to the simplest cytods as their starting-point. 5. The simplest cytods, from which all other plastids (cytods and cells) originally have arisen by heredity and adaptation, consist essentially and absolutely of nothing more than a bit of structureless protoplasm — an albuminoid, nitrogenous carbon compound: all other components of plastids have been originally formed secondarily from protoplasm (plasma products). 6. The simplest independent organisms which we know, and which, moreover, can be conceived, the monera, consist, in fact, while living, of nothing else but the simplest cytod, a structureless bit of protoplasm; and since they exhibit all forms of vital activity (nutrition, reproduction, irritability, movement), these vital activities are here clearly bound on to structureless protoplasm. 7. Protoplasm, or germinal matter (*Bildungsstoff*), also called cell-substance or primitive slime (*Urschleim*), is therefore the single material basis (*materielle Grundlage*) to which, without exception and absolutely, all so-called 'vital phenomena' are radically bound. If the latter are regarded as the result of a peculiar vital force independent of the protoplasm, then necessarily also must the physical and chemical properties of every inorganic natural body be regarded as the result of a peculiar force not bound up with its substance. 8. The protoplasm of all plastids is, like all other albuminoid or protein bodies, composed of four inseparable elements — carbon, oxygen, hydrogen, and nitrogen, to which often, though not always, a fifth element — namely, sulphur — is added. 9. The forms and vital properties of protoplasm are conditioned by the peculiar manner in which carbon has combined itself so as to form a highly developed compound with the three or four other elements named. Compounds devoid of carbon never exhibit those peculiar chemical and physical properties which exclusively belong to only a part of the compounds of carbon (the so-called 'organic compounds'); on this account modern chemistry has replaced the term 'organic compounds' by the more significant term 'carbon compounds.' 10. Carbon, then, is that element, that indivisible fundamental substance which, in virtue of its peculiar physical and chemical properties, stamps the various carbon compounds with their peculiar organic character; and in chief fashions this protoplasm, the 'matter of life' (*Lebensstoff*) so that it becomes the material basis of all vital phenomena. 11. The peculiar properties which protoplasm and the other component tissues and substances of the organism derived secondarily from it exhibit, especially their viscid condition and aggregation, their continual change of matter (on the one hand their facile decomposition, on the other their facile power of assimilation), and their other 'vital properties' are therefore simply and entirely brought about by the peculiar and complex manner in which carbon under certain conditions can combine with the other elements. 12. The entire properties of the organism are therefore ultimately conditioned with equal necessity by the physical and chemical properties of carbon, as are the entire properties of every salt and every inorganic compound conditioned by the physical and chemical properties of its component elements." See Biology, Spontaneous Generation, &c.

Abipo'nes, *n.* A tribe of Indians of the Gran Chaco, Argentine Republic. They are tall in stature, swim well, and use iron-pointed arrows and lances as weapons. Their numbers have decreased within a century from 5,000 to 100.

About, (*a-boo'*) Edmund, a French novelist and essayist, b. at Dieuze, Feb. 14, 1828. He published in 1855 *La Grèce Contemporaine*, a much admired work on modern Greece. Of his numerous novels *Le Roi des Montagnes* is one of the best. He wrote a political treatise on *The Roman Question* in 1860, and in 1868 contributed a series of witty and satirical papers to the *Gaulois*, which caused that paper to be suppressed. In 1870 he was appointed councillor of state, and in 1872 was arrested by the Germans, but was soon afterward released. Died Jan. 17, 1885.

Ab'sinthism, *n.* (*Med.*) A diseased condition arising from over-indulgence in absinthe, its symptoms being vertigo and epileptiform convulsions, hallucinations, and tremors confined chiefly to the muscles of the upper extremities. The cervical portion of the spinal cord is principally affected.

Absolute Brightness. (*Ast.*) An expression used by astronomers to distinguish between the total amount of light received from a celestial body and the intrinsic lustre of the body's surface. Thus the absolute brightness of Jupiter would be spoken of as nearly equalling that of Venus and surpassing that of Sirius, though the intrinsic brilliancy of Jupiter's light is far less than that of Venus, and not comparable with the sun-like, intrinsic brilliancy of the light of Sirius.

Abstinence, Total, a term applied to abstinence from the use of intoxicating liquors. Total abstinence was observed in ancient times by the Nazarites and Rechabites, and was enjoined upon his followers by Mohammed. After the discovery of alcohol, about 1000 A. D., the evil of intemperance greatly increased, and during the eighteenth century and first part of the nineteenth drunkenness became very prevalent in this country. A society was formed in 1808 in Saratoga county, N. Y., which advocated total abstinence from all distilled spirits and wines. In 1813 the "Massachusetts Society" was formed, and in 1826 the "American Temperance Society," but it was not until 1836 that "total abstinence from all that may intoxicate" was adopted as a principle of the temperance societies. It was given a great impetus by the "Washingtonian" movement, beginning in 1841, and is sustained by the several flourishing temperance associations now existing. It was advocated at a national temperance meeting in England in 1834, and Father Matthew effectively inculcated it in Ireland; but it failed to make the progress anywhere in Europe that it has in this country, where prohibition of the manufacture and sale of intoxicating liquors has become a constitutional provision in several states. See Abstinence, *p.* 18.

Abt, Franz, the most popular song writer of Germany, was born at Eilenberg, Dec. 22, 1819. He studied theology at Leipsic, but eventually devoted himself to music. His reputation was made by his world-famed song, *When the Swallows Homeward Fly*, which was succeeded by multitudes of others. In 1872 he visited the U. S. and conducted concerts in the principal cities. His songs are remarkable for melody, and continue popular. D. March 31, 1885.

Abvacuatio, (*ăb-văk-u-a'she-o.*) [Lat., from *ab*, and *vacuare*, *vacuatum*, to empty.] (*Med.*) An excessive or colliquative evacuation.

Abyssinia,—*Continued from* SEC. I., resisted. In 1889 Menelek, King of Shoa, established himself, with Italian aid, as emperor, succeeding John II. A treaty with Italy followed, by which that country acquired a large district bordering on the Red Sea and a normal protectorate over the whole kingdom. But subsequently Menelek (the Negus Negusti, to give him his home title), repudiated the treaty, and Russia and France refused to acknowledge the protectorate. Italy held a coastal territory named Erythria, (or Eritria) whence, in July, 1894, an army under Gen. Baratiera advanced into the Soudan, defeated the dervishes, and occupied Kassala. Thence Baratiera marched into Tigre, a northern district of *A.*, whose governor, Ras Mangasceia, was advancing against him. Ras was defeated (Jany. 1895), and part of Tigre occupied. Menelek soon after took part in the war, and in March, 1896, the Italian army met with a defeat so disastrous as to enforce a relinquishment of all designs of conquest and occupation. A treaty of peace was signed in November, 1896, in which Italy acknowledged the complete independence of *A.* The prisoners remaining in the hands of Menelek, about 1,500 in number, were afterward released, Italy paying all the costs of their maintenance.

Acardionervia, (*a-kăr-de-o-nŭr've-ah.*) [From Gr. *kardia*, the heart, and *neuron*, a nerve.] (*Path.*) Want of nervous action in the heart, as indicated by the sounds ceasing to be audible.

Acataposis, (*a-kăt-a-po'sis.*) [From Gr., *a*, priv., and *kataposis*, deglutition.] (*Path.*) Difficulty of swallowing, which affection may result from spasm of the muscles, or be caused by a thickening of the mucous membrane, or enlarged tonsils. When the affection is spasmodic, warm fomentations and warm hip-baths are indicated. In the other cases a plain and very abstemious diet, and a daily ablution, are the essentials of treatment.

Acatastatic, (*a-kăt-a-stăt'ik.*) [From Gr. *kadistemi*, to determine.] (*Path.*) An epithet given to fevers, &c., when irregular in their periods or symptoms.

Acaulosia, (*ăk-au-lo'-zhah.*) [From Gr. *a*, priv., and *kaulos*, stalk.] (*Bot.*) A diseased condition of plants, in which the stem is imperfectly developed or wholly wanting. Its formation may, however, be retarded by the main powers of vegetation being directed to some other quarter, as in turnips to the formation of an enormous root. There may moreover be stemless varieties of some particular species; the primrose representing, for instance, a form of the cowslip in which the axis is reduced to little more than a point. The common hyacinth sometimes flowers imperfectly without any elongation of the stem, a state which arises from injury or decay of the roots; and from similar affections a like condition may be easily produced by heat.

Accelerom'eter, *n.* (*Mech.*). An apparatus designed to register the speed of propulsion developed by the explosion of a charge of gunpowder, or other explosive, in a gun, at any position of the projectile in the bore.

Ac'cident Insur'ance, (*Fin.*). A form of insurance providing indemnity for injury or loss of life as a result of accident. This form of insurance began in England in 1845, and made rapid progress in that country. It was introduced into the U. S. in 1863, the *Traveller's Insurance Company*, the first organization, meeting with great success. It paid $5,000 in case of death by accident, and $25 a week for 26 weeks in case of disability. *The United States Mutual Accident Association*, the first mutual or assessment company, was founded in 1877, its method being to collect an assessment of $2 from its members as often as was necessary to pay claims and meet expenses. There are many companies now in existence, with more than $2,000,000,000 of insurance in force in this country. The system is also very active in Great Britain, and of growing importance in France, Germany, and other European countries.

Accumulated Force (*ak-ku'mu-lăt-ed.*) [Lat. *accumulo*, to heap up, from *cumulus*, a heap.] (*Phys.*) The power of a moving body to overcome resistance. When a force acts on a body so as to produce in it motion, the force must be in excess of the resistances to the motion, consequently power is imparted to the body at each instant, which is not absorbed by the resistances; this power is stored in the moving mass to overcome any additional resistance which may be opposed to it; thus the accumulated force at any instant is measured by the momentum of the moving body. The efficacy of hammers, pile-driving machines, fly-wheels, and similar contrivances depends on accumulated force.

Aceph'alocyst, *n.* [From Gr. *a*, priv., *kephalē*, head, and *kystis*, bladder.] (*Zool.*) An entozoa most frequently found in the liver, but sometimes in other organs and parts of the body. It is an hydatiform vesicle, without head or visible organs. The only assignable cause is gross alimentation, and the only remedy, a return to pure and simple food. But it happens unfortunately that its presence is seldom known except in post-mortem examinations.

Acerato'sis, *n.* [From Gr. *keras*, gen; *kertos*, horn.] (*Path.*) Defective development of the corneous tissue.

Acetphon'tidine, *n.* (*Chem.*) a compound of phenotidine and acetyl, analogous in composition to acetanilide, occuring in colorless or reddish needles, easily soluble in alcohol or dilute acetic acid, but not in water. It is given in 3 to 8 grain doses to reduce temperature in fever. In large doses it produces sleepiness, vomiting, and eventually blueness of the mucous membrane of the mouth.

Acet'ylene, *n.* (*Chem.*) A hydrocarbon, with the formula C_2H_2, which came into prominence in 1895–96 from its remarkable light-giving powers when used as an illuminant. An important source of this gas has lately been found in carbide of calcium, and active efforts have been made to render it useful as a source of light for domestic and other purposes. Carbon unites with nearly all the metals, forming chemical compounds

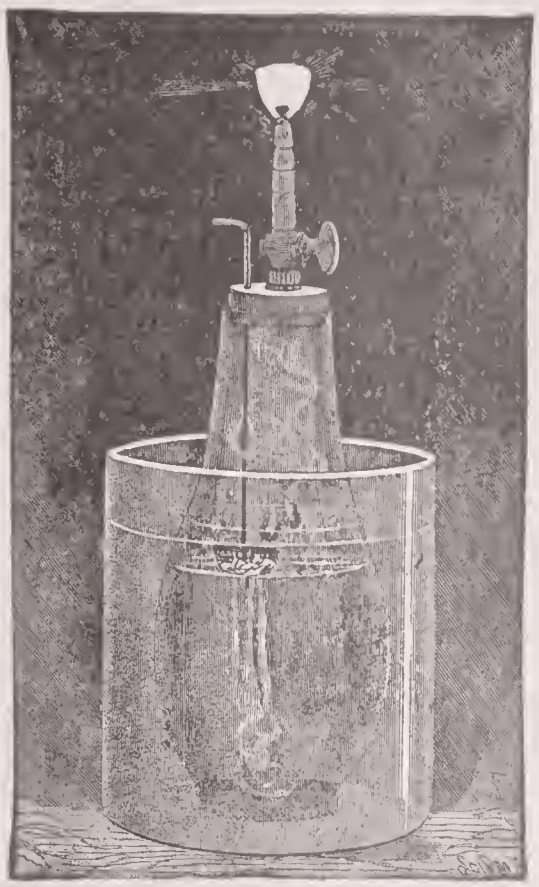


Fig. 2646.—EXPERIMENTAL ACETYLENE LAMP.

which are known as carbides. Of those the alkaline and alkali-earth carbides are readily decomposed by water, with the emission of acetylene gas. By the aid of the electric furnace the union of carbon and calcium is easily and cheaply effected, the result being a carbide of calcium, which has come into use as an abundant and cheap source of *A.* It is now produced largely at the electric works at Spray, *N.* C., and is a greenish-

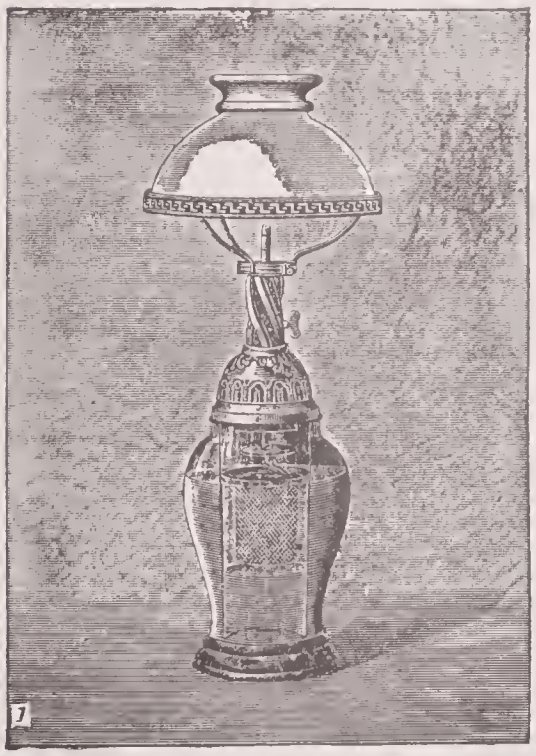


Fig. 2647.—TROUVÉ'S ACETYLENE LAMP.

gray, stone-like substance, resembling common serpentine rock and with an odor suggestive of garlic. The discovery of its abundant yield of *A.* gas was made accidentally, through plunging some of it in water, from which a gas immediately arose, whose character and illuminating powers were quickly learned. Carbide of calcium, CaC_2, when in contact with water, decomposes it, *A.* being evolved and lime formed. The chemical transformation may be thus expressed: $CaC_2 + OH_2 = C_2H_2 + CaO$, or *A.* plus lime. *A.* is a constituent of coal-gas, and may be otherwise formed by the direct union of carbon and hydrogen at the high temperature of the electric spark. It is a colorless gas, slightly soluble in water, and under ordinary conditions burns with a bright, smoky flame. Its specific gravity is 0.92. When passed into ammoniacal solutions containing copper or silver it unites with those metals, forming insoluble acetylides, which when dry explode violently on the application of heat. When *A.* is burned in a flat flame gas burner it yields a light greater than that of any other known gas, its illuminating capacity for 5 cubic feet per hour being 240 candles. This is more than 12 times the power of ordinary illuminating gas, it being estimated that 70 cubic feet of *A.* gas is equal in light-yielding powers to 1,000 cubic feet of ordinary coal gas. —*Acetylene lamps.* The earliest *A.* lamp used for experiment was a very simple one, its principal elements being a battery jar and a lamp chimney. This apparatus, of which an illustration is given, was constructed as follows: To the upper opening of the lamp chimney a cork was tightly fitted, through a central perforation in which a tube was inserted, fitted with a stop-cock and gas burner, the latter the smallest size fish-tail burner made. Another small tube was made through the cork, in which a wire was fitted so tightly as to have a frictional resistance to movement up and down. Its lower end formed a hook, on which was hung a little wire-gauze basket. To operate the lamp, the chimney was placed upright in the jar, which was then filled with water to within an inch or two of the top. A piece of calcium carbide was placed in the basket, and as this gave off gas the pressure of the latter

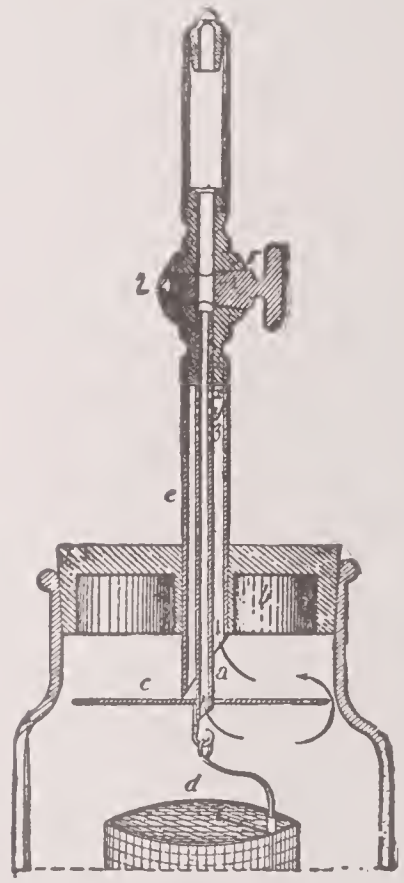


Fig. 2648.—SECTION OF TROUVÉ'S LAMP.

forced down the water until it fell below the level of the basket. On now opening the stop-cock and applying a light to the burner, an *A.* flame was obtained which lasted five or ten minutes. As the pressure decreased the water rose in the chimney, wet again the carbide, and the evolution of gas was resumed. Other apparatus have been devised for this interesting experiment. A lamp, suited for continuous light-giving, was devised in 1895 by G. Trouvé, a well-known French scientist. This is a simple but effective apparatus, consisting of two glass vessels, one fitting within the other, and of a metal part closing the top, to the centre of which is connected the jet or burner tip. Internally the vessel practically consists of a large necked bottle, within which is suspended a little metal basket containing carbide of calcium. The bottle has a conical opening in its bottom for the entrance of water from the larger surrounding vessels. As acetylene in this process depends upon water for its formation, the exhaling gas carries off a quantity of water vapor, which needs to be instantaneously condensed to prevent its interference with the action of the lamp. To perform this an apparatus is employed of which a diagram is here given. Two concentric tubes, *a e*, are employed, cut off obliquely and connecting with the cock *r*. At first the gas makes its way through both tubes to the burner, as shown by the arrows. But as the vapor condenses in the central tube, it seals this and acts as a syphon, while the *A.* gas continues to ascend to the burner through the exterior tube, passing through the little holes *x*, *y*, *z*.

As the syphon action is automatic, the internal tube carries off constantly the condensed water. A disk, c, of large area, soldered to the tube a, condenses the first vapor carried off by the gas. Arrangements are added to make a uniform production of gas. This lamp consumes on an average about 3^1_4 oz. of calcium carbide for 38 candle hours.—*Liquified Acetylene.* A. gas, when subjected to a pressure of about 50 atmospheres, assumes the liquid state, with a great reduction in volume, and it is with liquid A. that its practical employment is now attempted. Cylinders of this liquid can be conveyed to houses or stores and connected with the ordinary gas pipes, into which the gas given off from the surface of the liquid passes, and may be burned in suitable burners replacing the ordinary gas burners. As the gas is thus consumed, the pressure is reduced and new gas given off till the liquid is entirely volatilized. This is found to take place regularly, so that the burner pressure remains unchanged. One volume of liquid A. at 64° gives 400 volumes of gas, of which $^1_4$ to $^1_2$ cubic foot per hour is sufficient for a single gas burner. The light emitted is remarkably brilliant, throwing a shadow not only from a gas flame but from an incandescent electric bulb. The availability of A. as a practical source of illumination is, however, not yet demonstrated. Many efforts have been made to bring it into ordinary use, but the possible danger of explosion and other difficulties as yet stand in the way of accomplishment.—*Hydrocarbon products.* A. is interesting and useful in another way, since from it can be built up an extraordinary number of hydrocarbon products, with the aid of heat and of sulphuric and hydrochloric acids, potash, ammonia, and other reagents. If passed through a tube heated to just visible redness it is rapidly converted into benzole and at a higher temperature yields napthalene. By the action of nascent hydrogen it yields ethylene and ethane. From its derivative benzole may be produced aniline and the whole series of aniline coloring matters. Ethylene can readily be converted into ethyl alcohol, from which again an enormous number of organic substances can be produced. Among the derivatives may be named benzine, nitro-benzine, carbolic, picric and other acids, antifibrin and aldehyde, these being but a few of the possible products of this interesting gas.

Achinese, *n.* (*ăk-i-neez'*). A native, or the people collectively, of Achin (or Acheen), in northwestern Sumatra. Also the language of this people, a form of speech belonging to the Malayan stock.

Achoristus, *n.* (*ak-o-ris'tŭs*). [From Gr. *achōrizō*, I separate.] (*Path.*) Any sign which necessarily accompanies a state of health or disease.

Achromatop'sy, *n.* [From Gr. *a*, priv., *chroma*, color, *ontomai*, I see.] Inability to distinguish colors.

Achromato'sis, *n.* (*Pathol.*) Any form of disease which is characterized by a lack of coloring matter in the skin or hair.

Achronarcot'ic, *n.* Any narcotic poison which is also irritant, as aconite and some others.
—*a.* Possessing both irritant and narcotic properties.

Ach'ronism, *n.* The absence of time; the state of timelessness.

Achroph'ony, *n.* The use of the hieroglyph or picture symbol of an object to represent the initial sound of the name of that object. One of the first steps in the change from hieroglyphic to written language.

Acid'ities, [From Eng. *acid.*] (*Med.*) Sourness of the stomach, the result of indigestion, indicated by acid eructations, &c. The affection is very common in children, and must be obviated by absorbents, as magnesia, chalk, &c., and by regulated diet.

Acineti'na, *n. pl.* An order of infusorians which have no mouths, but draw in their food through tubular tentacles with a knobbed sucker at the end; the *Suctoria.*

Ackley, in *Iowa*, a post-town of Hardin co., on Iowa Cent. and Illinois Cent. R.Rs. *Pop.* (1895) 1,540.

Acosta, JOACHIM, (*ah-kŏs'tah*) a colonel of engineers in the service of the U. States of Colombia, and a distinguished geographer and historian, served in 1831 in the Colombian army. In 1834, with the botanist Cespedes, he undertook a scientific expedition, extending from the valley of Socorro to that of the Magdelena, and seven years later traversed the country from Antioquia to Anserma. A. afterwards repaired to Europe and resided in Spain for several years. He published an excellent map of the territory of New Granada (now Colombia). His most important publication, however, was the *Discovery and Colonization of New Granada.*

Acouchi Resin, *n.* (*Chem.*) The inspissated juice of the plant *Icica heterophylla.* It is highly odoriferous, and is employed as a vulnerary.

Acrimony, *n.* [From Gr. *acer*, acrid, and *akis*, a point.] (*Path.*) An impure condition of the blood, resulting from retained bilious and other effete matters. The ancients, adopting the humoral pathology, conceived that an "acrimony of the humors" was the cause of many diseases. The moderns have unfortunately rejected this doctrine, and instead of seeking to eliminate the impurities, they counteract or subdue the remedial effort with narcotics, stimulants, alteratives, &c. The wet-sheet pack and the warm bath are the best detergent processes.

Acrol'ogy, *n.* The science of initials, which includes (1) acrophony (*q. v.*), (2) giving to letters names which begin with these letters, (3) denoting objects by signs taken from the first letter or letters of their names.

Acromphalon, *n.* (*ăk-rŏm'fah-lŏn.*) [From *akro*, and Gr. *omphalos*, the naval.] (*Anat.*) The extremity of the umbilical cord, which remains attached to the fœtus after birth.

Acupressure, (*ăk-u-prĕsh'ŭr*) *n.* [From L. *acus*, a needle, and *premere*, *pressum*, to press.] (*Surg.*) A process for arresting hemorrhage, proposed by Prof. Simpson, of Edinburgh, which consists in passing an appropriate needle or pin twice through the substance of a wound, so as to compress and close, by the middle portion of the needle, the tube of the bleeding vessel a line or two, or more, on the cardiac side of the bleeding point.

Acupuncture, *n.* (*Surg.*) A mode of acupressure by twisting a wounded artery with the needle to stop bleeding.

Ada, in *Ohio*, a town of Hardin co. Here is located the Ohio Normal University, with over 3,000 students. *Pop.* 1890, 2,079.

Adams, CHARLES FRANCIS, Jr., grandson of John Quincy Adams, born at Boston, May 27, 1835, graduated at Harvard in 1855, and served as a cavalry officer in the civil war, gaining the brevet rank of brigadier-general. Afterward became a prominent writer on economical and political questions, and was president of the Union Pacific railroad for several years, resigning in 1890.

Adams, CHARLES KENDALL, A.B., A.M., LL.D., was born at Derby, Vt., Jan. 24, 1835, educated at the University of Michigan and in Europe, served as assistant professor of History and Latin in the University of Michigan 1863–67, and as professor of History 1867–85. From 1881 to 1885 he was non-resident professor of History in Cornell University, and its president 1885–92, in which latter year he became president of the University of Wisconsin. In 1890 he became president of the American Historical Association. He is the author of a number of historical works and of a large number of papers contributed to the leading review periodicals.

Adams, EDWIN, a popular and versatile actor, was born in Medford, Mass., Feby. 3, 1834, and made his first appearance on the stage at Boston in 1853, in *The Hunchback.* In 1866 he made a tour as a star actor, and in 1867 became a leading actor in Booth's theatre, New York. In the part of *Enoch Arden* he became a great favorite. D. in Philadelphia, Oct. 25, 1877.

Addison'ian, *a.* Of, or relating to, Joseph Addison, an English author famous for his style; especially, like him in purity of style, clearness of diction, &c.

Adelaster, *n.* (*ăd-e-lăs'tŭr.*) [Gr., something unknown.] (*Bot.*) A name proposed for those garden plants which, having come into cultivation without their flowers being known, cannot be definitely referred to their proper genus. All A. are therefore provisional names, to be abandoned as soon as the true names of the plants so called can be ascertained.

Adler, FELIX, ethical reformer, was born at Alzey, Germany, Aug. 13, 1851, graduated at Columbia College, and subsequently obtained the degree of Ph.D. at Heidelberg. From 1874 to 1876 he was professor of Hebrew and Oriental literature at Cornell University, and in 1876 founded "The Society for Ethical Culture," at whose head he still remains. Under his direction the society has founded a system of district nursing, a home for neglected children, a free kindergarten, and a workingman's school.

Adonai, (*Old Test.*) Lord; a name for God.
—(*Occult.*) The Great Spirit; a symbol of faith: in the cabalistic system, a glyph of "existence," capable of twelve transpositions, all meaning "to be."

Adra'dial, *a.* Adjacent to a ray; said of the third series of tentacles in certain hydrozoöns.

Advancement of Science: See AMERICAN ASSOCIATION and BRITISH ASSOCIATION.

Advent Christians, or **Adventists,** also called **Second Adventists.** (*Eccl. Hist.*) Various religious societies holding a belief in the speedy second advent of Christ. Their churches are congregational, the ordained preachers being the highest officials. Their conferences are not legislative to the churches, but are for mutual church and ministerial co-operation. They meet to worship on the first day of the week. Their religious faith comprehends belief in the divinity of Jesus Christ, atonement through his blood alone, the resurrection of the dead as a necessity to bring eternal life to the sleeping saints, the second personal advent of Christ as near at hand, the total destruction of all unregenerated beings, and the renewed earth as the inheritance of the saints. They hold to the literal understanding of the Scriptures as the word of God, rather than to a mystical interpretation. They teach that the second advent of Christ is the objective point of Christian hope, as prior to that event there is no eternal life, but at that time eternal rewards and punishments will be given, and the kingdom of God established on the earth. They teach that the wicked will "be punished with everlasting destruction from the presence of the Lord, and from the glory of his power." *2 Thess. 1. 9.* They do not, as a body, set any definite time for the second advent, but they teach it as an impending event, there being no prophetic event to intervene in fulfilment. They have formerly called attention to definite dates for the second advent, thinking they understood the definite time, but now acknowledge their mistake in this respect. The Advent Christians have an annual meeting of a body of delegates chosen by their conferences, to consider all necessary business coming before the denomination. This body is called the Second Advent Christian Association of America. The history of this people in the U. S. dates back to about A. D. 1839, when Wm. Miller (see MILLERITES) and others preached the doctrine of the second advent being near at hand. They have undergone some changes since then, and were not an organized people to any extent until about 1860. Several journals are published advocating their doctrines. The sect is divided into several branches, differing somewhat in belief.—The Seventh Day Adventists observe the seventh day of the week as a Sabbath. The general beliefs of this sect are substantially as above described. They set no time for the coming of Christ.

Adventuress, *n.* A woman adventurer. The word is generally used in a disreputable sense.

Aerated Bread, a bread in which no ferment is used, carbonic acid being directly introduced. The acid is thoroughly mixed with the flour and water in air-tight vessels, the bread produced being as light as fermented bread.

Aerometer, *n.* (*Phys.*) An apparatus for weighing and estimating the tension of air and other gaseous substances.

Aeronautics.—*Continued from* SEC. I.

Many attempts have been made to produce a balloon capable of being directed in its motion and propelled by some system of motive-power, and these efforts have been attended with some degree of success. As early as 1784 Francis Hopkinson suggested the making of an oblong or spindle-shaped balloon, driven by a wheel at one end; and various patents have been issued to inventors for such contrivances, none of which have proved practically successful. In 1832 Rufus Porter constructed a model, driven by a small steam engine, which attained promising speed in experiments at New

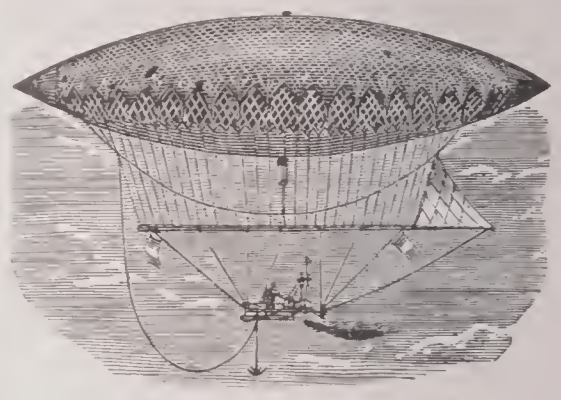


Fig. 2649.—GIFFARD'S BALLOON.—1852.

York and Washington about 1835–40. In 1852 Henri Giffard constructed such a balloon, in which a screw was worked by a steam engine, and obtained sufficient speed to give steerage-way. This is notable as the first dirigible balloon. Twenty years afterward (1872) Mr. Dupuy de Lôme, a distinguished French engineer, constructed a balloon that could be worked by man-power and large enough to carry 12 or more men, 7 of whom were employed in working the propeller. It did not differ otherwise in principle from Giffard's air-ship, men being employed to avoid the danger in the use of fire to produce steam. What was needed was a motor free from danger of this kind, and possessing large power in connection with small size and weight. Mr. Gaston Tissandier employed the electric storage-battery, connected with a dynamo-electric machine, for this purpose, and constructed in 1881 a model 11 feet long and 4 feet diameter, which was moved at a maximum speed equal to 7 miles an hour. Building a second, 90 feet long and 30 feet diameter, and fitting it with a Siemens dynamo, which moved a screw nearly 10 feet in diameter, he and

Fig. 2650.—DUPUY DE LÔME'S BALLOON.—1872.

his brother succeeded in taking aerial journeys at a speed of from 7 to 9 miles an hour. Renard and Krebs, two other workers in this field, subsequently built an air-ship 165 feet long and 127^1_2 feet in diameter, moved by a battery of Renard's invention, a dynamo and a screw 7 feet in diameter. This machine, in 1884, was driven at a speed of 12 to 15 miles an hour in calm weather, and had power enough to contend against a light breeze. It is believed that with existing appliances an air-ship of this character can be constructed that will attain a speed of 25 miles an hour, but fully double this speed would be necessary to make it a commercial success. It is quite possible that 50, or even 75 miles an hour may be attained by balloons or air-ships

and these be made large enough to carry heavy weights. This is a problem of the future, and meanwhile experiment is proceeding in another direction, that known as *aviation*, in distinction to *aëronautics*.—*Aviation.* This branch of our subject, that of moving through the air on the principle by which a bird soars, originated at an early date, it going back to the Greek age of legend. The practical question involved was solved by nature in a remote geological period, in the flight of birds, reptiles and bats, but it is only within recent years that man has made any important progress toward solving the problem. At the present time many persons believe that aviation offers a more promising field of research than ballooning, and the result of experiment seems very encouraging. The early ideas entertained were, that man might fly in the manner of birds, by the aid of wings moved by himself; but it is very doubtful if man's muscular power is equal to a continued flight by his own exertions, though efforts in this direction have not ceased. Recent experiments have been in the direction of ascertaining the lifting power of planes moving through the air at angles slightly inclined to the horizontal, and therefore checked in their fall by the resistance of the air. Prof. Langley, of the Smithsonian Institution at Washington, has made an extensive and important series of experiments in this direction, with an apparatus capable of driving the suspended plane at a speed of nearly 100 miles an hour. The result of these experiments has been to prove that the time of fall of a horizontal plane is less when it is moving horizontally than when its fall is vertical, and becomes steadily less as the speed of lateral motion increases. This result arises from the inertia of the increased weights of air affected in the case of increased speeds, and leads to the conclusion that at a very high velocity the plane would not fall at all, but would act like a body resting on a solid surface—the atmospheric resistance equalling the force of gravity. It was further proved that such a plane might need less power to move it at high speeds than at low, since the power demanded for its support seems to decrease faster than the resistance to forward motion increases. This result is a most important contribution to the final elucidation of the problem. The "soaring speed"—that at which a body is first sustained—was ascertained for planes differing in size and shape. The final conclusion of the investigation was that the engines we already possess are quite sufficient to furnish power for such machines, one horse-power being sufficient to sustain 200 pounds at 45 miles per hour, and more at higher speeds—the friction of the machine being neglected. Engines of this power are now in existence of a small fraction of the above weight. The best angle of inclination of the plane is a very small one, not more than one or two degrees from the plane of motion, and becomes less as the speed increases. Computations have been made which go to show that an aëroplane inclined to the horizontal at an angle of 1° 50′ 45″ meets sensibly the same resistance at all speeds; that if the velocity be small, large surfaces and small weights are needed; that the area of the plane may be reduced as the speed increases; and that with each reduction of area greater speed and power are necessary. The result of all the experiments and deductions seems to be, that at low speeds the best results may be expected from balloons, and at high speeds from aviatory machines. Speeds of 30 miles an hour and upward are looked for by the investigators of this subject, if the mechanical difficulties can be overcome. The experiments here referred to were preceded by an extended study of the wing motions of birds and insects and the laws of fluid resistance, one important result being that the area of wing surface per unit of weight was found to increase rapidly with increase of size. Insects have wings of enormous area in proportion to their weight, while in birds the proportional area is much less. The vulture is 100 times as heavy as the swallow, but its wings are only 15 times as large. Various experiments have followed out this line of thought, Maxim in particular having made elaborate experiments on the driving of bodies through the air at high speeds, in which he reached conclusions closely similar to those of Langley. As regards frictional resistance of the air, he found it is so slight that it might be neglected as unimportant. The practical realization of these results of experiment and deduction has been attempted by many investigators, with accomplishments of much interest. Experiment has taken two directions, that of flight by human power alone, and that of the propulsion of a flying machine by mechanical power. Some of the instruments produced have flown through the air in an encouraging manner. Hargreaves, who has constructed more than a dozen such machines, estimates that "400 lbs. of tin tubing, silk and steel wire would serve to carry one man 500 yards at 17 miles an hour." He finds, however, that the motor is one of the most difficult problems. Otto Lilienthal, a German experimenter, devised an apparatus with a double flying surface, it having two wings below, to which he could give a bird-like motion with his arms, and a fixed sheet of the same area above, the total supporting surface being from 10 to 20 square meters. He would take a short run on a descending slope—much as the condor runs before rising in flight—when the lifting power of the air would raise him from the ground, and sustain him in short flights. Unfortunately, in his descent from one of these, in 1896, he struck the ground too suddenly and was killed. In an experiment of the same character, made (1896) in Indiana, the experimenter not only rose easily after a few quick steps down a hill, but on one occasion, in a strong wind, the machine was suddenly lifted and soared 100 feet into the air, carrying four persons, whom it let down unhurt. This machine had seven sails. Prof. P. S. Pilcher, of Glasgow University, has also constructed a flying machine, based on that of Lilienthal, with which he seems to have in a measure solved the problem of flight. By its aid he rises 20 feet into the air, hovers like a kite for a space, and descends on the spot he started from. In other cases he has been carried a considerable distance before the breeze. His machine is a light structure of wood and steel, supporting two great wings 150 sq. feet in area. These are made of nainsook muslin and braced with piano wire. His success in flight is very promising.—*Power propulsion.* The application of power to flying machines has been several times successfully tried. Prof. Langley's aërodrome, which resembles an enormous bird of steel, was tried with much success in May, 1896. It rose easily and soared in the air in large spiral curves of 100 yards diameter, reaching a height of about 100 feet and moving about half a mile. The steam then gave out and the propeller stopped, but the machine, instead of tumbling to the earth, settled slowly and gracefully downward and reached the surface without damage. Its speed was about 20 miles an hour. Maxim's experiments are still more interesting. He constructed a flying machine on a large scale, its total weight when loaded being 8,000 lbs., this including engines, boiler, fuel, stores and three persons. The boat-like body was moved by a powerful propeller, and the lifting mechanism consisted of a great aëroplane, with smaller ones projecting like wings, the extreme width being 105 feet, length 104 feet, total area 5,400 square feet. He had constructed a railway along which this machine moved on wheels, the pressure on the rails decreasing as the speed increased. In a notable experiment, made in June, 1894, the whole machine was lifted for a brief interval from the ground, its speed being then about

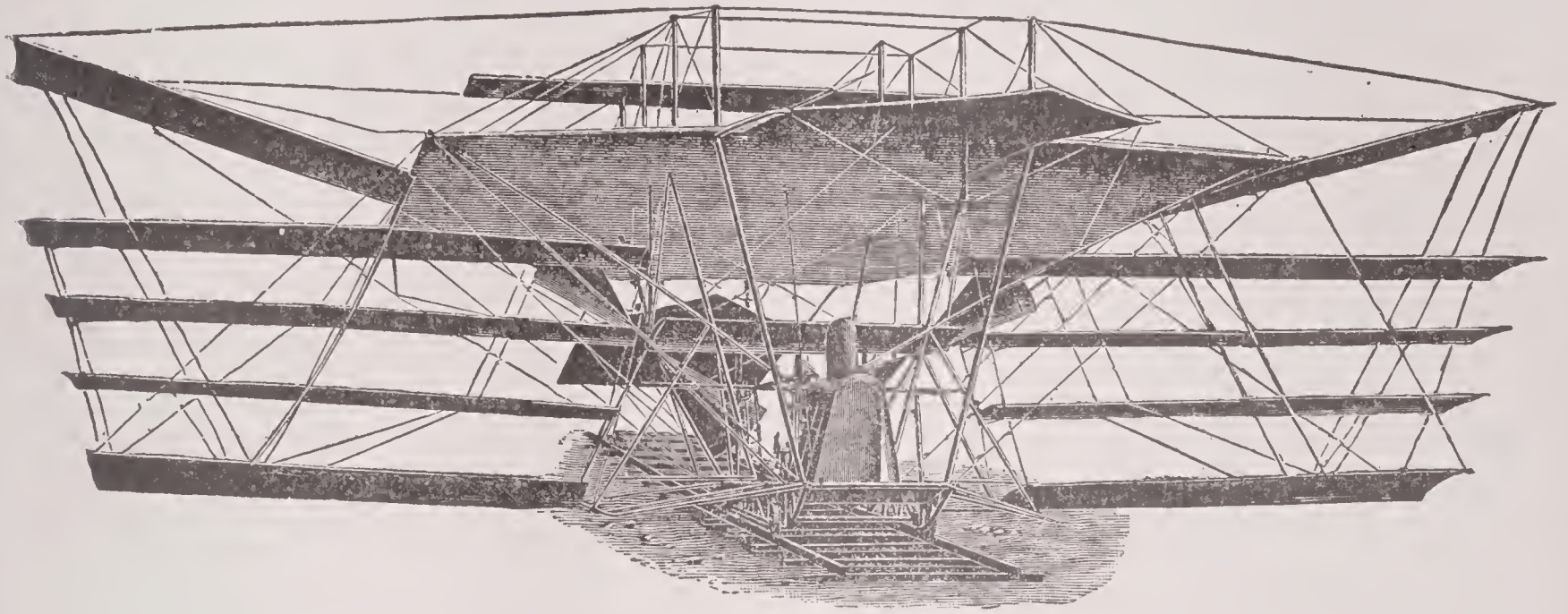


Fig. 2651.—MAXIM'S AVIATORY APPARATUS—ENGLAND, 1894.

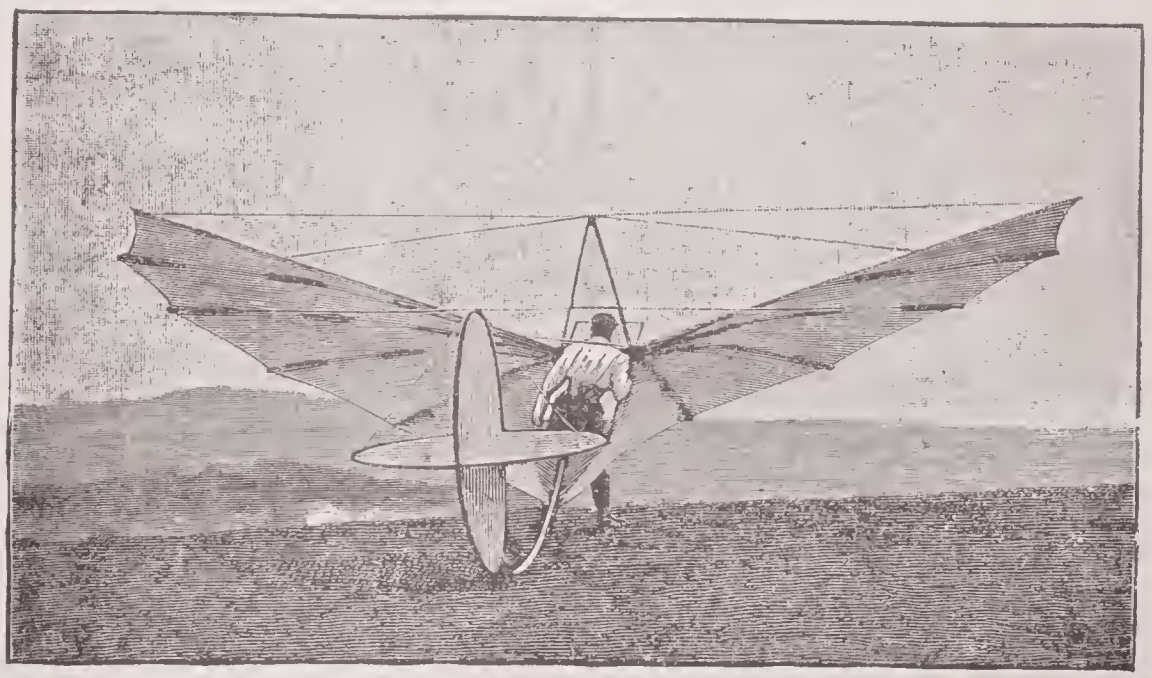


Fig. 2652.—PILCHER'S FLYING MACHINE—SCOTLAND, 1895.

36 miles an hour. It was the first actual realization of flight through the air. The wheels, however, had been locked to the rails, and tore themselves loose with such force as to wrench up the rails. The wreck of these became entangled in the sail and brought down the machine in a wrecked condition to the ground. Mr. H. Philips, of Harrow, England, has conducted his experiments on different lines. He does not employ a single large flat surface as an aëroplane, but his sustainer resembles a huge Venetian blind with its slats turned horizontally. It consists of a number of wooden blades of varying thickness mounted one above the other in a steel frame, each being 19 feet long and $1\frac{1}{2}$ inches wide, while the frame, placed vertically, is 18 by 8 feet in dimensions. The slats are not uniform in surface, their object being to set up and utilize local air currents. Below the sustainer is a boat-shaped frame, 25 by 3 feet in dimensions, with a small engine and boiler and a screw of $1\frac{1}{2}$ feet diameter. In a trial made at Harrow the whole apparatus, after following for some distance a circular track of 628 feet circumference, rose two or three feet into the air, and soared a

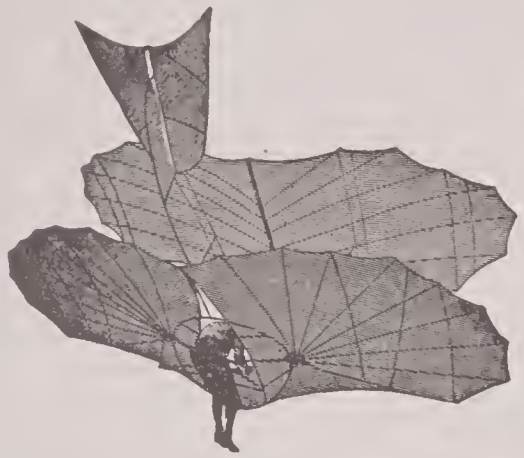


Fig. 2653.—LILIENTHAL'S AVIATOR—GERMANY, 1896.

distance of about 200 feet at a speed of 70 miles an hour. Rotary motion only was attained in this experiment, and for this a whirling propeller was used.—These are the most notable of the various efforts at flight that have been made. The degree of success attained is very encouraging, considering the newness of the whole method; and there is no reason to doubt that in the near future still further success will be gained, though it would not be safe to venture upon prediction. It is by no means improbable that ultimately the difficulties in the way of aerial locomotion will be overcome, and that the dirigible balloon may be replaced by the aviatory machine, moving with a speed much greater than the balloon is likely to attain. Many minds are actively at work upon the problem, and practical steps of accomplishment of more importance than those already made may at any time be reached. It is certainly conceivable that future generations may add the air to the earth and sea as a third and highly important domain of human locomotion. See BALLOON.

Aer'ophone. *n.* (*Phys.*) An instrument for amplifying sound waves, without lessening distinctness. It consists of a diaphragm vibrated by the voice, and controlling the escape of compressed air from a receiver, which in its turn vibrates a larger diaphragm. Also, an instrument to assist hearing, consisting, in essential principle, of a horn to speak into and two connected ones to apply to the ears.

Aer'ophore. *n.* (*Phys.*) A device for permitting respiration under water, in air charged with smoke, &c. In this potassium hydroxide or other substance is employed to absorb the waste products of respiration, and to serve as a receptacle and revivifier of vitiated air.

Aer'oplane. *n.* The supporting surface used in aviatory aëronautics. It sometimes is wing-shaped, sometimes a single broad area, sometimes a series of latticed divisions, &c. See AERONAUTICS.

Af'ghan (*h* silent), *n.* A native or inhabitant of Afghanistan, particularly one of the dominant race of that country.—The language of the dominant race, belonging to the Aryan type and akin to Persian.—A knitted or crocheted blanket or coverlet, made of soft wool.

African Exploration, Recent. Under the subject of Africa (*q. v.*), the story of African exploration down to a somewhat recent period has been epitomized. It is desired here to state briefly what has more lately been accomplished in that field. The close of the older period of African research may be held to date from the death of Livingstone; the later period fairly begins with the adventurous march of Stanley, in 1871, from Zanzibar to Ujiji, in search of that intrepid traveler. Since that date travelers have been numerous in Africa and the "dark continent" is rapidly being opened up to the light of modern research. While Stanley was seeking Livingstone, Dr. Nachtigal was following the path of Dr. Barth across the Sahara, and Dr. Schweinfurth was journeying into unknown regions of the Sondan. Cameron (1873–75) emulated Livingstone in crossing the continent, being second to perform that feat. He surveyed the lower end of Lake Tanganyika, and traced its outflow to the westward. The third to cross the continent was Stanley (1874–77), in that most notable of recent explorations, in which he identified the Lualaba with the Congo, and first showed the vast extension and importance of that mighty stream. In 1878 Joseph Thomson followed a new route to the north end of Lake Nyassa and explored the country between this lake and Tanganyika, whose outflow he traced. Serpa Pinto, a Portuguese explorer, crossed the continent from west to east, in 1877–79, reaching Durban, in Natal; and about the same time two French travelers, De Brazza and Ballay, explored the Ogowe district, north of the Congo. Various other expeditions at about the same period aided in opening up new sections of country, one being sent out in 1878 by the Belgian International Society, from Zanzibar into the interior, while Stanley (1879–84) entered from the west coast to coöperate with the Belgians in establishing the Congo Free State. In 1881–82 Wissmann crossed southern Africa, and in 1884 Thomson made a memorable journey from Mombesa across Masai Land to the Victoria Nyanza, passing Mounts Kilima-Njaro and Kenia, the former of which was ascended the same year by H. H. Johnston to a height of 16,200 feet. In 1886 the great river Welle, which had been discovered by Schweinfurth, was traced almost to the U-bangi, the great northern tributary of the Congo, and the identity of these two streams has since been proved. The great southern tributary, the Kwa, and its affluents, the Kwango, Kassai and Sankuru, have been traversed by Pogg, Wissmann and Wolf, and on the Sankuru Wolf found the pigmy Batwas, a tribe of that dwarfish race which is now known to extend over a broad area of interior Africa. Dr. Oscar Lenz in 1881 crossed from Morocco to Timbuctoo, and did some excellent surveying work in the western Sahara. At a later date (1885–86) he ascended the Congo to Nyangwe, and crossed the continent to the Zambesi delta, being the tenth to accomplish that feat. Among his predecessors, in addition to those named, were Arnot, Capello and Ivens, and several others. At the period we have now reached a new incitement to African exploration arose in the conquest of the upper provinces of Egypt by the forces of the Mahdi, which left Emin Pasha, the governor of the most southern province, isolated on the upper Nile. An expedition from the east for his relief, under Dr. G. A. Fischer (1885–86), reached Lake Baringo. In 1887–89 Stanley attempted the same feat from the west, following an affluent of the Congo and penetrating a great interior forest to the lake region. He succeeded in finding and rescuing Emin, returning with him to Zanzibar in 1890. Meantime in the south, in 1886, Dr. Holub penetrated from the Cape northward to and beyond the Zambesi, and in eastern Africa during the same period, Count Teleki, a Hungarian traveler, discovered a great lake, some 300 miles northeast of the Victoria Nyanza, which he named Lake Rudolph. Its native name was Sambara. In 1888 Dr. Hans Meyer ascended Kilima-Njaro, and F. S. Arnot completed a double crossing of the continent, starting from Natal, reaching the western coast and recrossing to the east. By these and later explorations the blank places on the map of Africa were rapidly filled up, until a fairly

Fig. 2654.—BISHARI WARRIOR.

Fig. 2655.—MOZAMBIQUE NEGRO.

satisfactory typographical chart of that once unknown continent could be made. Of the many more recent explorations several of importance may be mentioned. Joseph Thomson, in 1890–92, traveled inland to Lake Bangweolo and explored the unknown region beyond, and during the same period J. Theodore Bent made an exploration of Mashonaland and studied the remarkable ruins of that locality, the remains of ancient massive structures supposed to have been erected by gold seekers of the remote past. In 1894–95 Dr. A. Donaldson Smith made an adventurous journey through Somali Land to Lake Rudolph, crossing much unexplored country. Belgian officers explored the country between the Congo and Nile basins, and an intrepid woman traveler, Mrs. French Sheldon, penetrated deeply into the continent and visited, unharmed, the country of the warlike Masai. Of the several expeditions of 1896, the most notable was that of two French travelers, Versepuy and Baron de Romans, who crossed Africa from east to west via Lake Albert Edward Nyanza, traversing in a reverse direction the vast forest which Stanley had crossed eight years before.—*Railways.* In addition to the movements of travelers, who have been too numerous of late years for us to mention even their names, other effective steps have been taken towards opening up the continent. Great Britain, France and Germany have pushed far inland, taking possession of provinces of late discovery. The officials of the Congo Free State have established steamboat service on the great inland waterways of their domain; a highroad is being built through British East Africa to the Victoria Nyanza, and railways have been opened or are in process of construction in various regions of the continent. Of the proposed railways, two are designed to extend inland to the Victoria Nyanza, one through British

Fig. 2656.—MANGANYA WOMAN WITH LIP ORNAMENT.

and the other through German East Africa, and one through the latter to Ujiji, on Lake Tanganika. Portuguese East Africa has a road completed from Fontisville, at the head of navigation on the Pungne, for 119 miles inland. It is designed to reach Salisbury, three times that distance. From Delagoa Bay another road runs inland to Pretoria, the Transvaal capital, which is also reached by a road running through Natal to Johannesburg, and one extending north from Cape Town. British South Africa is, indeed, traversed by several railways, opening ready access to the gold and diamond fields. In Portuguese West Africa a railway 191 miles long extends inward from St. Paul de Loando to the vicinity of Ambaca, and its extension 120 miles further inland is contemplated. Of railway enterprises in Africa, one of the most important is that now building up the Congo, past the rapids, from the head of navigable water on the lower to the beginning of navi-

Fig. 2657.—HUT ON THE NIGER.

gation on the upper river. Over 100 miles are now completed (1897), and some 80 or more miles further are required to give ready communication to interior Africa in this important quarter. In the British domains, on the Gulf of Guinea, there are several railways, and one is being built in Sierra Leone to the county back of Liberia. The French have a road from the head of steam navigation on the Senegal to Bafulabe; this was completed in 1888, and the work of extending it further inland has now begun. Finally, we may speak of the railway southward through Algeria into the Sahara, which will probably be, eventually, extended across the

desert to Timbuctoo or Lake Tchad. The completion of these several projects will go far towards opening up Africa to the iuroads of civilization. See AFRICA.

Fig. 2658.—NEGRO OF PORTUGUESE EAST COAST.

Af'ter-birth, *n.* (*Anat.*) The membrane in which the fœtus is involved, which is bronght away after delivery. The placenta.

Af'ter-clap, *n.* An unexpected incident after an affair is snpposed to be ended.

Af'ter-comer, *n.* A successor.

Af'ter-cost, *n.* Expenses which are incurred after the original bargain or plan is finished.

Af'ter-crop, *n.* The second crop or produce of a ground in the same year.

Af'ter-damp, *n.* The familiar term for the snffocating gas, consisting chiefly of carbonic acid, which remains in a coal-mine after an explosion of fire-damp.—See FIRE-DAMP.

Af'terglows, *n. pl.* (*Phys.*) Brilliant twilight colors after sunset. Those seen before sunrise are called *foreglows.* In these red colors predominate, but rich yellow and other lines are seen. They are caused by reflection of the snn's rays from highly attenuated matter in the upper atmosphere. The most remarkable instance of afterglow was that succeeding the great volcanic eruption of Krakotoa in 1883, when this phenomenon was of striking brilliancy and duration, and annually reappeared for a number of years. It is believed to have arisen from the vast volnmes of fine volcanic dust flung into the upper atmosphere and carried by air movements around the earth.

Agamogen'esis, *n.* (*Biol.*) The act of reproduction without the union of opposite sexual elements. This is seen in the budding of the higher plants, and the cell-division of lower organisms. Opposed to *gamogenesis,* or sexual reproduction. See ALTERNATION OF GENERATION and GENERATION.

Agassiz, ALEXANDER, LL.D., son of the famous Louis Agassiz, born at Neuchatel, Switzerland, Dec. 17, 1835; bronght to this country by his father, and gradnated at Harvard in 1855. In 1857 he went to California as an assistant on the coast survey, and from 1860 to 1865 was an assistant in the Museum of Comparative Zoölogy at Harvard. In 1865 he engaged in coal-mining, and this led to his ventnres in copper-mining, in which he developed the Hecla and Calumet mines of Lake Superior, the richest copper mines in the world. On the death of his father, in 1873, he succeeded him as cnrator of the Museum of Comparative Zoölogy, from which he retired in 1885 in consequence of ill health. He has done much to develop the Museum, and has enriched it with the results of his deep sea dredgings, made on the Atlantic and Gulf coasts in connection with the coast survey. He has written much upon scientific subjects, and prepared several monographs of the deep sea animals obtained in his dredging operations.

Agassiz Lake, (*Geog.*) The name given to a supposed former lake of the pleistocine geological period, extending along the Red River of the North through Minnesota and North Dakota and into Canada. Its dimensions, as indicated by existing shore lines, were about 400 miles length and 30 to 100 breadth, its depth from 200 to 400 feet. Its northern boundary is believed to have been the ice sheet of the glacial period, the lake disappearing with the melting of this icy barrier. Similar lakes, caused by the retreating ice sheet, probably existed in other localities.

Agnew, DANIEL HAYES, M. D., a distinguished surgeon, born in Lancaster co., Pa., Nov. 24, 1818. He gained a world-wide reputation for his skill in surgery, and when President Garfield was shot he was called as the chief consulting surgeon. He founded the Philadelphia School of Operative Surgery and the Pathological Museum of the Philadelphia Hospital, and after filling several professorships, was in 1870 appointed Prof. of Operative Surgery in the University of Pennsylvania and in 1871 Prof. of the Principles and Practice of Surgery in that institution, and of Clinical Surgery in the University Hospital. He wrote voluminously on medical subjects, his best work being an exhaustive treatise on operative surgery. Died at Philadelphia, Mar. 22, 1892.

Agnos'ticism, *n.* (*Ch. Hist.*) The doctrine maintained by the Agnostics, or those who believe that man can know nothing not within the range of his experience, and therefore is necessarily ignorant concerning the existence of God and the ultimate nature of matter and force. It declares that we can know nothing of the Infinite, and that human belief cannot safely be carried beyond the limit of things open to scientific investigation and demonstration. The term Agnostic was first snggested by Prof. Huxley in 1869, and was based on St. Paul's mention of the altar to the "Unknown God."

Agraph'ia, *n.* (*Pathol.*) A form of cerebral disorder in which exists an inability to express ideas by written symbols. It is a counterpart of APHASIA (*q. v.*) as regards speech.

Agricultural Chemistry. The study of the chemistry of plants and soils, and of the chemical substances best adapted to produce fertility in the soil.—As plants contain from 40 to 90 per cent. of water, this is obviously the most essential of all the elements of plant growth. Of the organic substances yielded by our staple crops, the most important are: the amyloids, compounds of carbon with hydrogen and oxygen in the proportions necessary to form water,—viz., wood-fiber, starch, sugar, and gum; the pectoids, other compounds of the above elements, embracing pectose—the hard pnlp of fruits and roots—and other substances; the organic acids—oxalic, malic, citric, and tartaric; the albuminoids, including albumen, casein, fibrin, &c., which contain carbon, hydrogen, oxygen, and nitrogen, with a small proportion of sulphur. In the ash of plants various other chemical substances appear, such as iron, sodinm, calcium, phosphorus, silica, &c. Most of those substances are obtained from the soil. Water yields the reqnisite oxygen and hydrogen, the carbon is obtained by a reduction of the carbonic acid gas of the atmosphere, and nitrogen comes chiefly from the nitrates of the soil. Recent experiments on nitrification, by which free or elementary nitrogen existing in the soil is converted into nitric acid and thus made assimilable by plants, have yielded very important results. It is believed this action is caused by the action of bacteria in the soil, or in some cases by similar bacteria in the roots of plants. Only a small proportion of any soil is of use in the growth of plants, and experiment has shown that 140 lbs. of ash elements may be extracted from 1,000,000 lbs. of soil of which only 186 lbs. are soluble, and therefore in a condition to serve as plant food. But as those soluble materials are removed, other constituents of the soil are rendered soluble by material agencies, so that some degree of supply is constantly provided—largely, in some soils. But, for the large demands of agriculture, manures in some form are usually necessary, to replace the ingredients removed from the soil by the growth of plants. Phosphates and assimilable nitrogen are the most necessary of these. The former is usnally the least abundant ingredient of soils, while the latter is rapidly removed by rain-water, and carried in great quantities into streams. The action of fertilizers is not alone to feed plants directly, but they exert a beneficial chemical effect upon the soil. Thus, salt, gypsnm, and other saline matters may convert insoluble potash and magnesia into soluble forms, and thus adapt them to assimilation. By constant addition of the best suited fertilizers, the same crop might indefinitely be taken from a chosen piece of land; but it is found much more economical to have a judicious rotation of crops, since each finds elements in the soil not needed by others, and after a few years the soil regains the conditions necessary to the profitable cultivation of some former crops. By letting fields lie fallow, or unworked, for a number of years, as in the old system of agriculture, the same result is produced. The study of this subject has been actively prosecnted for many years back, and though much remains to be learned, many important results in agricultural economy have been attained. Of useful books on *A. C.*, those of Liebig and Bonssingault stand first, though the subject has been much advanced in the hands of more receut writers. See AGRICULTURE, NITRIFICATION.

Agricultural Colleges. Institutions of learning whose purpose is to teach and promote knowledge in the various arts and sciences that relate in any way to agriculture.—Colleges of this character are recent in institution. Agricultural schools were established in Europe early in the nineteenth century, but it was not until Liebig published his celebrated work on agricultural chemistry, in 1840, that any active impulse was given to them. They are now numerous and important. Prussia has four *A. C.* of the highest grade, with about forty lesser schools, all with model farms; and similar encouraging progress has been made thoughout Germany, in France, and in some other countries. The benefit derived from these schools is best shown in the steady increase of crops per acre of soil where scientific agriculture is most fully tanght and practiced. In England the first school of this character was the Royal Agricultural College, founded near Cirencester in 1845. It is now known as the Royal Agricultural College of England. Later examples are the Aspatria Agricultural College, near Carlisle, and the Minto House, at Edinburgh. The first *A. C.* in this country were established before 1850, but they received their first useful impetus from the passage by Congress of the Land Grant Act of 1862. By this act Congress granted for school purposes to every State and territory land scrip representing 30,000 acres for each senator and representative. This was for the purpose of providing schools which, while not including general scientific and classical studies, should be particnlarly devoted to such branches of learning as are related to agriculture and the mechanic arts. The total area of land thus granted amonnted to 9,597,840 acres, the sale of which produced an endowment fund of $15,866,371. In 1890 Congress passed a supplementary act, giving to each State, for the endowment of the colleges established, a sum of $15,000 for the first year, and increasing by $1,000 annually until $25,000 was reached, which sum shonld afterwards be the annual appropriation. In 1892 there were 48 such colleges in existence, of which 32 reported in the census year had an income of $1,407,242. The instruction given in these institutions is both theoretical and practical, general studies being introduced, but particular attention being given to those branches which relate to the interests of the farming community. The colleges are all connected with experimental farms, on which the students may study the results of rotation of crops, the effects of different fertilizers, the breeding and care of domestic animals, the dairy processes, and, in short, everything bearing upon the successful pursnit of agriculture. The ontcome of these studies cannot but prove of great eventnal advantage to the farming interests of this country.

Agricultural Experiment Station. An establishment devoted to the purpose of acquiring information that will be of advantage to the farming interests. —Scientific experiment in agriculture began at Rothamsted, England, in 1843, at the experiment station of Mr. John Lawes, and was carried on with very important results. To the influence of this station and its fruitful experiments is believed to be due the fact that, while the average yield of wheat in England in 1840 was about 13 bnshels per acre, in 1885 it had increased to more than 31 bnshels per acre. The growth of hay has donbled in qnantity. Agricultural experiment has been still more fully carried on in Germany, and Europe now has more that 100 such stations. The first station in the U. S. was established in 1875, at Middletown, Conn. In 1880 there were four in operation. At present every State has at least one station, and some have more than one. Experiments of a practical character are steadily prosecnted at these stations, and resnlts of great economical value have been produced, while still greater ones may confidently be looked for.

Agricultural Machinery. Nothing in inventive genius has yielded more practical and important results than the progress that has been made in machine tools for use on the farm within the nineteenth century, by the aid of which the drudgery of farm life has been greatly reduced and the productiveness of the ground much increased, while great progress has been made in the saving of labor. It is estimated that the mowing and reaping machines alone, which are now in use, annually save the labor of 2,000,000 men in the harvest season. These tools are indispensable on the great farms of the West, which are often of many sq. miles in area, while human labor is so scarce that their cultivation by the old method would be impossible. Hence the old plows have been replaced by steam and sulky plows; the seed, formerly sown by hand, is now planted by horse-drawn machines; while mowers and reapers are similarly worked by steam or horse power. The service of the modern plow is far in advance of that of the old, the new harrows are far more efficient in turning and pulverizing the earth, and the use of grain-planting machines is attended with great advantages. Instead of the irregular broadcast sowing of old times, these place the seed more evenly and at more uniform depths, a smaller quantity of seed is required, and the speed of planting is greatly increased. For sowing in drills and rows the saving in labor is great, the old laborious hand dropping and covering with the hoe being avoided, while the speed is vastly greater. Many such grain drills are now in use, whose performance is almost magically perfect. The regularity with which the seed is placed in the ground also permits the use of horse-drawn cultivators, where formerly the hoe had to be laboriously used. In cutting grass and grain equal progress has been made. The old methods with the scythe and sickle entailed the severest labor, which is now avoided by the use of mowing and reaping machines, which are among the most efficient of labor-saving implements. In the invention of these machines the United States stands at the head of the world, and has produced reaping machines whose performance is almost incredibly complete. The most recent of these machines not only cuts the standing grain, but by a raking attachment gathers it into bundles, and by a binding device ties these bundles neatly with twine and casts them off complete and of uniform size. A single man driving the horses can do all this work, and can at will regulate the size of the bundles and the tightness with which they are bound. When we consider that more than 100,000 of these machines are made and sold annually, and that they consume over 30,000 tons of twine in binding a single year's crop, we may estimate the saving, which is equal to from 6 to 10 per cent. in the cost of the wheat. As regards the grass harvest, the hay tedder tosses up the hay so that it may be quickly and evenly dried, and the hay carrier greatly expedites the unloading and stacking. By its aid a man, and a boy to drive the horse, can unload a ton of hay in five minutes. The thrashing machine is another of the important labor-saving devices, while the horse powers and steam motors, now so widely in use on farms, still further expedite and make easy the work of the farmer. This description of *A. M.* is necessarily brief and incomplete, and yields but a glimpse of the marvels that have been accomplished in that field of enterprise.

Agriculture, Department of. A newly organized department of the U. S. Government, which had its origin in an agricultural commission established at Washington in 1862, and which was changed by Congress to a Government department in 1889, its head, or Secretary, becoming a member of the President's cabinet.—This department has under its care all subjects relating to the wide-spread agricultural interests

of the country, and by the aid of monthly and annual reports disseminates information of great value to those interests. It buys seeds and plants, experiments with them in propagating, gardens and distributes them to the farming community of the country, one of its purposes being the introduction of new and useful plants in the U. S. Its building stands west of the grounds of the Smithsonian Institution in Washington, embracing two bureaus, one of Animal Industry and one of the Weather, and possessing an office of experiment stations, a herbarium, museum, library, chemical laboratory, and propagating gardens. The monthly reports of this department on the condition and prospects of the staple crops of the country and the different States are especially valuable, alike to the commercial and the agricultural population.

Aguinaldo, EMILIO, a Filipino general, was born March 22, 1869, at Canit, in the Province of Cavite, Luzon. He was of good family and well educated, and became a schoolmaster in Silan. In 1896 he was active in the founding of the Katipunan Society and in the rebellion which it organized against the Spaniards, in which he became the leading spirit. In December, 1897, the rebels being bought off by Spain, Aguinaldo retired to Hong Kong with a large part of the cash consideration. He returned to Luzon in 1898 in one of Admiral Dewey's vessels and revived the insurrection. He aided the Americans by investing Manila, but in 1899, on the plea that the Americans had broken faith with the Filipinos, he attacked them and a severe war began. *A.* leading the Filipinos with much skill and persistence. "After the dispersion of his army, he carried on a guerilla warfare until captured by Genl. Funston Mar. 23, 1901."

Agur (*ah-goor'*), a town of Hindostan, 41 m. N. E. of Kota; *pop.* (1895) 30,000.

Aide-de-Camp, (*ād'-d'-cawng.*) *n.* [Fr.] (*Milit.*) A confidential officer selected by a general to assist him in his duties. Each general officer has a number of these aides, the group being called his staff. They are attached to his person, receive his orders, and convey them, when necessary, in writing or verbally, to different parts of the army in times of battle or manœuver. In the U. S. service an aide-de-camp ranks as assistant adjutant-general. There are allowed 6 (colonels) to a general; 2 and a military secretary (lieutenant-colonels) to a lieutenant-general; 3 (captains or lieutenants) to a major-general; and 2 (lieutenants) to a brigadier-general.

Ailu'rus, *n.* (*Zool.*) A genus of carnivorous animals of the family *Procyonidæ*. The *Ailurus fulgens*, allied to the raccoon, is found in the mountains of Nepal. It is of the size of a large cat, has a short head and a thick muzzle, and is remarkable for the richness and beauty of its fur, which is mostly bright chestnut in color, but deepens to a rich black on the chest and outer part of the legs. Cuvier considered the panda—its native name—as the most beautiful of quadrupeds. It lives at considerable mountain altitudes, its food being chiefly fruits and vegetables.

Ain'hum, *n.* (*Pathol.*) A peculiar chronic disease, said to be confined closely to the negroid race, resulting in the dropping off of the smaller toes.

Ai'nos, *n. pl.* (*Anthrop.*) The aborigines of Japan, an uncivilized race, now found only in Yezo, Saghalien and the Kurile Islands, but once occupying the whole archipelago, whence they were driven by the advancing Japanese, who seem to have entered the country from the southwest. It is believed by some that the *A.* came originally from Kamtchatka. They are markedly different from the surrounding Mongolians, having features resembling those of the Aryans, heavy beards and very hairy bodies. They are low in stature, but strongly built. Their chief occupations are hunting and fishing, while in disposition they are mild and tractable. Their grade of mental development is low, and their religious ideas not above those of fetishism, yet the Japanese are gradually educating them into a higher stage of civilization. They number in all about 15,000. Complete vocabularies of their language have been made, but its affinities have not yet been traced.

Air'-bag, *n.* (*Mech.*) A bag made generally of some rubber compound and inflated with air; the larger sizes are often used to buoy up a sinking vessel or raise one that has sunk. For this purpose the bags, when in a collapsed state, are attached to the sunken hull, and are then inflated by means of tubes connecting with pumps at the surface of the water.

Air-Bladder, or Swim-Bladder, *n.* (*Zoöl.*). An organ somewhat generally possessed by fishes, though absent in many cases, consisting of a large sac filled with a gas largely composed of nitrogen, which is secreted into the bladder from its walls. The bladder varies considerably in size and shape, being sometimes a small and simple sac, and at other times large and complex in structure. In some cases it opens by a tube into the air-passages. It is probably useful to some extent in swimming, but seems to be a surviving remnant of the cellular air-bladder found in the ganoid fishes, from which, also, the lung of air-breathing animals is supposed to have been derived. Very probably, the original form of this organ was developed as a primitive lung, which in one direction unfolded into the existing lung, and in the other degenerated into the air-bladder, and in many instances completely disappeared. This hypothesis was originally suggested by Prof. Charles Morris, in a paper published some years ago in the *Proceedings* of the Academy of Natural Sciences of Philadelphia, in which the probable origin of the bladder in a primitive air-breathing invagination of the æsophagus, which developed into a lung-like organ, was suggested and sustained by facts and reasonings. This view was widely accepted by scientists as a very probably correct explanation of the origin of this organ. See AIR-BLADDER.

Air'-blast, *n.* (*Phys.*) A current of air forced upon a fire to stimulate combustion, or on a dynamo-commutator to prevent sparking.

Air'-bound, *a.* (*Mech.*) Prevented from acting normally by the presence of air, as occasionally occurs in the use of suction pipes, etc.

Air-brake. (*Mech.*) The necessity of having some effective means of stopping railroad trains was felt as soon as it was found possible to run them at any considerable speed. The problem of how to stop a train was therefore presented simultaneously with the introduction of locomotives. As the speed and length of trains increased, the importance of placing them under the control of the locomotive runner became with each accident and its accompanying horrors more evident. For years, therefore, inventors have been exercising, more or less successfully, their ingenuity in endeavoring to devise some means which would enable the man who runs the engine to apply the brakes instantly on the whole train behind him. The first system, however, which may be said to have come near to fulfilling the requisite condition of an automatic brake, is the *Air-brake*, or *Atmospheric-brake*, invented and patented in 1869 by Mr. George Westinghouse, and manufactured in Pittsburgh, Pennsylvania. It may be summarily described as follows: On the right side of the locomotive, and in full view of the engineer, an air-pump is fastened to the locomotive frame. It is propelled by steam drawn from the boiler, is self-acting, and is motionless only when the expansive force of the compressed air in the reservoir, which hangs beneath the cab (a cylinder of boiler iron suitable to the dimensions of the locomotive), becomes equal to that of the steam. Thus as the pressure of steam increases, the air-pump works, and the expansive force of compressed air is augmented. When the steam is high, and the possible demand for great force of the brake consequently increased, the pressure of steam and air in the reservoir must correspond. This relation of expansive force is always maintained. Pipes to convey the compressed air extend from the reservoir beneath the locomotive-cab back under the whole train. Midway beneath each car is a fixed cylinder with piston so contrived as to act directly on the lever of the ordinary hand-brake, and does not prevent the use of the latter brake in conjunction with the air-brake, or separate from it if required. The continuity of air-pipe between the cars is preserved by heavy rubber-hose connected by a most ingenious brass coupling, so devised that, when coupled, valves are open and the compressed air can move from the reservoir unimpeded to exert its force: if any cars are detached, thereby sundering the connecting pipe after the force has been applied, the coupling accommodates itself to the exigency by unjointing, valves instantly close, precluding the escape of the compressed air, and the brake remains effective on each separate car. When the engineer applies the brake (by opening a valve and permitting the escape of the compressed air from the reservoir through the conducting pipes) its force is exerted simultaneously and equally upon every wheel of the train. The engineer has entire control of the quantity of force exerted, and can graduate it to satisfy the demand. The term *Vacuum Brakes* is used to distinguish that particular class of brakes which are operated by atmospheric pressure from those operated by compressed air. Both are, properly speaking, air-brakes, the atmosphere being the means employed to convey the power used in both cases, vacuum-brakes operating by external, and air-brakes, so called, by internal pressure. The Eames vacuum-brake consists of a steam ejector, located upon the engine, and diaphragms upon the cars. The ejector, which the inventor of the brake, Mr. F. W. Eames, has greatly improved over the before existing patterns, is operated by steam directly from the boiler, through a graduating valve, making it possible to admit as little or as much steam as may be desired, the valve being controlled by a lever within convenient reach of the engineer. The essential part of the ejector consists of a double tube, the outer space of which communicates with the steam valve, and the inner with the train air pipes. Steam being admitted to the outer space, it escapes past the end of the inner tube in such a way as to form an approximate vacuum at that point, which the air from the train pipes constantly rushes to fill, and the steam and air are thrown out together at the top of the ejector. The Eames ejector produces, at sea level, a vacuum corresponding to 24 inches of mercury, or, approximately, a pressure of 12 pounds to the square inch. Immediately below the air tube above described is a check-valve, to prevent the inflow of air, and the consequent destruction of the vacuum, until such time as the engineer desires to release his brakes. He does this by means of another valve, called the release valve, the handle of which is placed in near proximity to that which controls the admission of steam. These three valves—the steam, release, and check valves—are the only moving parts of the ejector, the two former only requiring to be operated by hand, and it is therefore a very simple piece of mechanism, and not likely to get out of order. The diaphragm is made of rubber, suitably strengthened by cloth insertion, and moulded to proper shape. It is clamped by the edges to the diaphragm shell. The latter is of cast iron and approaches a hemisphere in shape, over the open side of which the rubber diaphragm is fastened. The air being exhausted from this shell, the diaphragm will be pressed in with a force proportionate to the area of the diaphragm. The Eames diaphragm is furnished in different sizes, according to the service required, for light or heavy cars, and varying in area from 180 to 500 square inches. The diaphragm shell is preferably fastened to the truck of the car, its proportionately large area and short stroke peculiarly fitting it for this place. The diaphragm has an eye-bolt attached to its centre, by which motion is communicated to the brake lever. For connecting the ends of the air pipes between the cars, rubber suction hose is used, each piece of hose being provided with a coupling of peculiar construction, also an invention of Mr. Eames. The two halves of this coupling are exactly alike, and consequently any single half coupling will couple with any other one. The coupling is provided with a valve which closes automatically in case of the separation of the train, thus making such portion of the train as may be still attached to the locomotive as fully under control of the engineer as before the separation. The first railroad fitted with the Eames brake was the Callao, Lima, and Oroya, of Peru, S. A., which crosses the Andes at an elevation of 15,645 feet above the sea. The grade averages nearly 3½ feet in every hundred, and in some places is 4½ feet. The requirements of a train brake were therefore very severe. The Eames brake was applied on this road in 1876, and has since been constantly in use there. At a trial made on that road in August, 1876, a train consisting of locomotive, tender, and three cars, moving down a grade of four feet in a hundred, at the rate of 20 miles per hour, was stopped in 17 seconds' time and 380 feet distance after the brakes were applied. The elevated railroads of New York city are entirely equipped with the Eames brake, it having been found to best answer the requirements. The service is very severe, the number of stops made by all the engines in a month aggregating more than a million. The Eames brake has also been applied to horse, cable, and electric cars. It is slower in action than the pressure brake, but has compensating advantages, and is largely used in foreign countries. The Westinghouse brake is almost universally used in the U. S., and to a large extent abroad. The Westinghouse quick-acting freight train brake, perfected in 1887, will stop a 50 car train in 320 to 350 feet. Passenger trains moving 40 m. an hour can be stopped in 600 feet, and those of 60 m. an hour in from 900 to 1,000 feet. By a law of the U. S., passed in 1893, power brakes and automatic couplers are required for freight cars. Brakes are applied not only to the wheels of the cars, but also to the driving and tender wheels of locomotives and sometimes to those of the engine trucks. In addition to air power, brakes to operate by steam, hydraulic power, weights, springs, and electricity have been invented, but the air-brake still continues the one chiefly used.

Air'lie, EARLS OF, Barons Ogilvy of Airlie (1491), Barons Ogilvy of Alyth and Lintrathen (1639, in the Scotch peerage), a prominent family of Great Britain. The first earl of Airlie was created in 1639.—DAVID GRAHAM DRUMOND OGILVY, the tenth earl, was born May 4, 1826, and succeeded his father in 1849.

Aiza'ni, an an ancient town of Asia Minor, now in ruins. Among its ruins, the theatre, with accommodations for over 12,000 spectators, is in a fine state of preservation.

Ak'su (*ahk-soo'*), a town of Central Asia, in Chinese Turkestan, near the S. base of the Thian-Shan Mts., 260 m. N. E. of Yarkand. It is a leading commercial entrepôt between Russia, China, and Tartary, and the headquarters of a Chinese military dept. *Pop.* about 30,000.

Alabama Claims, (The.) (*Am. Hist.*) Under this title, an international dispute involving questions of the gravest political importance sprung into existence after the close of the Civil War in 1865, between this country and Great Britain; and remained as a source of growing irritation until 1872, in which year it was satisfactorily set at rest by the decision of arbitrators assembled in conference at Geneva, as will be seen later on. The name "Alabama" was adopted to denominate certain claims advanced by the U. S. govt. against Great Britain, for indemnification of American citizens for marine losses caused by Confederate cruisers during the war aforesaid, several of which were built and equipped in England, including the notorious privateer *Alabama*, and, from the depredations committed by the latter upon American commerce having been the most serious in extent, her name became accordingly attached to the issues which had arisen out of the proceedings of herself and consorts. The "Alabama" was a screw steam-sloop of 1,040 tons register, built by Messrs. Laird of Birkenhead, Eng., for the Confederate govt. Constructed of wood, and adapted more for speed than durability, she was bark-rigged, fitted with two engines of 350 horse-power each, and pierced for 12 guns, having besides carrying capacity for two heavy pivot-guns amidships. Her cost, inclusive of her equipment, was $258,580. At the time of her launching she had not been christened, (being known as "290," the builders' number,) neither was her destination known, although it was suspected by the agents of the United States in England. In June, 1862, Capt. Semmes of the Confederate navy,—who had previously commanded the "Sumter," a vessel condemned at Gibraltar as unseaworthy,—arrived to take charge; and, on the 31st July, despite an effort made by the American minister to detain her, the "Alabama" put to sea. Arriving at Terceira, in the Azores, on the 13th Aug., she there was joined by Capt. Semmes and his officers, the former of whom there produced his commission, gave the vessel her afterwards notorious name, and hoisted the Confederate flag, after having previously received by means of a ship from London, which also joined her there, her armament, munitions of war, and stores, together with a supply of coal. Her crew consisted of

30 men, all told, and her armament of eight 32-pounders. Proceeding to sea again, the "Alabama" made her first capture on Sept. 5th, and within the space of eleven days following, had destroyed quite a number of American merchantmen. Failing, through want of coal, to make of New York harbor a cruising-station, Semmes' next exploit was the overhauling of the mail-steamer "Ariel," plying between Aspinwall and New York, on which occasion he captured a number of U. S. officers on board, along with 140 marines. Releasing the "Ariel" after exacting a heavy bond from her, payable on the conclusion of the war, the "Alabama," on Jan. 11, 1863, while cruising off Galveston, encountered and sunk the U. S. gunboat "Hatteras." After capturing in all 65 vessels, and destroying American property to the estimated amount of $4,000,000, she cruised in the Indian Ocean, and returned thence to Europe, where, on June 11, 1864, she entered the French port of Cherbourg, in order to refit. While lying there, the U. S. steam corvette "Kearsarge," Capt. Winslow, made her appearance, upon which the "Alabama" challenged her to an action in the roads. The "Kearsarge" overmatched her adversary in respect of crew, armament, speed, and general fighting condition, besides being protected amidships by chain-armor. On the 19th, the two ships met, and a naval duel immediately commenced, which, after the lapse of an hour, ended in the sinking of the "Alabama" by her antagonist, her officers and crew being rescued from drowning in part by the boats of the "Kearsarge," and the rest by an English yacht which had witnessed the whole affair. Among the latter was Captain Semmes himself, the English yachtsman refusing to deliver up those whom he had saved, and whom he hastened to place under neutral protection. The career of the "Alabama," and of the "Florida," "Shenandoah," and other vessels, built and equipped in England, had the effect of almost annihilating the mercantile marine of the U. States, so that by the consequent transfer of the American carrying-trade to bottoms under foreign flags, and the enhanced premiums of insurance demanded on war-risks, that country's commercial losses had been proportionably great, and the feeling of irritation against Great Britain for having afforded such succors to the South, accordingly became deep and universal. Then followed a diplomatic correspondence between the American and British govts., introductory to negotiations entered into for a settlement of the claims preferred by the former, and resulting in a treaty formed in 1868, by the U. S. minister at St. James', Hon. Reverdy Johnson, for the adjustment of outstanding differences. This treaty, however, proved entirely unsatisfactory to the govt. of the U. States, and it was ultimately rejected by the Senate. After this, the "Alabama Question" remained in abeyance till 1871, when, on Feb. 27, a Joint High Commission, composed of an equal number of members, representing the two countries at issue, met at Washington, with the object of agreeing upon and establishing a basis for the complete adjustment of these international differences. On the 8th of May following, a treaty was signed, by the tenor of which England admitted her liability to a certain extent, leaving only the amount of damages to be arrived at, and which it was agreed to refer for settlement to arbitrators respectively appointed by the Brazilian, Italian, Swiss, American, and British governments, their award to be final. Accordingly, this court of arbitration commenced its sittings at Geneva early in 1872, and continued its sessions, with occasional intermissions, until September, on the 14th of which month the Tribunal of Arbitration published its award, an abstract of which is as follows:

That in the case of the "Alabama," Great Britain failed to use due diligence in the fulfilment of her duties of neutrality. Ayes, 4; Noes, 1.

That with respect to the "Oreto," or "Florida," the same decision applied. Ayes, 4; Noes, 1.

That Great Britain had not failed in her international obligations as regarded the "Shenandoah" prior to her entry into the port of Melbourne. Unanimous. But that she had made herself responsible for the vessel's acts after her departure from that port on Feb. 18th, 1865. Ayes, 3; Noes, 2.

That in the cases of the "Tuscaloosa," the "Clarence," and the "Tacony," aiders or tenders to the "Alabama" and "Florida," the same decision is applied as in the cases of their principals.

That as related to the privateer "Retribution," England was absolved of all responsibility for that vessel's acts. Ayes, 3; Noes, 2.

That in reference to the "Georgia," "Sumter," "Nashville," "Tallahassee," and "Chickamauga," the Court was unanimously of opinion that Great Britain had not failed in her duties as prescribed by international law.

Such is a *resumé* of the disposal of the cases brought under the jurisdiction of the Arbitrators, and it remains only to be stated that a sum in gross amounting to $15,500,000 (gold) was awarded as the indemnity to be paid by Great Britain in full satisfaction of all claims preferred by the American govt., the Arbitrators rejecting as inadmissible certain claims for compensation for indirect damages and prospective injuries arising in connection with the matter of the "Alabama" and her sister privateers.

Al'abaster, in *Michigan*, a township of Iosco county.

Alacul'sa, in *Georgia*, a district of Murray county.

Aladin, (*ah-lăd'in,*) in *Pennsylvania*, a village of Armstrong co.

Alaiedon (*ah-la'e-dŏn*), in *Michigan*, a township of Ingham co.

Alamosita (*ăl-ah-mo-se'tah*), in *New Mexico*, a township of Socorro co.

Alba (*ăl'bah*), [anc. *Alba Pompeia*], an ancient city of N. Italy, prov. Cuneo, on the Tanaro, 31 m. N. E. of Turin. It has an extensive trade in agricultural products and cattle. *Pop.* (1895) about 9,000.

Albacete (*ăl-bah-sa'ta*), a S. E. Prov. of Spain, in Murcia. *Area*, 5,966 sq. m. Its surface is generally mountainous, but is diversified with fine plains and fertile valleys, highly productive of grain, wine, hemp, tobacco, saffron, and fruits. Cattle-rearing is largely engaged in. *Cap.* Albacete. *Pop.* 221,444.—ALBACETE, a manuf. town, cap. of above prov., 138 m. S. E. of Madrid, is a well built place, and carries on a considerable trade. *Pop.* (1895) 12,531.

Albani, the stage name of Marie Emma La Junesse, a famous soprano singer, b. at Chambly, near Montreal, in 1851, removed to Albany in 1864, and made her *début* as an opera singer at Messina in 1870 under a pseudonym taken from the name of Albany. She made a great success in the character of *Mignon* at Florence in 1872, sang throughout Europe, and made a tour of the U. S. in 1883. Married Ernest Gye, the operatic manager, in 1878. One of her favorite rôle is *Senta* in "The Flying Dutchman."

Al'bany, in *Minnesota*, a township of Stearns co.

Al'bee, in *Michigan*, a township of Saginaw co.

Albert, FRIEDRICH RODOLPH, ARCHDUKE OF AUSTRIA, b. Aug. 3, 1817, was the son of the late Archduke Charles by his wife, Princess Henrietta of Nassau-Weilburg. He married in 1844, and was the father of two daughters. At an early age he entered the army, commanded a division in Italy in 1840, took an important part in the battle of Novara, received at the end of the campaign the command of the 3d *corps d'armée*, and was afterwards appointed Governor-General of Hungary. During a leave of absence awarded to Field Marshal Benedek, in 1851, he was appointed to the command of the Austrian troops in Lombardy and Venetia. In the campaign of 1866, he gained a victory over the Italian army at Custozza, and, after the battle of Sadowa, was made (July 13, 1866), Commander-in-Chief of the Austrian army, which office he retained till March, 1869, when he exchanged it for that of Inspector-General of the Army. He published, in 1869, a work on "Responsibility in War." D. Feb. 18, 1895.

Alber'ta, one of the four districts into which the British N. W. Territory of Canada was divided in 1882. It lies E. of the Rocky Mountains and N. of the U. S. boundary, and is bounded E. by Assiniboia and Saskatchewan, N. by Athabasca, and W. by British Columbia. *Area*, 106,500 sq. m. *Pop.* (1891) 25,277. *A.* consists of great plains, which gradually rise westward to the elevation of 2,000 to 4,000 feet, and culminate in the Rocky Mountain ridge—here not very high. The country is very cold in winter, and is subject to blizzard and chinook winds. Its principal industry is grazing, the stock needing to be fed and housed in winter. Chief towns: Edmonton, Lethbridge, and Banff. The last named is a health resort at the foot of the mountains.

Albert Edward Nyanza, an African lake, one of the sources of the Nile, discovered by Stanley in 1876. It lies in Lat. 1° S., Long. 30° E., about 100 m. N. W. of Victoria Nyanza, and is about 40 m. broad, and crescent shaped, being 50 m. from point to point. It drains, by the Semliki river into the Albert Nyanza, the Ruzenwori Mountains, 18,000 feet high, lying between. These Stanley believes to be the ancient "Mountains of the Moon."

Al'bert Nyanza (*ne-ahn'zah*), a large lake of E. Central Africa, and one of the basins of the Nile, 80 m. W. of the Victoria Nyanza, was discovered by the English explorer, Sir S. W. Baker, in 1864. It lies bet. N. Lat. 45° and 2° S. Lat., and is thus crossed by the equator. Its length is 300 m., and its maximum breadth 92 m. It stands at an elevation of 2,720 ft. above sea-level, is very deep towards the centre, and is skirted on the E. by precipitous cliffs rising into mountain peaks, varying from 5,000 to 10,000 ft. in height. The N. and W. sides of this lake are hemmed in by a high range known as the Blue Mountains, culminating in summits some 7,000 ft. in elevation. The scenery around the *A. N.* is of a most picturesque character, and the lake itself receives the surplus rain-fall of a great equatorial mountain by range. It connects with the Lake Victoria Nyanza Somerset river, Murchison Falls lying between the two.

Albina, in *Oregon*, a former city of Multnomah co., on Willamette river, opposite Portland, with which it was consolidated in 1891. *Pop.* (1890) 5,129.

Al'bine, in *Minnesota*, a township of Brown county.

Al'bolite, *n.* An artificial stone, or cement, used for fireproof coating, ornamental mouldings, &c. *Comp.*, calcined magnesite mixed with infusorial earth and chloride of magnesium.

Albostan (*ăl-bo-stahn'*), a town of Turkey in Asia, pashalic, and 39 m. N.N.E. of Marash; *pop.* 10,000.

Al'bright's, in *North Carolina*, a township of Alamance county.

Al'bronze, *n.* (*Metallur.*) [Contr. of *Aluminium* bronze.] An alloy of aluminium and copper, of very durable character, which is used for telescope bearings, &c.

Albuminuria (*ăl-bu-mĭn-ū're-ah*), [From Eng. *albumin*, and Gr. *ouron*, urine. (*Path.*) A disease of the urinary organs, characterized by the presence of albumen in the urine, and indicated by its coagulation on the application of adequate heat. It is generally attended with ulceration or fatty degeneration of the kidneys. It is regarded as a very dangerous disease.

Alcohol.—*Continued from* SEC. I.

In addition to ordinary or ethyl alcohol there is a large class of bodies to which the term *alcohols* is applied, from their resemblance, in certain chemical reactions, to ordinary *A.* These are all compounds of carbon, hydrogen and oxygen, and bear a certain relation to ethyl alcohol in chemical composition. Many of them are produced along with ordinary *A.*, in the process of fermentation. Of these may be named amylic alcohol (fusel oil) and butyric alcohol. They are chiefly characterized by producing neutral bodies, called ethers, when heated with acids, water being also produced. This numerous class of bodies is divided into monatomic and polyatomic alcohols, which are also classed, in accordance with their behavior on oxidation, into primary, secondary, and tertiary. These distinctions, however, are too intricate to be dealt with here. Monatomic alcohols (which includes ordinary alcohol) are more abundant than the polyatomic, and are divided into several series, of which the most important are those whose radical is of the same type as that of ethyl or ordinary alcohol (as methyl, CH_3; ethyl, C_2H_5; propyl, C_3H_7, &c.; each increasing by the addition of CH_2). Of these substances the most important commercially is methyl (or wood) alcohol, which is obtained as a by-product in the manufacture of sugar and also by the dry distillation of wood. The ordinary wood spirit is a limpid liquid, having an unpleasant smell, and not adapted to serve the purpose of a beverage, though it has a somewhat wide use in the arts. It is used by cabinet makers as a solvent for varnishes, to burn in lamps, and for various other purposes. Its comparative cheapness has caused it to replace ordinary *A.* in cases where the latter would be the better adapted; and it is, in consequence, manufactured at present on a large scale in the United States.

Alcoholic'ity, *n.* [Fr. *alcohol.*] The condition of containing alcohol; the quality of being alcoholic; the the degree of alcoholic strength, as, the *A.* of a beverage.

Al'coholism, *n.* A term applied to the series of morbid phenomena arising from the use of alcoholic liquors. These differ if the trouble is due to a large quantity taken at one time, or to smaller quantities taken habitually, the former being termed Acute, the latter Chronic Alcoholism. Acute *A.* includes rapid catarrh of the alimentary mucous membrane, swift coma, and some cases of delirium tremens and of acute insanity. Chronic *A.* yields prolonged congestions, most cases of delirium tremens, tissue degeneration in the various organs, and other disorders.

Alcoide'æ, *n. pl.* (*Ornith.*) A species of marine birds, which embraces the loon and auk families.

Alcorno'que, *n.* [*Span.*] (*Bot.*) The bark of a South American tree, once thought to be useful as a remedy for pulmonary consumption; also, the bark of the cork-tree, or *Quercus suber.*

Al'cott, AMOS BRONSON, an educator and philosopher of generous culture and wide reputation, father of Louisa M. *A.* His *Concord Days* is a work of personal reminiscences. Born in 1799; died in 1888.

Al'cott, LOUISA MAY, authoress of *Little Women* (1867), *An Old Fashioned Girl* (1870), *Little Men* (1871), *Aunt Jo's Scrap-Bag* (1872), *Work* (1873), &c. B. 1832; d. 1888.

Al'cott, WILLIAM A., an American social and educational reformer, born in Conn., 1798, co-edited the *Annals of Education*, and wrote much on matters of domestic economy, educational progress, &c. Died in 1859.

Alcyon'iform, *a.* [Fr. *alkyŏn*, the kingfisher.] Resembling the kingfisher either in form or appearance.

Al'dehyde, *n.* (*Chem.*) The *vinic* or *acetic aldehyde* may be recognized by its peculiar acrid odor, which affects the eyes, as well as by its volatility and inflammability. It absorbs oxygen from air even at the ordinary temperature, and is gradually converted into acetic acid. Its attraction for oxygen enables it readily to reduce the salts of silver to the metallic state, a property which has been utilized for silvering the inner part of glass vessels. A dissolution of nitrate of silver with the addition of some ammoniac is poured in the vessel to be silvered, some drops of aldehyde are afterwards added, and the mixture then stirred. The nitrate of silver is decomposed, and the metal deposits itself on the glass, in a continuous and bright layer.

Al'den, in *Minnesota*, a township of Freeborn co.

Al'den, JAMES, a rear-admiral in the U. S. Navy, was born at Portland, Me., Mar. 31, 1810, and entered the navy as a midshipman in 1828. He was actively engaged during the Civil War in the passage of the Mississippi forts and capture of New Orleans; in the passage of Vicksburg; as commander of the *Brooklyn* in the Mobile Bay engagement, and in both the battles at Fort Fisher. He was appointed chief of the Bureau of Navigation in 1869, and commander of the European station in 1871. Retired from active service in 1873, and died at San Francisco Feb. 6, 1877.

Al'den, JOHN (*awl'dn*), one of the "Pilgrim Fathers," was one of the earliest settlers at Plymouth, Mass. He figures as a conspicuous character in Longfellow's fine poem, *Miles Standish's Courtship.* Died in 1687.

Al'dol, *n.* (*Chem.*) A bitter, transparent liquid derived from aldehyde by the process of polymerization. *Form.*, $C_4H_8O_2$.

Aldox'im, *n.* (*Chem.*) One of the derivatives of ethyl aldehyde; a clear liquid having the formula C_2H_5NO.

Al'drich, THOMAS BAILEY, an American poet, born at Portsmouth, N. H., 1836; been connected with *The Atlantic* and several other periodicals; author of *The Bells, Course of True Love, Marjorie Daw*, &c.

Alec'ithal, *a.* A term used in Embryology to denote the absence of yolk food, or its scanty and imperfect

distribution; it is descriptive of certain ova,—of or pertaining to ova of that description.

Alep'po e'vil, *n.* (*Path.*) A sort of virulent carbuncle or ulcer, often of syphilitic character, which affects both man and beast; so called because of its alleged origin on the borders of the Mediterranean, where it is said to be more prevalent than elsewhere.

Alexander, ARCHIBALD, an American Presbyterian clergyman, b 1772. Author of *Outlines of the Evidences of Christianity, Treatise on the Canons of the Old and New Testament, Hist. of the Patriarchs, Essays on Religious Experience, Hist. of the Israelitish Nation, "Moral Science,"* &c. D. 1851.—II. JAMES WADDEL, son of the above, b. 1804, author of *Discourses on Christian Faith and Practice*, &c., editor of the Presbyterian newspaper, Professor of Ecclesiastical History at Princeton, N. J. D. 1859.—III. JOSEPH ADDISON, brother of the preceding, b. 1809, Professor of Biblical Criticism and Ecclesiastical History at Princeton, author of *The Psalms Translated and Explained, The Prophecies of Isaiah*, &c. D. 1860.

Alexander, STEPHEN, an American astronomer, b. at Schenectady, N. Y., 1806; graduated from Union Coll., 1824; entered Princeton Theological Seminary, N. J., 1832; in 1834, elected Adj. Prof. of Mathematics; and in 1877, Prof. of Astronomy; at the time of his D. in 1883, was Emeritus Professor. He has published numerous papers on Astronomy, Mathematics, Physics, &c., which have attracted the attention of eminent astronomers in Europe and America. Among these may be mentioned: *Physical Phenomena Attendant upon Solar Eclipses, Fundamental Principle of Mathematics, On the Origin of the Forms and the Present Condition of some of the Clusters of Stars,* and *Harmonies in the Arrangement of the Solar System which seem to be Confirmatory of the Nebular Theory of La Place.* Died June 6, 1883.

Alex'ia, *n.* [Gr. *a*, priv., *legō*, speak.] (*Pathol.*) Word-blindness, or an unnatural inability to read written or printed words correctly, said to be due to a morbid state of the visual nerve centers.

Alex'in, *n.* [Gr. *alexō*, to read off.] (*Histol.*) An albuminous element in certain fluids, which possesses the power of weakening, destroying, or neutralizing pathogenic germs.

Aleze', *n.* (*Surg.*) A sheet composed of cotton or linen, or of some waterproof material, employed in surgical operations to receive the bloody discharges, to support an injured member, or to control an unruly patient.

Alfal'fa, *n.* (*Bot.*) The Spanish name used in California for lucerne (*q.v.*), a leguminous forage plant much prized in that and other States of the West and South.

Al'ger, RUSSELL ALEXANDER, born at Lafayette, O., Feb. 27, 1836, admitted to the bar 1859, and entered the Union army as a private on the outbreak of the war. He rose to the rank of brevet major-general of volunteers in 1865. He subsequently engaged in the lumber business in Michigan, and was governor of that State 1885–87. In 1889 he was elected commander-in-chief of the Grand Army of the Republic, and in 1897 became Secretary of War in President McKinley's Cabinet.

Al'ger, WILLIAM ROUNSEVILLE, an American divine and author, born in Freetown, Mass., 1823, educated at Harvard Coll. and Cambridge Divinity School, and entered the ministry as a Unitarian preacher. He is regarded as belonging to the advanced or radical wing of that denomination, and possessing considerable oratorical ability, his public services draw large congregations. Mr. Alger is, however, best known as an author: his works having all been of a character which indicated extensive scholarship and laborious research. He has published *Symbolic History of the Cross of Christ, Oriental Poetry, History of the Doctrine of a Future Life,* and *The Solitudes of Nature and of Man, or the Loneliness of Human Life* (1867).

Algo'ma, a district of Ontario, Canada, which formerly occupied the entire northwestern extremity of that country, from about 81° W., but now extends only to 85° W. lon. It reaches from the North Channel, Lake Huron, to Albany river on the N. It is a well wooded country, rich in minerals but very sparsely inhabited.

Algonkian Period (*Geol.*). An American geological period coming between the Archæan and the Cambrian. It is almost anterior to the fossil period, though some obscure fossils resembling worm tracks have been found in its rocks, while there are abundant carbonaceous and calcareous deposits of possible organic origin. As the succeeding Cambrian contains fossils of somewhat advanced structure, it is not improbable that Algonkian faunas may yet be found. The *A.* rocks are many thousands of feet in thickness, and are divided into several unconformable series, some consisting of unchanged sedimentary rocks, others of rocks which have been much changed by the action of heat and pressure. *A.* rocks are most abundant in the Lake Superior region, where they have a total thickness of 42,000 feet. They also occupy large areas in Canada, and occur in many localities in the U. S. and Europe.

Aliz'arin, *n.* (*Chem.*) The coloring matter of madder. It was discovered in 1824 by Robiquet and Colin, by treating madder with strong sulphuric acid, and is largely used by calico printers in the form of a yellowish-brown paste, which is known as "madder extract:" also in the form of a dry power. Compounds of *A.* with metallic bases yield turkey-red, madder-pink, and the various shades of purple and chocolate on calico.—*Artificial Alizarin.* In 1869 an important chemical triumph was attained in the production, by Grache and Lieberman, of artificial alizarin. This was performed by a series of chemical processes having as their base anthracene, which can be abundantly produced from the refuse coal-tar of gas works, and which was changed, by this result, from the rank of a chemical curiosity to an article of commerce. By combining *A.* with several chemical compounds a number of new dyestuffs have been produced, including alizarin carmine, orange, and blue. Madder was formerly largely cultivated in Holland, Alsace, Italy, and the Levant, its annual consumption exceeding $10,000,000 in value. It yielded in addition to *A.*, alcohol and sugar. Its production has been greatly decreased through the important discovery named.

Al'len, ELIZABETH AKERS, a poet, born at Strong, Me., Oct. 9, 1832. Her maiden name was Elizabeth Chase; she married the sculptor Akers, and afterwards E. M. Allen, of New York. Her poems were published under the pseudonym of "Florence Perry." She has published several volumes of poetry, and contributed much to periodical literature, her most popular production being the song entitled *Rock me to Sleep, Mother.*

Al'len, HARRISON, M.D., b. in Philadelphia, Pa., April 17, 1841; graduated at the University of Pennsylvania in 1861, and was in the U. S. service as assistant surgeon 1862–65. From 1865 to 1868 he was professor of Comparative Anatomy in the University of Pennsylvania, and afterward Professor of Physiology in the same institution. He has also filled the chair of Anatomy and Surgery in the Philadelphia Dental College, and has served as surgeon in the Philadelphia Hospital. He has now retired to private practice, and has recently given much attention to the study of crania. He has published *Outlines of Comparative Anatomy* (1867); *System of Human Anatomy* (1880); and numerous papers on mammalian anatomy. Died Nov. 14, 1897.

Al'len, HORATIO, was born at Schenectady, N. Y., 1802, graduated at Columbia College in 1823, and adopted the profession of civil engineer. In 1828 he went to England to purchase locomotives for the Del. and Hud. Canal Co., and in 1829 operated at Honesdale, Pa., the "Stourbridge Lion," the first locomotive ever run in America. He served successively as chief engineer of the South Carolina Railroad, assistant engineer of the Croton Aqueduct, and president of the N. Y. and Erie R. R. During 1872–73 he was president of the American Society of Civil Engineers. D. Dec. 31, 1889.

Al'len, JEROME, Ph. D., born at Westminster West, Vt., July 17, 1830; educated at Amherst College, and served from 1853 to 1889 as professor in various institutions of learning. In 1889 he was appointed Professor of Pedagogy in the University of New York. Author of a number of useful school books. D. May 26, 1894.

Al'len, JOEL ASAPH, born at Springfield, Mass., July 19, 1838, studied geology in the Lawrence Scientific School, Cambridge, in 1862, and from 1865–69 was a member of various scientific expeditions to the Rocky Mountains, Florida, and Brazil, on the results of which he published a series of papers. In 1873 he was chief of a scientific party which accompanied the Northern Pacific R. R. surveying expedition, and published a report on the natural history of this region. In 1870 he was made assistant in Ornithology at the Museum of Comparative Zoölogy, Cambridge. He prepared monographs of North American rodents and pinniped crabs, and became editor of the *Auk.*

Al'len, WILLIAM, an American divine, b. in Mass. 1784, filled the presidential chair at Bowdoin Coll., 1820–39; and s. Dr. Channing in the regency of that of Harvard. As a writer he is best known by his *American Biographical Dictionary* (1809, 3d ed., 1857). D. 1868.

Allen, in *Ark.*, a twp. of Pope co.; in *Ills.* a twp. of McLean co.; in *Mo.*, a twp. of Worth co.; in *W. Va.*, a twp. of Morgan co.

Allen's, in *Ala.*, a twp. of Winston co.; in *Ga.*, a district of Walton co.; in *Ky.*, a precinct of Clay co.—A twp. of Floyd co.

Allen's, in *Tennessee*, a township of Haywood co.—A township of Sumner co.

Allen's, in *Texas*, a township of Panola co.

Allen's Factory, in *Alabama*, a township of Marion co.

Allen's Grove, in *Illinois*, a township of Mason co.

Al'lensville, in *North Carolina*, a township of Person co.

Al'leytown, in *Texas*, a township of Colorado county.

Allibone, SAMUEL AUSTIN, (*ăl'lebōn,*) an American literateur, b. in Philadelphia, 1816; has based his reputation on a very excellent *Critical Dictionary of English Literature and British and American Authors* (Phila., 1858); the 2d volume was issued in 1868, and the 3d in 1871.; also author of *Poetical Quotations, Great Authors of all Ages*, &c. D. 1889.

Al'ligator, in *North Carolina*, a township of Tyrrell co.

Alligator, in *South Carolina*, a township of Chesterfield co.

Al'lingham, WILLIAM, poet, journalist and playwright, born at Ballyshannon, Ireland, in 1828. He was at one time editor of *Fraser's Magazine*, and published several volumes of poetry, including *Day and Night Songs, The Music Master*, &c. His most popular pieces are *Mary Donnelly* and *The Fairies.*

Al'lison, WILLIAM B., born at Perry, O., Mar. 2, 1829; educated at the Western Reserve College, O.; studied law, and practiced till the beginning of the war, when he served on the staff of the Governor of Iowa in organizing volunteers. Was elected to Congress during the war, and served as Representative for four terms. In 1873 he was elected a Republican member of the U. S. Senate, in which he has since remained. In 1892 he was a delegate from the U. S. to the International Monetary Congress at Brussels.

Al'lison, in *Illinois*, a township of Lawrence county.

Al'lison, in *Kentucky*, a precinct of Hardin county.

Al'lison's Mills, in *Alabama*, a township of Jackson county.

Al'lisonville, in *Indiana*, a village of Marion county.

Alloys. (*Chem.*) At the present time the number of alloys in use are very large, and new and important combinations are being constantly discovered. The metals most in use are, excluding platinum, eleven in number. They may be divided into 5 classes, according to their physical properties:

Metals.	Hardness.	Melting-point.	Tenacity in proportional numb.	Specific Gravity.
I.—*Brittle Metals.*				
ANTIMONY.	Scratched by glass.	A little above red heat.		6·76
ARSENIC.	.....	Volatilizes below red heat.	Almost nil.	——
Bismuth.	Scratched by carbon. of lime.	256° C.		9·82
II.—*Intermediary Metal.*				
ZINC.	Scratched by glass.	370° C.	4·9	7·
III.—*Ductile Metals.*				
IRON.	Scratched by glass.	130° Wedgw. Pyrometer.	24·	7·78
GOLD.	Scratched by carbon. of lime.	32°	6·80	19·25
COPPER.	.....	27°	13·	8·89
SILVER.	.....	20°	8·5	10·47
IV.—*Soft Metals.*				
LEAD.	Scratched by the finger-nail.	322° C.	1·	11·35
TIN.	Scratched by carbon. of lime.	210° C.	1·50	7·29
V.—*Liquid Metal.*				
Mercury.				13·56

ALLOYS OF METALS WITH THE BRITTLE METALS.

With	Arsenic.	Antimony.	Bismuth.
ZINC.	Difficult of preparation. Very brittle. Of little interest.	Very brittle. Steel-gray. Hard and very combustible.	Unknown.
IRON.	Whitening, hardening, and rendering it susceptible of a fine polish. Much used for steel ornaments.	70 of antimony and 30 of iron are somewhat fusible. Very hard and white. An alloy of 2 of iron and 1 of antimony more hard.	Doubtful.
GOLD.	Gray metal. Very brilliant.	Antimony has a great affinity for gold; the slightest fumes of it are sufficient to alter the ductility of that metal. The alloys are pale-yellow, with a fracture like that of porcelain.	Similar to that of antimony. Of a yellow-green color.
COPPER.	62 parts of copper and 57 of arsenic. A gray, brilliant, brittle metal. Fusible at red heat. By increasing the quantity of copper it becomes white and somewhat ductile. Used in making buttons, under the name of white copper or tombac.	Rapid combination by the fusion of the two metals. The alloys are brittle. Those formed with equal parts of the two metals are of a beautiful violet color.	Alloys brittle. Pale red color.
SILVER.	85 parts of silver and 14 of arsenic. Grayish-white brittle metal. Takes a high polish.	Have a very great affinity. Alloys always brittle.	Alloys brittle and lamellated. Rather white in color.
LEAD.	Arsenic renders lead brittle. The combinations are grayish-white. Not decomposed by heat, proving close atomic combination.	Antimony gives hardness to lead. 76 parts of lead and 24 parts of antimony appear the point of saturation of the two metals. Very much harder than lead. When the proportions of antimony are increased, the alloy becomes very brittle.	The alloys of bismuth and lead are less brittle and more ductile than those with antimony, but less hard also. 3 of lead and 2 of bismuth has a color intermediary between tin and lead. It is very ductile. Very fusible.
TIN.	Gray, lamellated. Less fusible than tin.	The alloys of antimony and tin are as white as tin, much harder, and less ductile. They become brittle when the arsenic is in a large proportion. The alloy formed by 80 parts of tin and 20 of antimony may be made into plates sufficiently hard to engrave music upon.	Tin and bismuth unite easily in all proportions by fusion. The alloys are harder and more fusible than either of the two separate metals.
MERCURY.	Without interest.	Without interest. A white gritty metal.	Mercury dissolves a large quantity of bismuth without losing its fluidity. The alloy of 1 of bismuth and 4 of mercury very fusible.

	Copp'r.	Zinc.	Tin.
Antique bronze sword.	87·000	.....	13·000
Bronze for Statues	91·400	5·530	1 700
" for Medals	90·000	.....	10 000
" for Cannon	90·000	.....	10·000
" for Gilding	82·257	17·481	0·238
Speculum Metal	66·000	.....	33·000
Brass for Sheet	84·700	15·300	.....
Gilding-Metal	73·730	27·270	.....
Pinchbeck	80·200	20 000	.....
Dutch Metal	84·700	15·300	.....
English Wire	70·290	29·260	0·17
Mosaic Gold	66·000	33 000	.....
Gun-Metal	90·300	9·670	0·03
Muntz's Metal	60·000	40·000	.....
Good Yellow Brass	66·000	33·000	.....
Babbit's Metal for Bushing	8·300	.....	83 00
Bell-Metal for Large Bells	80·000	.....	20 00
Britannia Metal	1·00	2·00	81 00
Nickel Silver (English)	60·000	17·8	.....
" (Parisian)	50·000	13·6	.....
German Silver	50·000	25·0	.....

In addition to the alloys here named and described, an interesting series have somewhat recently come into use, which in some instances are of considerable importance. These are the alloys of aluminium, a metal formerly too costly to be of much use in the arts, but now coming into extensive employment. Of the several alloys of aluminium, those with copper are of most practical importance. Aluminium forms with copper several light, very hard, white alloys, and a yellow alloy closely resembling gold in color, but much lighter in weight. Copper alloyed with 2½ per cent. of aluminium yields an *A.* of a deep red color. As the aluminium is increased, up to 10 or 12 per cent., the color changes, becoming a yellowish gold tint, while the hardness lessens. With more aluminium the product becomes brittle, and the color changes to white. This alloy, known in commerce as aluminium bronze (albronze), has highly useful qualities. The 10 per cent. albronzes have 100,000 lb. tensile strength per sq. inch, an elastic limit of 60,000 lbs., and with at least 10 per cent. elongation in 8 inches. The 5 to 7 per cent. bronzes have 70,000 to 80,000 lb. tensile strength, an elastic limit of over 40,000 lbs., and an elongation of over 30 per cent. in 8 inches. These latter can be rolled and hammered at a red heat, and worked in almost every way that steel can, while they have the advantage of greater combined strength and ductility and are much less subject to corrosion. They form a metal of remarkable rigidity under transverse strain and of excellent anti-friction qualities. Albronze has come into use for field guns and shaft bearings, and its rich gold color makes it useful for watch chains, table plate, carriage mountings, &c. "Silver bronze," containing 18 manganese, 1.20 aluminium, 5 silicon, 13 zinc, and 67.5 copper, is employed as a substitute for German silver. Its tensile strength is large, and its electrical resistance is probably greater than that of any other known material which is capable of being drawn into strong, tough wire for resistance coils. A number of useful alloys can be made by mixing albronzes with nickel in varying proportions. These are very durable, and have a tenacity of 75,000 to 100,000 lbs. to the sq. inch. An addition of a small quantity of aluminium to brass greatly increases its tenacity and resistance to corrosion. An alloy of aluminium and tin is used in optical instruments, and one with silver, called "tiers argent," for spoons and forks. An alloy with chromium is as hard as steel, and one with 70 per cent. of iron is said to be hard enough to scratch glass. In the casting of iron and steel, aluminium is of much value. When added in the proportion of from 2 to 5 lbs. per ton it has the important property of increasing the rapidity with which iron passes from the solid to the liquid state. It is still more important from its beneficial effect on steel castings through its property of quieting the molten steel in pouring. From 5 to 15 oz. are used per ton of steel. The addition of ¼ lb. of aluminium to 10 tons of spelter is also found to improve the surface finish of iron or steel sheets in galvanizing.

All-sided, *a.* Presenting, pertaining to, or developed on, all sides; that may be approached from all sides; as, an *all-sided* controversy. Also, broad-minded; capable of seeing and recognizing all phases of an object or subject; as, an *all-sided* man.—In a bad sense, given to duplicity; attempting to assume various relations of belief or loyalty at once; as, an *all-sided* politician.

Al'ma Ma'ter. [Lat., fostering mother.] A term used by students to designate the college or university where they were educated, or whence they graduated.

Al'ma-Tad'ema, Lawrence R. A., a distinguished painter, born in the Netherlands, 1835, settled in London, 1873. Among his works are *The Emperor Hadrian Visiting a British Pottery* (1884); *The Woman of Amphissa* (1887). He is an officer of the Legion of Honor, and a member of the Academies of Berlin, Munich, Amsterdam, Vienna, Madrid, and Stockholm. His work is marked by archæological correctness and a high order of technical excellence.

Almi'rah, *n.* An East Indian term for a sort of bureau, or case of drawers and closed shelves, used in Indian dwellings. Sometimes spelled *almurah.*

Almucan'tar, *n.* (*Astron.*) A word of Arabic origin, used to denote a circle of the celestial sphere parallel to the horizon, or a parallel of altitude. It has also been applied to an instrument consisting of a telescope mounted on a stand and floating on the surface of mercury, so that, as it is turned, it always points to a fixed altitude. It is of use in testing the equal altitudes of two or more heavenly bodies at given moments.

Al'nager, *n.* Formerly, an English revenue officer, whose duty it was to inspect woolen fabrics, then measured by the ell, for the purpose of computing the legal taxes thereon.

Alo'gia, *n.* [Gr. *a*, priv., *logos*, reason.] (*Pathol.*) Impairment of the power of speech by reason of mental failure or incapacity; a form of aphasia associated with idocy or insanity.

Alope'coid, *a.* [Gr. *alōpēx*, fox, *eidos*, form.] Pertaining to or resembling the fox, and therefore descriptive of a series of canine carnivores in which frontal air sinuses are lacking.

Al'pen-horn, *n.* A long, very sonorous horn, of slightly curved shape, used by cowherds on the Alps. It was formerly used by Swiss soldiers, and also as a musical instrument.

Alpes-Maritimes (*ahlp-măr'e-tēm*), a S.E. dept. of France, bordering upon Italy, and washed on the S. by the waters of the Mediterranean, while on the N. it is bounded by the Alpine chain from which it takes its name. Its surface is generally hilly, but with lovely and fertile valleys interstiched between the spurs of the mountain ranges. *Chief rivers*, the Loup, Paillon, and Var. It has many forests, and pasturage is plentiful; wine, fruit, honey, and tobacco are extensively grown, as the rearing of silk-worms is an object of much attention. *Cap.* Nice. This dept. was formed in 1860 of the ancient co. of Nice, then ceded by Italy to France, and of part of the dept. Var. *Pop.* 1891, 258,571.

Alphand, Jean Charles Adolphe, a civil engineer b. at Grenoble, France, Oct. 26, 1817, entered the Polytechnic School in 1835, and the school of Ponts et Chaussées in 1837. He graduated in 1843, and became an engineer at Bordeaux, whence in 1854 Baron Haussmann called him to Paris, and appointed him chief engineer of the projected improvements of that city. In 1871 President Thiers appointed him director of works in Paris, and in 1878 he was made director of water supply and drainage. During the Franco-Prussian war he was colonel of a corps of engineers, in charge of the works defending the city. The expositions of 1867, 1878, and 1889 were under his direction. In 1882 he was made grand officer of the Legion of Honor, of which he had been a member since 1852. Modern Paris, though designed by Haussman, owes its character to Alphand, who continued his labors of improvement after the overthrow of the empire. Died Dec. 6, 1891.

Alpi-malay'an, *a.* (*Geog.*) An unusual term of recent coinage referring to the entire Eurasian mountain system, which includes the Himalayas as well as the Alps and the Pyrenees.

Al'sike, *n.* [Sw.] (*Bot.*) A forage plant (*Trifolium hybridum*) of considerable value as fodder for cattle or sheep; also called *Alsike clover*, and *Swedish clover.* It has a white flower tinged with pink.

Al'tamont, in *Illinois*, a town of Effingham co., laid out in 1870. It is a grain shipping point and has several manufacturing industries. *Pop.* (1890) 1,044.

Altar-board, *n.* A highly ornamented recess or panel in or upon a church altar, to receive the vessels employed in the eucharistic service.

Altar-fire, *n.* Literally, a fire on an altar; a sacrificial flame. Hence, figuratively, religious fervor, or any other deep sentimental emotion having the essence of devotional zeal.

Alterna'tion of Genera'tion. (*Physiol.*) A term under which it is here proposed to explain in detail the phenomena of non-sexual reproduction generally. This title does not correctly embrace all the phenomena of reproduction without the direct influence of the male, but until a more comprehensive general term be employed, it is certainly most convenient to describe these changes under the present head. It is in the lower animals only that we find the ordinary sexual reproductive process superseded by the non-sexual production of individuals. Even in these the phenomena are comparatively rare. Nevertheless they are by no means accidental, but, as Von Siebold remarks, have a definite position in the history of the development of organic beings, being especially manifested in the Cœlenterata; the cestode and trematode Entozoa, and in certain families of Insecta. Perhaps the true relation of the *direct* and *indirect* processes of generation will be better understood by presenting all the phenomena of development in a tabulated form, as has been done by Prof. Huxley, thus:

Development.	Continous		Growth.
			Metamorphosis.
			Gemmation (without fusion).
	Discontinous (Gemmation with fusion).	Agamogenesis	Metagenesis.
			Parthenogenesis.
		Gamogenesis.	

By gamogenesis is understood "sexual reproduction:" by agamogenesis, the non-sexual process. When the producing individual (or protozooid) has no sexual organs. Prof. Owen's term *metagenesis* may be employed; but when there are sexual organs, and the buds resemble ova, then Prof. Huxley adopts the term *Parthenogenesis* in its restricted sense. The essential nature of the phenomena of alternate generation has been most ably described by Prof. Allen Thomson, of Glasgow, who observes that it consists in this, namely, that in some animals "the body or individual which is developed immediately from the ovum is not, in general, itself the bearer of the sexual organs, but nevertheless maintains for a time an independent existence, or presents the structural and functional characters of a separate or distinct individual, these characters often differing remarkably from those of the sexual individuals from which the ovum derived its origin; and that subsequently this individual, or one or other of its successors, has formed in connection with it, either internally or externally, and without sexual organs, a new progeny, which may consist of one or of many individuals, which have each of them more of the structure and properties of independent animals, and which, however variable their organization may be, present *this* in common, that they are sexually complete and renew the true generative act by the formation of fecundated ova. In some animals it is the immediate offspring of the individual developed from the ovum which resumes the sexual functions; in other animals this offspring bears a second brood, or a third, and even more successive generations, before the return is made to sexual reproduction." Such being a general statement of the facts representing so many links, as it were, in the complicated chain of phenomena of non-sexual reproduction, we now proceed to adduce a selection of illustrations by which this interesting law of alternate generation may be clearly understood. Probably the most practically useful exemplification which can be brought forward, is that which we derive from a consideration of the development of a cestode parasite or Entozoön which, unfortunately, infests the human body. In this view, therefore, we particularly invite attention to the natural history of the common Tape-worm, or *Tænia solium.* The Solitary Tape-worm (so misnamed from the false notion that only one lives in the same person at once), in the full-grown condition, is not, strictly speaking, a creature or animal, but rather a great many creatures attached to one another, so as to form a colony, or, more scientifically, the Strobila. (See Strobila, below.) This colony is usually composed of several hundred joints, and each of these joints represents an individual worm (*proglottis*); those which are nearest to the lower end (or so-called tail of the Tape-worm) being sexually mature. They are indeed hermaphroditic, *i. e.* having both male and female reproductive organs. Those feebly developed joints which form the so-called neck of the worm are imperfect or immature individuals; whilst the little head is nothing more than a single individual (equivalent to a joint or proglottis) irregularly unodified, and furnished with an apparatus by which the strobila or colony is, as it were, securely anchored to the walls of the bowel of the unhappy person which the Tape-worm infests. The man, woman, or child thus infested, or harboring the parasite, is technically said to be the *host*, because he or she entertains its presence. Looking, therefore, at the mature proglottis as the adult individual worm, we have now to consider the manner in which it reproduces itself. After the proglottis (which is furnished with male and female reproductive organs) has undergone impregnation by contact with another proglottis, there results from this the formation of eggs within it, which eggs, whilst still within the body of the parent, develop into embryos, the latter still retaining the egg coverings. At this time the proglottis is about to undergo a passive migration, for having detached itself from the strobila, it is soon expelled from the bowel of the host, and therefore finds its way into some cesspool, or it may be into the open fields. The proglottides move about for a time, but the growth of the multitudes of embryos within causes the proglottis sooner or later to burst, and the embryos thus become dispersed; some are thus conveyed down drains or sewers, others are lodged by the roadsides in ditches and waste places, whilst multitudes are scattered far and near by winds or insects in every conceivable direction. Each embryo is furnished with a special boring apparatus, having at its anterior end three pairs of hooks; the entire group or family, therefore, of any single proglottis is called the "six-hooked brood." After a while, by accident, as it were, a pig comes in the way, either of these embryos or of the proglottides, swallows them along with other matters taken in as food. The embryos, immediately being transferred to the digestive canal, escape from the eggshells and bore their way through the living tissues of the animal, and having lodged themselves in the fatty parts of the flesh, they there rest to await their further transformation or destiny. The animal thus infested becomes measled, and thus it is that we are acquainted with measly pork. In this situation the embryos drop their hooks or boring apparatus, and become transformed into the *Cysticercus cellulosæ.* A portion of this measled meat being eaten by ourselves, either in a raw or imperfectly cooked condition, transfers the Cysticercus to our own alimentary canal, in which situation the Cysticercus attaches itself to the wall of the human intestine, and, having secured

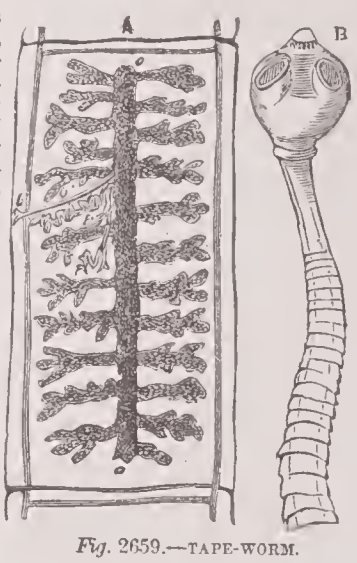


Fig. 2659.—TAPE-WORM.
A, single joint or proglottis; B, head of the colony, or Strobila.

a good anchorage, begins to grow at the lower or caudal extremity, producing numerous joints or buds to form the strobila or Tape-worm colony. Thus the cycle of life-development is completed, and we have a simple alternation of generation in which the immediate product of the proglottis (or sexually mature individual) is a six-hooked brood; by metamorphosis the latter becomes transformed into the Cysticercus, having a head with four suckers, and a double crown of hooks; and by gemmation the latter gives rise to a whole colony (strobila) of individuals, the greater part of which are destined to become sexually mature individuals, or proglottides. It will be observed, therefore, that the product of a single ovum is in the first instance a single non-sexual embryo (or protozooid); in the second phase it becomes a non-sexual Cysticercus (or dentozooid); in the third change it gives off, by budding, numerous gemmules (or tritozooids), most of them destined to be sexually mature individuals, and in this way to resemble their original parents. A more complicated alternation of generation occurs in the Cœlenterata, especially in that division which we call the Hydrozoa. Thus the common zoöphyte *Campanularia* may be taken as an example. Certain polyp-like cells or gonoblastidia (*f*, Fig. 2660) of the polyp colony contain ova (*g*), which latter, after contact with spermatozoa developed from other cells, form ciliated embryos (*i* and *c*). These, having escaped from their gonoblastidium, swim about for a time, and, losing their cilia, ultimately settle down on some weed or rock, where, undergoing a change of form, they sprout upwards to form a young polypidome (or cœnosarc). By a process of gemmation numerous polyp-heads (polypites) are produced, and also at intervals other modified polypites, which are contained in similar capsules or hydrothecæ (*k* and *f'*). Some of these capsules give rise to medusoids (*l*) by a process of budding, and these latter are capable of producing ova by an ordinary sexual process (gamogenesis). Others form the gonoblastidia above mentioned, while the embryonic products of both these modified individuals form new polyp colonies in the way we have just described. If space admitted, we should be glad to enter into minute details of this curiously complicated process, a modification of which is seen in the development of certain Medusæ, such as Chrysaora. From these sexually mature forms Prof. Thomson has described the process as follows: — "The fecundated ova which they produce are first developed into a ciliated moving animalcule (*a* and *b*, Fig. 2660), somewhat like a polygastrican. This creature, after undergoing a slight change of form, fixes itself by the narrowest end, and acquires tentacles like a polyp at the other (*c*, *d*, and *e*), amounting for some time to eight (*f*). In this condition it appears to be capable of multiplying itself, or producing other similar attached polyps by gemmation from its side or base, or from a running stolon below it (*g*). The subsequent change of each of these polypoids is remarkable. It has been described by Sars and Dalyell as follows: — The body undergoing some elongation becomes partially divided by transverse grooves (*h*, *i*) into a range or column of imperfect Medusæ, attached still to each other by their adjacent surfaces, but presenting at their borders, in various degrees of advancement, the division into rays or lobes which belong to the Medusæ, the upper or terminal one having developed upon it a set of radiated processes distinct from the tentacles of the polyp, and much longer than those of the rest (*k*). The young *Medusæ* are successively separated from the stock by the deepening of the transverse clefts between them (*l*). They then move about as independent animals, and proceed in their further growth and development to sexual and other completeness (*m*, *n*). These bodies, therefore, are subject to two kinds of multiplication, which are very different: by simple gemmation a number or a colony of strobilæ may be produced, and by transverse fission and development a number of Medusæ may be thrown off from each strobila." In the Tape-worm colony, as we have seen, the individuals of the strobila attain their sexual maturity while still associated together; but here, in the Medusæ, the Medusæ are very small and immature at the time of their separation. A still more startling modification of the non-sexual process of reproduction is seen in the Plant-lice or Aphides. In these tiny though highly organized insect members of the animal kingdom, whole generations, sometimes eleven in succession, are reproduced from sexual parents, all of them being the product of a single ovum. This is brought about by a process of internal budding in the parents, the extruded viviparous young being developed internally from egg-like bodies, which are not true ova and have never undergone impregnation. The distinguished author above quoted describes the course of the generative process as follows: — "Perfect male and female winged insects are observed only towards the autumn season. These fly about in great quantities; the impregnated females deposit their eggs, covered with a protecting case of mucus, in the axils and other recesses of plants, where they remain during the winter. In spring there are developed from these ova a brood of larvæ, or imperfect female Aphides, which soon produce, by an act of viviparous generation, and without any concurrence of the male sex, a progeny of a similar kind; and this is repeated in successive generations for nine or ten times in the common species, or for ten or twelve weeks during the summer, at the end of which time the last brood brings forth male and perfect female individuals, both of which die after having provided, by the production of fecundated ova, for the continued generation during the next season." In Fig. 2661, *n* shows the spermatozoön fertilizing the ovum (*b*), which gives rise to *d*, the first embryo or viviparous larva. This larva gives origin to eight somewhat differently formed larvæ (*e*), while each one of these in their turn produces eight others, and so on, until the successive progenies are completed; the last giving birth to true sexual individuals, a pair of which are here drawn, *h* being the male and *i* the female. The multitudes of larval Plant-lice thus produced from a single ovum, though not defying calculation on paper, yet almost defy the imagination to conceive. This process, while it constitutes a true parthenogenesis (*q. v.* below), is not only remarkable as occurring in creatures so high in the scale of animal organization, but also on account of the very close resemblance which obtains in the mode of the formation of the young of these viviparous larvæ as compared with the mode of formation of the eggs within the body of the true sexually mature female. In both creatures these are special organs which give rise to the germs; but in the non-fertilized broods, or viviparous larvæ, they may be compared to a multitude of buds capable of attaining the development and appearance of full-grown insects, which latter differ from the perfect insect chiefly in their usually not possessing any wings, and having imperfect reproductive organs.

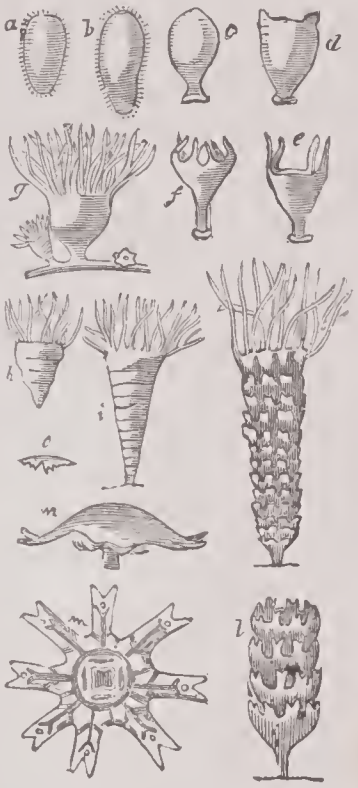


Fig. 2660.
DEVELOPMENT OF CHRYSAORA.

Fig. 2661.
ILLUSTRATING THE DEVELOPMENT OF CAMPANULARIA AND APHIS.

Altitude and **Azimuth** (or ALT-AZIMUTH) **Instrument.** (*Ast.*) A telescope so constructed as to be movable primarily about a vertical axis, and secondarily about an horizontal axis, at right angles to the tube of the telescope. Such a telescope may be directed towards a celestial object by two movements. Thus, suppose the telescope directed in the first instance horizontally towards the north, and that the object to be observed lies towards the S.W., and at an elevation of forty-five degrees. Then the telescope must first be turned about the vertical axis towards the W. and through an angle of 135 degrees, then on the *Azimuth* of the object (see AZIMUTH), the latter its *altitude* (see ALTITUDE); and the instrument derives its name from the fact that it is brought to bear on objects by motions affecting these relations. For scientific purposes, the alt-azimuth has not been much used. The altitude and azimuth of every celestial object are continually changing, so that an object can only be kept in the field of an alt-azimuth by a continual and variable process of double motions, which no machinery can impart. The alt-azimuth has been used at Greenwich for determining the elevation of the moon when due east or west.

Alt-Ofen, (*ault-ō'fen,*) an ancient town of Hungary, on the Danube, 2 m. of Buda. Roman remains are found here. Once the cap. of Attila, king of the Huns. *P.* 11,730.

Al'tiscope, *n.* (*Optics.*) A device made up of lenses and mirrors in a vertically extensible telescope tube. These are so arranged as to enable an observer to see over intervening objects. It is used chiefly for military purposes.

Altri'ces, *n.* [Lat. *altrix*, nurse.] (*Ornith.*) A name designating certain birds which remain for some time in the nest after being hatched.

Altrop'athy, *n.* Sympathy or deep regard for other people, even exceeding, perhaps, that for one's self. Obviously, an unusual thing in real life.

Al'truism, *n.* (*Ethics.*) A term signifying the benevolent instincts of man. It stands in contrast with *egoism*, or the selfish instincts. The word was suggested by Comte, the French positivist philosopher, and the principle signified is regarded by Herbert Spencer as an essential element of all organized society. The utilitarian doctrines of political economy have been considerably modified under the influence of altruistic sentiment.

Al'truistic, *n.* (*Ethics.*) Tending towards pity, charity benevolence; unselfishness: the opposite of egoistic.

Altru'ize, *v. t.* To overcome or banish selfishness.— To change into another person or thing.

Aluminium.—*Continued from* SEC. I.

covered. He had used potassium as the reducing agent, and also, in common with Bunsen, employed the galvanic battery; but in the same year he adopted sodium as the reducing agent, and so fully developed the process that it continued in use for several years, when it was superseded by the electrolytic process. Several works for the manufacture of *A.* were started, of which that at Salindres, France, originally established by Deville, long yielded the purest and largest quantity of *A.* in the world. The first produced in this country was made in 1856 by Alfred Monuier, at Camden, N. J. Works were started in England and other countries, the cost of production being gradually reduced, until the price, which was about $30 a pound in 1857, and $17 in 1860, had fallen to $12 in 1885. In 1886 H. Y. Castner, of New York, succeeded in reducing the cost of sodium from $1 to about 20 or 25 cents per lb., a result which greatly reduced the cost of producing aluminium. *A.* was first manufactured on a commercial scale in the United States by William Frishmuth, of Philadelphia, who in 1884 produced the metal used in the aluminum cap of the Washinton Monument. The sodium process, which was being rapidly developed, was replaced in 1886 by the electrolytic process, Dr. E. Kleiner having succeeded in producing *A.* from molten cryolite by sending a powerful current through carbon poles. By this method the cost of manufacture was greatly reduced, and in a few years the price had fallen to less than 60 cts. per lb. The Pittsburg Reduction Company, founded in 1888 became the principal manufacturing concern in this country, while in Europe the production was greatly stimulated, until in 1895 the American yield was 900,000 lbs. and that of Europe much greater. The great electrical power plant established at Niagara is being in part applied to the *A.* manufacture, and by its cheapness must still more reduce the cost of this valuable metal. Clay or kaolin, despite its abundance, and the large amount of *A.* it contains, is not available as a raw material on account of its great amount of silica. Beauxite and cryolite, which are much purer sources of the metal, are the minerals principally employed in its manufacture. Beauxite is abundant in our Southern States while cryolite is mined in large quantities at Ivigtut, in West Greenland.—*Properties.* One of the most important properties of *A.* is its lightness; it is very much lighter than any other of the commercial metals. Its specific gravity is about 2·60, soft steel being nearly 3 times, copper 3·6 times, silver 4 times, lead 4·8 times, and gold 7·7 times as heavy. It is not, however, a very strong metal, it having less than half the strength of wrought iron. Some of its alloys are very hard, particularly the copper alloy above mentioned. *A.*, when alloyed with 5 per cent. of silver, is much increased in elasticity and hardness, with no loss of malleability, and this alloy is likely to have a large use in the arts. An addition of a small percentage of *A.* to molten iron and steel is found to be of great advantage in casting.—*Uses.* *A.* is coming largely into use for many purposes, in which lightness and resistance to corrosion are advantageous. Numerous small utensils are made of it, and its resistance to the action of organic secretions has brought it into wide use for surgical instruments and apparatus. For structural purposes the most striking instance of its use as yet is its employment as an external covering for the great tower of the Philadelphia City Hall, its utility in this case being due both to its lightness and resistance to oxidation. It has been used extensively as a substitute for iron, lead and copper in piping, and has been employed in the manufacture of bicycles, racing boats, and other cases where lightness is a desideratum. Its utility as a covering for ships' bottoms, however, is adversely affected by the small quantity of sodium it contains, and which is attacked by the salt water. The manufacture and application of *A.* are yet in their infancy, and we may look confidently to a considerable further reduction in its cost and its very wide employment for industrial purpose.

Al'vord, BENJAMIN, a soldier in the U. S. service, born at Rutland, Vt., Aug. 18, 1813, and graduated at West Point in 1833. He served in the Florida and Mexican wars and in frontier duty, and was chief paymaster, in 1854–62, of the department of Oregon, which he commanded as brigadier-general of volunteers in the civil war. He was subsequently promoted brevet lieutenant-colonel, colonel and brigadier-general in the regular service; was paymaster in New York city, 1865–67, chief paymaster at Omaha and Nebraska, 1867–72, and paymaster-general 1876–80. Retired 1880, and died Oct. 17, 1884. Author of some mathematical papers and numerous essays and reviews.

Amador de los Rios, Jose, a Spanish literary historian, born at Baena, in 1818. In 1841–42 he translated Sismondi's *Literatures du Midi de l'Europe* into Spanish; in 1848 published a work concerning the Jews in Spain, and subsequently began the work by which

he is principally known, *Historia Crítica de la Literatura Española*, of which but seven volumes were completed before his death. This work was laid out on a scale too extensive for the labor of any single man, and the part completed is often diffuse and inaccurate. He published other historical works, and died in 1878.

Am'bler, in Pennsylvania, a borough of Montgomery county, 16 m. N. of Philadelphia. *Pop.* 1890, 1,073.

Amblyop'sis, *n.* (*Ichthy.*) A genus of fishes of which only a single species (*A. spelæus*) is known, in the caves of Kentucky and Indiana. It is blind, and seemingly eyeless, though the eyes exist in a rudimentary state, hidden under the skin. It is about 5 inches long, translucent, and partly covered with scales. The *A.*, though blind, has acute hearing, and flees at any noise. It feeds principally on crayfish, though to some extent on other fish, which it actively pursues. The family *Amblyopsidæ* has three genera, two of which are blind and confined to caves, and the third has well-developed eyes, and is found in swamps from Virginia southward.

Amenorrhœa (*ăm-ĕn-ŏr-re'ah*), *n.* [From Gr. *a*, priv., *menes*, the menses, and *rheo*, I flow.] (*Path.*) Obstruction of the menstrual or monthly flow. It is most commonly symptomatic, and hence the chief attention must be paid to the cause. Usually, there is an atonic state of the system generally, and hence chalybeates and other tonics are advisable.

America's Cup, The. A cup won by the yacht *America* in 1851, in a race around the Isle of Wight, in which 14 British yachts contested for the prize. The cup was brought to this country, where it has since remained, a succession of British yachts having contested for it in vain. During the period in question great progress has been made in the performance of yachts, their speed and sailing qualities being much improved, but in all contests hitherto the American boats have maintained the supremacy shown in 1851, and the cup has grown famous as a practical symbol of American supremacy in the art of yachting. The first effort to retrieve the defeat of 1851—in which the *America* held her own against a fleet of crack British yachts, beating

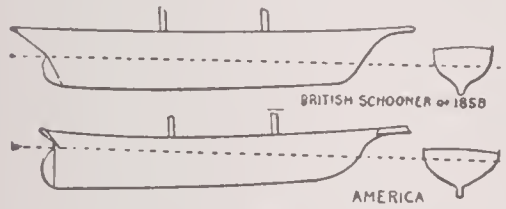


Fig. 2662.—RACE OF 1858.

them all by 8 minutes in spite of the loss of her jib-boom—was made in 1870, when the *Cambria* crossed the ocean to contest for the cup, and was distanced by no less than 9 American boats, of which the old victor, *America*, was one. In 1871 the *Livonia* was defeated by the *Columbia* and the *Sappho*—in one race by more than 30 minutes. The next race took place in 1876, the Canadian yacht *Countess of Dufferin* now contesting for British honor. She was beaten by the *Madeleine*, in two races, one by 11 and the other by over 27 minutes. In 1881 Canada entered the field again, this time with the centreboard yacht *Atalanta*. She was badly beaten

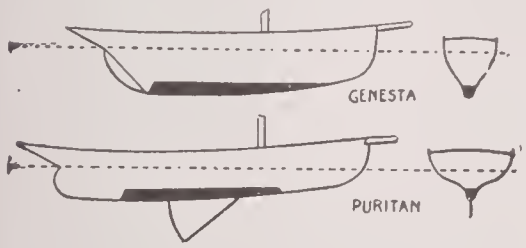


Fig. 2663.—RACE OF 1885.

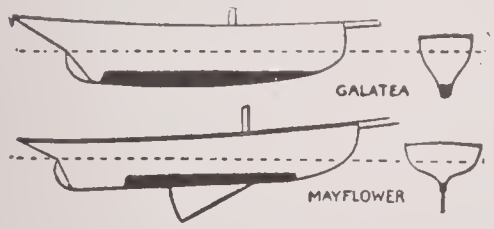


Fig. 2664.—RACE OF 1886.

by the *Mischief* and *Gracie*. In 1885 a challenge was received by the New York Yacht Club in behalf of the British yacht *Genesta*, a fast representative of the extreme cutter type. Two yachts were built to defend the cup, the successful one, the *Puritan*, being a centreboard yacht with a deep outside keel of lead and a cutter rig. In 1886 the *Galatea*, a sister ship of the *Genesta*, was defeated by the *Mayflower*, and in 1887 the *Thistle*, fitted with all the recent improvements, was badly beaten by a new champion, the *Volunteer*, a still deeper centreboard yacht. The next challenge for the cup in 1893, in which the *Vigilant*, a boat with a deep keel and a centerboard weighing 4 tons, defeated the British cutter *Valkyrie II.*, a boat of the same length, but of narrower beam and deeper draught. In 1895 the Earl of Dunraven, the owner of the 1893 contestant, had a larger yacht, the *Valkyrie III.*, built for the race, a boat of 90 feet water-line, 26 feet beam, and 20 feet draught. Only one yacht was constructed to meet her, the *Defender*, of 90 feet water-line, 23 feet beam, and 19 feet draught. These boats approached somewhat closely in formation, both having extreme draught and small area of midship section, of the fin-keel type. The *Defender* was built of steel framing, with manganese bronze plating below the water and aluminum bronze above. Her deck beams were alternately of steel and aluminum, causing a reduction of top weight, while her rigging and spars were remarkably light. The *Valkyrie III.*

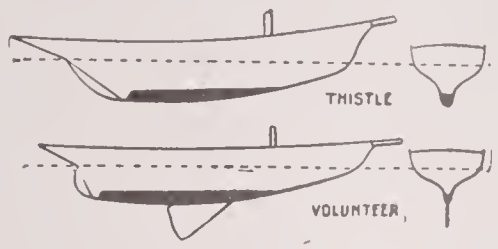


Fig. 2665.—RACE OF 1887.

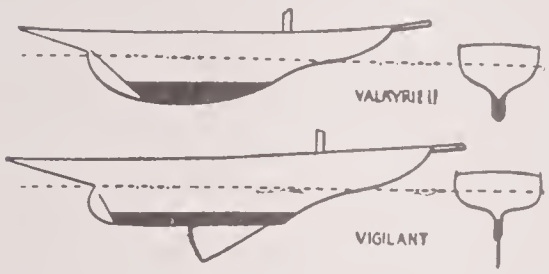


Fig. 2666.—RACE OF 1893.

was of composite construction, consisting of elm planking on nickel steel frames, and was painted with a patent enamel said to give a remarkably smooth surface. She was more stoutly rigged than the *Defender*, and in every respect a heavier boat. Three races, or the best two, were to be sailed. In the first the *Defender* won by a handsome margin. In the second the *Valkyrie III.* was disqualified on account of a foul, while the *Defender* was given the race by the verdict of the club officials. In the third race both yachts started, but the *Valkyrie III.* was withdrawn after she had crossed the line, Lord Dunraven's reason for this being that the club had refused to impose new conditions to govern this third race. Lord Dunraven subsequently brought charges of unfairness against the owners of the *Defender*, which were considered by an investigation committee of the New York Yacht Club and dismissed as unfounded. The sporting world both in this country and Great Britain supported this decision, and blamed Dunraven for his action and charges. Meanwhile the

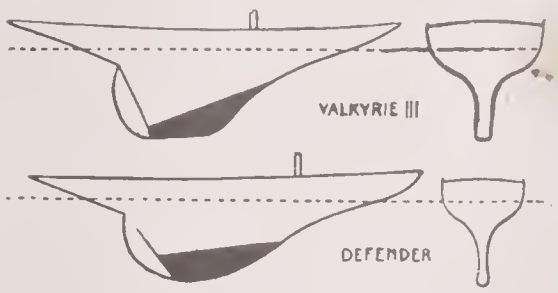


Fig. 2667.—RACE OF 1895.

America's cup remains on American soil, and the meed of triumph in yacht construction abides with American designers and builders. The accompanying illustrations, showing the longitudinal and cross sections of the yachts which participated in the more important contests for the America's Cup, possess a special interest as showing the gradual evolution in yacht forms from the simplified models of the original contestants to the highly specialized form of the racing yachts of the present day.

American Association for the Advancement of Science. This scientific society, based on the British Association for the same object, grew out of the Association of American Geologists, which met at Philadelphia in 1840, and which two years later adopted the title of Association of American Geologists and Naturalists, and, at a meeting held in Boston in 1847, adopted the above title. This society is a migratory one, meetings being held every summer in some American city and continuing for a week. Any citizen of the U. S. or Canada may become a member, while from the membership is chosen a body of fellows, who elect the officers. The Association is divided into nine sections, viz: Section A, Mathematics and Astronomy; B, Physics; C, Chemistry; D, Mechanical Science; E, Geology and Geography; F, Zoölogy; G, Botany; H, Anthropology; I, Economic Science and Statistics. These sections meet separately for the reading and discussion of papers. The Association issues an annual volume of *Proceedings*.

American Hereditary Patriotic Societies. At the close of the war of the Revolution the officers of the Continental Army organized the Society of the Cincinnati. Membership was restricted to officers who had served for three years and on their death it passed to their eldest male descendant. By this restriction much adverse criticism was created by many (including John Adams and Benjamin Franklin) who saw in the new organization an attempt to form an aristocracy. To counteract this tendency the Society of Tammany was organized in New York City in 1798. As the original members grew older the annual meetings of the Cincinnati lapsed and many of the State societies ceased to exist. The coming of Lafayette in 1824 revived it somewhat and again it flourished only to return to a state of quiescence out of which it has recently emerged into a new and healthful life. Organizations of a somewhat similar character were formed at the close of the War of 1812 and the war with Mexico. Subsequent to the centennial celebrations of the battles of Lexington and Bunker Hill, efforts were made to induce the Cincinnati to so amend its constitution as to admit all descendants of those who participated in the military events of the war of the Revolution. This proved unsuccessful and the societies of the Sons of Revolutionary Sires and Sons of the Revolution were organized. Other societies commemorating historical periods in American history were formed, and later, owing to the unwillingness of the male societies to admit women, the Colonial Dames and the Daughters of the American Revolution came into existence. Each of these societies has an elaborate insignia including a badge and ribbon (most of which by act of Congress may be worn on occasions of ceremony by officers and enlisted men of the U. S. Army and Navy), together with a button decorated with the colors that belong especially to the order. Annual meetings are held on the anniversary of some patriotic event, and periodic dinners or functions are given in honor of some great historical occasion. A vast amount of genealogical and historical research has resulted, and much permanent good has ensued by the preservation of historical sites and their marking by bronze tablets or other means. The date of the organization, principal object, eligibility, and number of members of the leading societies are herewith given.

The *Society of the Cincinnati*, founded in Newburg, N. Y., on May 13, 1783, by American and foreign officers that served for three years in the Continental Army, has for its object the perpetuation of the mutual friendships that were formed under the pressure of common danger in the war of the Revolution. Membership descends to the eldest lineal male descendant, and in failure of direct male descendant, to male descendants through intervening female descendants. Of the original thirteen State societies, those in Georgia and New Hampshire no longer exist. Membership, 537.—The *Society of the War of 1812*, instituted in New York City on Jan. 30, 1826, has for its purpose the inspiration of the members and of the American people with the patriotic spirit of the men who, during the War of 1812, defended their country against hostile encroachments on its rights and interests. It admits to hereditary membership descendants of commissioned officers who actually served in the War of 1812. It absorbed the Veteran Corps of Artillery in 1848, and in 1892 adopted its present name. Membership 93.—The *General Society of the War of 1812* was organized in Philadelphia, Pa., on January 8, 1891, by the Pennsylvania Association of the Defenders of the Country in the War of 1812 (organized in 1854), and the Association of the Defenders of Baltimore in 1814 (organized in 1842), and now includes State societies in Massachusetts, Connecticut, Ohio, District of Columbia, and New York. Its objects are to perpetuate the memory and spirit of the men who completed the war of the Revolution by the victories of the War of 1812. Membership is open to any male person above the age of twenty-one years who participated in, or who is a lineal descendant of, one who served during the War of 1812. Membership about 800.—The *Aztec Club of 1847*, founded in the city of Mexico on Oct. 13, 1847, has for its object to keep alive the traditions that cluster about the names of those officers of the army and navy and marine corps who took part in the Mexican War of 1846–48, and admits to membership as primary members officers who participated in the war, and, as associate members, a son or a blood relative. Membership 245.—The *Society of the Sons of the American Revolution*, organized in San Francisco, Cal., on Oct. 22, 1875 (as the *Sons of Revolutionary Sires* which, on April 30, 1889, became one of the state societies of the *Sons of the American Revolution*), of which there are State societies in Arkansas, California, Connecticut, Delaware, District of Columbia, Florida, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, Ohio, Oregon, Pennsylvania, Rhode Island, Texas, Utah, Vermont, Virginia, Wisconsin, Washington, and the Hawaiian Islands. Its chief object is to perpetuate the memory of the men who, by their services or sacrifices during the war of the American Revolution, achieved the independence of the American people. It admits to membership any lineal male descendant of an ancestor who was at all times unfailing in his loyalty to, and rendered actual service in, the cause of American independence. Membership, 8,779.—The *Society of the Sons of the Revolution* was organized in New York City on Feb. 22, 1876. Its objects are to perpetuate the memory of the men, who in the military, naval, or civil service of the Colonies, and of the

Continental Congress, and who, by their acts or counsel, achieved the independence of the country. Membership is permitted to any male person who is descended from one who as a military, naval, or marine officer, soldier, sailor, or marine, was in actual service under the authority of any of the thirteen Colonies or States, or of the Continental Congress and always loyal to such authority. There are State societies in New York, Pennsylvania, District of Columbia, Iowa, New Jersey, Georgia, Massachusetts, Colorado, Maryland, Minnesota, Ohio, California, Connecticut, New Hampshire, North Carolina, Illinois, Missouri, Florida, Alabama, West Virginia, Tennesee, South Carolina, Kentucky, Montana, Texas, Washington, and Virginia, with a total membership of 5,330.—The *National Society of the Colonial Dames of America* organized in New York City on May 23, 1890, has among its objects to collect manuscripts, traditions, relics and mementoes of by-gone days, for preservation, and to commemorate the success of the American Revolution and consequent birth of our glorious republic. It admits to membership (on iuvitation only) women who are legitimately descended iu their own persons from some ancestor of worthy life who came to reside in an American colony prior to 1776. This society has but one organization, with members chiefly in New York City and Albany. Membership, about 150.—The *Naval Order of the United States* was organized in Boston, Mass., on July 4, 1890. It has for its chief objects the encouragement of research and the publication of data pertaining to naval art and science, and to establish libraries in which to preserve all documents, rolls, books, portraits and relics relating to the navy and its heroes at all times The companions of the first class include commissioned officers who took part in the navy in the war of the Revolution, the war with France, the war with Tripoli, the War of 1812, the war with Mexico, or the Civil War, or their eldest male lineal descendant, or in default of a lineal descendant, one collateral representative. There are State commanderies in Massachusetts, New York, Illinois and the District of Columbia. Membership, 250.—The *Society of the Daughters of the American Revolution* was organized in Washington City, on Oct. 11, 1890. Its objects are to perpetuate the memory and spirit of the men and women who achieved American independence, by the acquisition and protection of historical spots and the erection of monuments, &c., and to carry out the iujunction of Washington in his farewell address. Any woman who is of the age of eighteen years, and who is descended from a man or woman who with unfailing loyalty rendered material aid to the cause of Indepeudence is eligible to membership. The membership is 18,228, distributed in the States and Territories of Alabama, Arkansas, California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Idaho, Illinois, Indiana, Indian Territory, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, New Hampshire, New Jersey, New Mexico, New York, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas and Utah, each of which is under the jurisdiction of a state regeut.—The *Daughters of the Revolution*, organized in New York City on Aug. 20, 1891, has for its objects to keep alive among the members and their descendants, and throughout the community, the patriotic spirit of the men and women who achieved American independence. It admits to membership any woman above the age of 18, who is a lineal descendaut of an ancestor who was loyal to the colonies and was in actual service during the war of the Revolution. There are State societies in New York, Massachusetts, Connecticut, New Hampshire, NewJersey, Pennsylvania, North Carolina, Colorado, Ohio, Indiana, Washington, Wisconsin and Texas. Membership, 2,100. —The *Society of the Colonial Dames of America* was organized in Wilmington, Del., on May 19, 1892. Its objects include the collection aud preservation of manuscripts, traditions, relics, and mementoes of by-gone days, the preservation and restoration of buildings connected with the early history of our country, and the creatiou of a popular interest in our colonial history. Membership is limited to women (on iuvitation ouly) who are descended in their own right from some ancestor of worthy life who came to reside in an American colony prior to 1750. State societies exist iu Pennsylvania, Maryland, Delaware, New Jersey, District of Columbia, Rhode Island, Virginia, Massachusetts, New York, South Carolina, Connecticut, Georgia, New Hampshire, and North Carolina, with a total membership of 2,050.—The *Society of Colonial Wars* was instituted in New York City on Aug. 18, 1892, aud has for its objects to perpetuate the memory of those events, and of the men, who in military, naval, and civil positions of high trust and responsibility, by their acts or counsel assisted in the establishment, defense, and preservation of the American colonies. Male descendants of the above persons are eligible to membership. State societies exist in New York, Pennsylvania, Maryland, Massachusetts, Connecticut, District of Columbia, New Jersey, Virginia, New Hampshire, Vermont, Illinois, Missouri, Ohio, Nebraska, Minnesota, Kentucky, California, Colorado, Iowa, and Georgia. Membership upwards of 2,000. —The *Society of the United States Daughters, 1812*, was founded in Cleveland, Ohio, on Sept. 19, 1892, and has for its objects to secure the geneaologies, facts, and traditions of the founders of America, where they came from, the vessels they arrived in, their descendants, and record of service in the French war, in the Revolution, and War of 1812. It admits to membership any woman over eighteen years of age who is a lineal descendant of an ancestor who assisted in establishing American independence during the War of 1812. There are state societies in Ohio, Lonisiana, Texas, New York, Maryland, and Pennsylvania. Membership 450.—The *Society of Mayflower Descendants* was organized in New York City on Dec. 22, 1894. Its objects are to preserve the memory, the records, the history, and all facts relating to the *Mayflower* pilgrims, their ancestors, and their posterity. It admits to membership any lineal descendaut, either man or woman, over eighteen years of age, of any passeuger of the voyage of the *Mayflower* which terminated at Plymouth, Mass., in Dec., 1620, including all signers of the compact. State societies exist in New York, Penusylvania, Massachusetts, and Connecticut. Membership 200.—The *Military Order of Foreign Wars* was instituted in New York City on Dec. 27, 1894, as the *Military and Naval Order of the United States*, but on June 21, 1895, assumed the above name. It has for its objects the commemoration of the efforts of the forces engaged in establishing aud maintaining the principles contended for by the American Colonies, and later by the United States in the war of the Revolution, the War of 1812, the war with Tripoli, and the Mexican War. It admits to membership commissioned officers who participated in any of these foreign wars as veteran companions, and direct lineal descendants in the male line of the foregoing as hereditary companions. Commandieries exist in New York, Pennsylvania, Connecticut, Illinois, California, Massachusetts, Florida, Ohio, Maryland, and the District of Columbia. Membership 150.—The *Daughters of the Cincinnati* was incorporated in New York City on Dec. 28, 1894. It has for its objects to renew and foster among its members the friendships formed and cemented amid the trying ordeals of the war of the Revolution in the camp and on the battle-field, by their ancestors, who by wise leadership and stndy achieved the independence of the American colonies and established the government of the United States. This society admits to membership (on invitation only) women who are direct lineal descendants of officers of the American army or navy who took part in the Revolutionary struggle with Great Britaiu and who were entitled to original membership in the *Society of the Cincinnati*. Membership less than 100.—The *National Society of New England Women* was organized in New York City on Jan. 24, 1895. It has for its objects to promote social and intellectual intercourse among its members, and to offer advice and assistance to women of New England extraction residing in other portions of the United States. It admits to active membership any woman over eighteen years of age who is a native of New England or one of whose parents and whose husband are or were natives of New England. Descendants of active members may become associate members. Membership 372.—The *Society of the Children of the American Revolution* was organized in Washingtou City on April 5, 1895. Among its objects are the acquisition of knowledge of American history, the saving of the places made sacred by the American men and women who forwarded American independence; and to find out and to honor the lives of children and growth of the Colonies and of the American Revolution. Membership is extended to any boy or girl who is descended from a man or woman who with unfailing loyalty rendered material aid to the cause of Independence. There are nearly 100 local societies, with a total membership of 2,200, distributed in the States of Massachusetts, Pennsylvania, Connecticut, Washington, Rhode Island, Kentucky, Ohio, Vermont, New York, Tennessee, California, Maryland, Minnesota, Illinois, Louisiana, Texas, New Jersey, Maine, Georgia, South Carolina, and the District of Columbia.—The *Dames of the Revolution* was organized in New York City in August, 1896. It was established for the purpose of perpetuating the memory of those ancestors to whose sacrifices and labors we owe the existeuce of this great Republic aud to preserve the records of these men in the war of the Revolution. It admits to membership any woman above eighteen years of age who is descended in her own right from an ancestor who, either as a military, naval or marine officer, soldier, sailor, mariue, or official in the service of any one of the thirteen Colonies, assisted in establishing American Independence during the war of the Revolution. Membership 60.—The *Order of the Founders and Patriots of America* was incorporated in New York City on March 18, 1896. It has among its objects to teach reverent regard for the names and history, character and perseverance, deeds and heroism of the founders of this country and their patriot decendants. Its members, called Associates, must be lineally descended in the male liue of either parent from an ancestor who settled in any of the colouies now included in the United States from the settlement of Jamestown, May 13, 1607, to May 13, 1657, and whose immediate ancestors, at the call of its colonists, adhered as patriots to this cause through the Revolutionary War that followed. Membership, 100.—The *Order of the Old Guard* was organized in Chicago, Ills., on Oct. 15, 1896. It has for its purpose the establishing of a military society, with State organizations, to which any male descendant, of twenty-one years, of a patriot who served in the Colonial war, war of the Revolution, or War of 1812, is eligible. The object is to organize a three-company battalion, the first company of which will wear Colonial uniforms, and the second the uniform of the war of the Revolution, and the third the uniform of the War of 1812. State societies in New York, New Jersey, and Connecticut. Membership, 100.—Also of general interest are the following societies: The *Colonial Order*, of New York City, which admits, on invitatiou only, male descendants in the male line of ancestors, resident, prior to July 4, 1776, of those Colonies that became the thirteen original States; the *Colonial Society of Pennsylvania*, which admits descendants of persons who settled in Pennsylvania prior to 1700; the *Descendants of Colonial Governors*, of Covington, Ky., which admits to membership male or female desceudants of Colouial governors who are members of the Society of Colonial Wars or Society of Colonial Dames; the *Holland Society* of New York City, which admits male descendauts in the direct male line of a Dutchman resident iu America prior to 1675; the *Huguenot Society* of America, which admits descendants of Hugnênot families who came to America prior to 1787; the *Order of Washington*, which admits to membership male descendants of those who held civil or military office betweeeu 1750 and 1783; the *Pilgrim Society*, of Plymouth, Mass., which admits to membership descendants of the Pilgrim Fathers; the *St. Nicholas Society*, of New York City, which admits to membership male descendants of natives of the State of New York prior to 1785; and the *Society of Holland Dames*, of New York City, which admits to membership, ou invitation only, women who are descendants of the early Dutch settlers who came to New York.—Besides the foregoing there are a number of societies that have beeu organized by the survivors of the Civil War and certain of their relatives. Best known perhaps among these societies is the *Military Order of the Loyal Legion*, in which membership is divided into Companions of the first class, consisting of officers who participated in the Civil War, and companions of the second class, consisting of the eldest sons of original Companions. The membership is about 9,000 divided among twenty State commanderies.—As the *Loyal Legion* is comparable of the Cincinnati, so the *Grand Army of the Republic* is similar to the two sons Societies of the Revolution; for it admits to membership any participant in the Civil War between April 16, 1861 and April 9, 1865. Its membership is 340,610.—The *Grand Army* has an auxiliary known as the *Woman's Relief Corps*, in which the membership is composed of mothers, wives, daughters, and sisters of Union soldiers. Its membership is 138,444.—The society of the *Sons of Veterans* admits to membership male descendants of veterans of the Civil War.—The *Union Veteran Legion* is restricted to veterans who served their full term of enlistment of two or more years and who volnnteered prior to July 1, 1863. Its membership is over 11,000.—The *Union Veteran Union* requires six months service and an honorable discharge for admission. Its membership is said to be 65,000. It has an auxiliary body, the *Woman's Relief Union*, and for the junior members there is the *Loyal Guard*.—Of more recent origin are the following whose character is indicated by their name, viz.: *Comrades of the Battlefield*—with a junior organization called *The Grand Order of Descendants of the Comrades of the Battlefield*, to which both male and female descendants of the first named are admitted; the *Medal of Honor Legion; Society of Sons of War Veterans; National Association of Naval Veterans*, and many other special societies such as the *Society of War Correspondents*, *Society of Army Surgeons*, and *Society of Prisoners of War*. The *Society of the Army of Tennessee*, the *Society of the Army of the Cumberland*, and the *Society of the Army of the Potomac*, into which was merged the *Society of the Army of the James*, confine their membership to those who served with honor in the foregoing armies although in the first named membership may descend to a son or a daughter according to the expressed wishes of the member.—In the Southern States there was organized in 1889 the *United Confederate Veterans*, with State organizations called Divisions and a membership of about 40,000. The *United Daughters of the Confederacy*, organized in 1894, is composed of the widows, wives, mothers, sisters and lineal female descendants of those who served in the South during the Civil War. There are 90 Chapters of this society, with a membership of about 5,000 women. The *Children of the Confederacy* has been organized for the younger generation.

Ames, Charles Gordon, D.D., a Unitarian clergyman and editor, born at Dorchester, Mass., Oct. 3, 1828. For three years he studied and taught in Grange Seminary, Ohio, and was for ten years a Free Baptist preacher in Minneapolis. He subsequently joiued the Unitarian Church, organized churches in several States, and held pastorates at Albany, Philadelphia, and Boston, where he is at present pastor of the Church of the Disciples. He edited the *Minneapolis Rapublican* in 1854, and the *Christian Register*, 1877–80. Is an able preacher and deeply interested iu all social and philanthropic questions. In 1897 he was given the degree of D. D. by a college of his origiual denomination, the Baptist. Author of *George Eliot's Two Marriages*, and *The Ethics of George Eliot*.

Ames, in *Iowa*, a city of Story co., 37 m. N. of Des Moines; seat of State Agricultural College. *Pop.* (1898) 2,160.

Ametrom'eter, *n.* (*Optics*). An instrument employed in testing the refractive qualities of the eye, for the purpose of detecting and studying Ametropia.

Ametro'pia, *n.* (*Pathol.*) An abnormal condition of the refracting parts of the eye, which gives rise to confused or imperfect vision.

Am'herst College, one of the leading American colleges, at Amherst, Mass., founded in 1821, and possessing at present 12 edifices and property valued at $2,000,000, including a valuable scientific and archaeological museum. This embraces the Hitchcock Ichnological Cabinet, the Adams Collection in Conchology, the Shepard Meteoric Collection and the Mather Art Collection. It had, in 1896, 450 students and a faculty of 34 instructors, while the graduates since its organization uumber 3,760. The Massachusetts Agricultural College, organized at Amherst in 1867, is its offspring,

though an independent institution. This is a thriving college, with numerous buildings and instructors, and an experimental farm of 300 acres.

Amicis, Edmondo de, an Italian traveller and author, born at Oneglia, Oct. 21, 1848, and educated in the military college of Modena. He took part in the expeditions against the Sicilian brigands and in the war against Austria in 1866. After writing some successful military sketches he travelled extensively, and wrote a number of descriptive works in which he showed an unusual ability to depict the life and manners of foreign peoples. His works of travel have been frequently translated and are much admired. They include travels in Holland, Spain, Morocco, Constantinople, &c. His *Il Romanzo d'un Maestro* (1889) vividly describes the condition of education in Italy.

Amiel, Henri Frédéric, a Swiss poet and thinker, was born at Geneva, Sept. 27, 1821. Educated in Geneva and Heidelberg, he traveled considerably, and in 1849 accepted a professorship in the Academy of Genova. He wrote little, his works consisting of some essays and small volumes of poems, but after his death (May 11, 1881) he was found to have left a voluminous private journal (17,000 folio pages of manuscript) in which for years he had recorded his thoughts and experiences. A volume of extracts was published from this in 1882, and was at once recognized as a very remarkable work. A second volume was issued in 1884.

Amine (*ăm'in*). *n.* (*Chem.*) A compound of ammonia, in which one or more atoms of hydrogen are replaced by base radicals;—thus we have potassamine, ethylamine, &c.

Am'ite City, in *Louisiana*, a town, cap. of Tangipahoa parish. *Pop.* 1890, 1,510.

Am'men, Daniel, rear-admiral U.S.N., born in Brown co., O., May 15, 1820, and entered the navy as a midshipman in 1836. He took an active part in the civil war, commanding the gunboat *Seneca* during 1861 and 1862, and the monitor *Potapsco* in the attack on Fort McAllister, March, 1863, on Fort Sumter, April, 1863, and on Fort Fisher, Dec. 1864 and Jan. 1865. In 1869 he was appointed chief of the Bureau of Yards and Docks. He designed the Ammen life raft, and in 1889 Congress ordered the construction of a twin-screw harbor defence ram, the *Katahdin*, designed by him. He retired from service in June 1878.

Amo'mum, *n.* (*Bot.*) A genus of aromatic herbs, belonging to the *Zingiberaceæ* or Ginger family. The rootstocks are jointed, creeping: the leaves placed in two rows, sheathing at the base, lance-shaped, and undivided at the margin. The flowers, in a spike or cluster, are provided with bracts, and but little raised above the ground; there is but one stamen, whose filament is prolonged beyond the two-celled anther, so as to form a more or less lobed crest; the capsule is three-celled, and opens, when ripe, by three pieces, so as to liberate the numerous small seeds. These plants are natives of India, the islands of the Indian Archipelago, &c. Their seeds are aromatic and stimulant, and form, with other seeds of similar plants, what are known as *Cardamoms*, of which there are many kinds. Attare, Malaguett, Pepper, or Grains of Paradise, are the seeds of one, perhaps two, species of this genus, *A. Grana Paradisi*, (Fig. 6,) and *A. Meleguetta*.—They are imported from Guinea, and have a very warm, slightly camphor-like taste. These seeds are made use of illegally to give a fictitious strength to spirits and beer, but they are not particularly injurious.

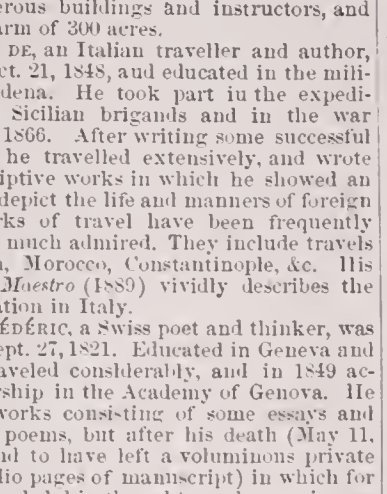


Fig. 2668.
AMOMUM GRANA PARADISI.

Amphiarthrosis, (*ăm-fe-ăr-thro'sis,*) *n.* [From *amphi*, on all sides, and Gr. *arthrosis*, articulation.] (*Med.*) A mixed articulation, in which the corresponding surfaces of bones are united in an intimate manner by an intermediate body, which allows, however, of some slight motion. Such is the junction of the bodies of the vertebræ by means of the intervertebral cartilages.

An'abolism, *n.* (*Biol.*) Constructive metabolism; a series of changes by which the simple and comparatively stable materials of food are built up into the complex and unstable living materials which make up the tissues of a cell or organism.

Anach'aris, *n.* (*Bot.*) The North American waterweed (*A. Canadensis*), a submerged herb, with elongated branching stem, which was introduced into Great Britain in 1847, where it spread rapidly, filling ditches, ponds, rivers, &c. In the U. S. it is also called ditch-moss.

Anacon'da, in *Montana*, a city of Deer Lodge co., founded in 1884 in consequence of the establishment there of the Anaconda Mining Co.'s copper smelting works. These employ about 1,500 men. *Pop.* in 1890, 3,975; in 1897 (est.) 5,000.

Ancor'tes, in *Washington*, a town of Skagit co., in an agricultural, lumbering, and fishing district. *Pop.* (1890) 1,131.

Anæsthesia,—*Continued from* Sec. I.

portion of 8 to 1. It produces its effects in from one to two minutes, while ether may require from three to ten.—The discovery of anæsthesia has conferred an unparallelled boon upon the human race. Lives have been saved and operations done, which, prior to their introduction, could not for one moment have been considered. The frequency of serious accidents from the use of chloroform has led to its being largely superseded in this country by ether. All anæsthetics agents must be administered by a person skilled in their use, who will devote himself carefully and thoroughly to observation of the patient and the manner in which the anæsthetic acts. Danger is indicated by breathing of a stertorous character, or by suspended, enfeebled, or irregular heart action, by a dusky discoloration of the skin, indicating deficient elimination of carbonic acid, or by profound pallor. Chloroform, particularly, should be administered with a judicious mixture of atmospheric air. The rapid administration of this drug, with the exclusion of air or oxygen, may lead to so profound a narcotic effect upon the sympathetic nerves as to immediately extinguish their vitality, causing paralysis of the heart. In the administration of chloroform, the head of the patient should be lowered, as this agent produces an anæmic condition of the brain. Arrested breathing, enfeebled pulse, profound pallor, should be indications for at once lowering the head of the patient and the practice of artificial respiration. The respiratory centers may be stimulated by grasping and making strong traction upon the tongue, when at once there will be a gasping inspiration which will fill the lungs. Vaporizing chloroform by passing through it a stream of oxygen, thus forming a mixture for inhalation, will do much toward eliminating its dangers.

Local.—Local *A.* has been long practiced. It may be accomplished by freezing the surface with ice or salt, or by throwing upon it a spray of ether or the chloride of ethyl, the rapid evaporation of which causes the surface to be frozen. Hypodermic injections of cocaine have been practiced, but are not free from danger.—It has been recognized that pressure exercises an influence in establishing *A.* This may be accomplished by hypodermic injections of liquids into the skin structure, whereby the sensitive nerve filaments are compressed. Effective agents are cold water, salt solution, or, more efficient, a combination of narcotics. Schleich has recently accomplished local loss of sensation by the use of a mixture of morphine, cocaine and salt solution. Small quantities of these agents in solution, thrown under the skin in such a way as to make pressure upon the nerve filaments, enable operations to be accomplished without the patient experiencing any pain during such procedure. This method of *A.* has the disadvantage that the patient is conscious of everything that is being done, and consequently suffers from more or less nervous shock. It affords a means, however, of doing various operations in cases in which employment of the more powerful anæsthetics would not be advisable.

Anaglyp'tograph, *n.* An instrument for copying medallions in lines on flat surfaces, making the lines farthest apart where the light strikes the original most strongly and thus giving the effect of relief. Also an engraving made by this process.

Analepsia (*ăn-ah-lĕp'shah*), *n.* [From Gr. *ana*, again, and *lambaneiu*, to take.] (*Path.*) Restoration to strength after disease.—A kind of sympathetic epilepsy (*q. v.*) originating from gastric disorder.

—(*Surg.*) The support given to a fractured extremity.

Anal'ogism, *n.* (*Logic.*) The process of reasoning from analogy; reasoning from cause to effect.

—(*Med.*) Diagnosis from analogy.

Anal'ogous Pole. (*Elec.*) A term used in describing the phenomena of pyro-electricity. Certain crystals while being heated exhibit electric polarity, one end assuming the positive state, and the other the negative. While cooling, the polarity changes, the end which during the heating became positive now becoming negative, and *vice versa*. The end which becomes positive as the temperature increases, and negative while it decreases, is called the *analogous* pole; the end which becomes negative while the temperature increases, and positive while it decreases, is the *antilogous* pole. The names are, however, but little used.

Anal'ysis, Organ'ic. This takes two forms, constituting proximate and ultimate analysis. The former seeks to determine the proximate constituents of vegetable and animal substances and products; that is, the important organic compounds which make up the varied tissues and structures of vegetable and animal organisms and their fluid contents. The latter seek to reduce these compounds to their ultimate elements. It may, therefore, be appropriately termed the ultimate analysis of hydrocarbon compounds, since carbon and hydrogen are important constituents of the great majority of substances derived from organic tissues.

Anal'ysis, Volumet'ric, *n.* (*Chem.*) A branch of chemical analysis in which the substance treated is subjected to characteristic reactions, for which solutions of known strength are employed. From the quantity of these that is required, the quantity of the substance sought can be determined by aid of the fixed laws of equivalence. These processes usually require less time and less elaborate apparatus than the ordinary methods of analysis by weight, and as the results are equally if not more accurate, they are well adapted for technical purposes, as when the valuation of commercial products is sought. As an example we may mention the method of estimating silver by aid of a solution of common salt. In the ordinary method of analysis, a known weight of the silver-containing substance is dissolved in nitric acid. Then, by the addition of hydrochloric acid, an insoluble chloride of silver is formed and precipitated. This, after being separated by filtration, is washed, dried, fused, and carefully weighed. As the composition of silver chloride is well known, the amount of silver present in the precipitate can then be easily calculated. In *V. A.*, a solution of common salt, of known strength, is slowly added to the nitric acid silver solution until the precipitate ceases to form, when the process is stopped, and the exact quantity of the salt solution added is ascertained. As it is known that 58.5 parts by weight of salt (sodium chloride), will convert 108 parts by weight of silver into silver chloride, it become easy to determine the weight of silver present in the precipitate. This operation can be completed in half an hour, while the former would occupy half a day; it is also more nearly accurate in result. In addition to analysis by precipitation, alkimetric and acidimetric methods are employed, and also analysis by oxidation or reduction, in which the same principle of employing a known quantity of acid or alkali, or of a reducing agent, is employed, and the result estimated as before.

An'alyzer, *n.* (*Opt.*) The Nichol prism, slice of tourmaline, or crystal of herapathite, which is placed next the eye in a polariscope, and serves to analyze the beam which has passed through the polarizer and doubly refracting substance.

Anamo'sa, in *Iowa*, a city, cap. of Jones co. A State penitentiary is situated here. *Pop.* (1895) 2,050.

An'archism, *n.* The doctrines advocated by the society of Anarchists, for a description of which see Anarchist.

An'archist, *n.* (*Sociol.*) A member of a society which advocates the abolition of government, as a method of doing away with inequality in human conditions and the political evils thence arising. Proudhon may be regarded as the founder of this system of anarchism, but the philosophical ideas advanced by him have given rise to much mischief in the hands of those who have sought to realize them by a forcible overthrow of government. Anarchism was taken up actively by the Russian Nihilists, and made its way widely through Europe. It is particularly active in Spain, and largely in France and Italy. The International Workingmen's Association, founded in 1864, was composed of Anarchists and Socialists, who worked together, but sought diametrically opposite ends, the former advocating the overthrow, the latter the complete supremacy, of government. This unnatural union broke up in 1872, and since then the two societies have worked each for its own end. The Russian anarchist, Bakunin, wished to have society reorganized on the basis of communistic associations of workingmen, formed freely and naturally, and relieved from all political compulsion or control. The ideal, as shown by Krapotkine and other leaders, is a subdivision of society into groups, with only power granted by each individual, which can be withdrawn at any moment. "Free contract, ever *revisable* and *dissoluble*." "We wish liberty, but its existence is incompatible with that of any power." To produce this result some of the leaders of the movement disclaim violence, wishing to let their ideas work themselves out gradually and peacefully. A larger and stronger body of the society, eager for an immediate realization of their views, have kept up an active and dangerous agitation, which on many occasions has led to outrage and bloodshed. There have been many instances of this kind abroad and a notable one in this country, in the Chicago riot of 1886. The leading agitator in this country is Johann Most, who has advocated his doctrines in the paper named *Freiheit* (Freedom). American Anarchists are almost entirely foreign born, and their main strength seems to be in the city of Chicago. Various outbreaks of anarchistic violence have taken place of recent years in France and Spain, in which a free use of dynamite has been made. Stringent laws for the suppression of anarchistic agitations exist in these countries.

Anat'omism, *n.* (*Biol.*) Anatomical structure regarded as the basis of life and its phenomena; the doctrine that vitality is to be accounted for by anatomical structure; the application, exhibition, or portrayal of anatomical features, as in works of art.

Anat'omy, Compar'ative. The study of the structure of animals, including man, and the comparison of the various organs with one another. In this respect it differs from *Descriptive Anatomy*, which is the investigation and description of organs without reference to their relations in different animals; while *Physiology* treats of the functions or uses of organs. The term was formerly used to denote the study of the structure of the lower animals in contrast to the study of the structure of man, but in this sense it is now practically obsolete. Various terms are given to those branches of anatomy which treat of particular classes of organs. Thus, the study of minute structures, or parts of organs, which necessitates the use of the microscope, is called *Histology;* and, though this is sometimes spoken of as a separate branch of research, it cannot properly be so considered. The study of the nervous system constitutes *Neurology;* of the circulatory system, *Angiology;* of the viscera, *Splanchnology;* of the joints, *Syndesmology;* of the muscles, *Myology;* of the teeth, *Odontology;* and of the bones, *Osteology*.—Comparative Anatomy in its widest sense may be considered as of very modern origin; for, while Aristotle is generally regarded as the founder of this branch of science, from his day until the time of Cuvier it progressed but slowly, although for practical reasons much was done

in human anatomy. Thus the familiar terms, Eustachian tube, Graafian follicles, Malpighian corpuscles, and Wolffian bodies, are all commemorative of the discoverer of these parts in man. Moreover, the greater part of the work done by the earlier anatomists was purely descriptive anatomy, and it remained for Cuvier to develop the comparative method of research. He was almost the first to recognize that anatomy is the basis of a proper understanding of the relationship of animals, and that without a knowledge of their structure they cannot be properly classified. He was the founder of the science of palæontology; and while others had somewhat hesitatingly recognized that fossil bones were the remains of extinct quadrupeds, it remained for Cuvier to demonstrate that their forms and affinities could be deduced from a study of the anatomy of existing species. This he did by his "law of the correlation of growth," the principle that certain modifications of structure will be found associated with others; that, for example, the teeth of a ruminant would be found in company with hoofs and not with claws, and that conversely the teeth of a carnivore and the limbs of a ruminant would not be found in the same animal. In the light of our more complete knowledge of fossil forms, we know that Cuvier trusted too implicitly to this principle, which loses somewhat of its force as we go backwards in time; but with the mammals of the Paris Basin, with which Cuvier largely dealt, the "law" holds good. There is even to-day much popular misconception as to the possibilities of restoring animals from teeth or fragments of the skeleton, or of reconstructing a fish from a scale; but while in certain cases much may be done with a single tooth, in others the task may be difficult, or practically impossible, even when a goodly portion of the skeleton is available. Comparative anatomy often touches physiology closely, especially in studying the lower or simpler forms of life, where the use of an organ may determine its homologies, or identity with organs of other animals, as well as its relation to other parts. On the other hand, an acquaintance with the functions and relations of a given part in one animal may enable the physiologist to judge of its importance in another, or even in man, and to determine on the possibility of operating upon or removing it in case of disease.—Two other branches of science are so closely allied to Comparative Anatomy that at times a knowledge of one is needed for a proper interpretation of the facts of the other. These are Embryology, the study of the development of animals from the egg onwards, and Palæontology, the study of extinct animals. Our entire knowledge of extinct vertebrates practically depends on the study of their skeleton and teeth, particularly the latter, since the teeth, being the hardest parts of the body, are often preserved when all other portions have disappeared. And, on the other hand, an acquaintance with extinct forms is needed for the correct understanding of the meaning of many structures found in existing species; therefore, palæontology may almost be considered as a branch of comparative anatomy. It will indeed be found that authorities are not agreed as to the exact limits to be set on the scope of anatomy, as was noted when speaking of histology; but this is not surprising when it is considered how intimate are the relations existing between it and other divisions of science. The relation of Comparative Anatomy to the theory of evolution is very obvious and direct; for, if existing animals have descended from common ancestral forms, we ought to find them connected by a structural thread, as it were, and be able to trace certain resemblances in their various parts. We should also meet with differences due to departures from the original form, and many of these should be clearly due to adaptations of the same organs to different uses. Finally, by the aid of fossils, it should be possible to trace the relationship of animals which now seem widely separated through the intermediate forms having become extinct. We should also expect, if the theory of evolution be true, that as we went backward in time we should find that the differences between animals were less sharply marked than at the present day; that, as the zoölogist puts it, they were more "generalized," or built more according to one plan And this is exactly what we do find, for the palæontologist, and the palæontologist is merely a comparative anatomist who deals with extinct animals, has discovered many fossil forms in which are combined characters which are not found associated in living animals. One of the most notable triumphs of the anatomist was the finding of *Phenacodus* in the Eocene deposits of the western United States. This mammal has very diverse relationships, having on the one hand affinities with the hooted quadrupeds and on the other, though distantly, relations with the carnivores and lemurs. The discovery of the animal was predicted by Cope, Marsh, and Kowalesky, from the fact just mentioned, viz., that specialized forms have been preceeded by those of a more generalized structure; so that, with a knowledge of existing animals and some of their predecessors, it was possible to go a step farther and say what in turn should have preceeded these.—The bearing of Comparative Anatomy on the classification of animals is quite as plain as its bearing on the question of evolution. The object of zoölogical classification is to arrange animals as nearly as possible in a natural manner, and to express their relations to one another; it is simply a sorting over of animals and placing together those which are alike, just as in arranging a library we would keep together books that treated of similar subjects. It is clear that the more closely two animals resemble one another in structure, the greater are the chances of their being related; and that the more they differ in structure, the more widely should they be separated.—Formerly, animals were classified by their external appearance, or even by their habits; and this resulted in whales being grouped with fishes, and some lizards with snakes—mistakes which even a slight knowledge of anatomy would have prevented, since investigation shows that in every part of their anatomy whales and fishes are widely different, while comparison shows that in its structure the whale resembles the other mammals, that great group of vertebrates to which man himself belongs. To-day, classification rests on a solid foundation of comparative anatomy; and animals, like books, are sorted according to their contents and not according to their bindings, being divided into groups distinguished by the possession of some structural feature in common. We are thus enabled not only to classify or arrange *existing* animals, but those which long ago became extinct. External characters are still employed, but mainly in the determination of the smaller divisions, and especially species, which are the ultimate divisions or units of classification.—By combining our knowledge of the anatomy of existing and extinct animals and noting the changes that have taken place in the structure of the various groups as they have succeeded one another in time, we have an idea of their lines of descent, or phylogeny. Uniting comparative anatomy, palæontology and embryology, we obtain our fullest knowledge of the structural relations of animals to one another; and this constitutes *morphology* (the science of structure), in distinction to *physiology* (the science of the use of structure). Since morphology rests on a foundation of anatomy, the difficulty of drawing any sharp line of demarcation between them can be readily seen. But, in a general way, it may be said that it is the province of anatomy to furnish facts and the province of morphology to interpret them. The one traces the modifications of a given organ, or series of organs; the other explains their bearings on the relationships of animals.—In order to better illustrate the scope and methods of Comparative Anatomy, it will be well to examine and compare the variations of some organ, or system of organs, as shown by the great divisions of the animal kingdom. The digestive apparatus is a good one for this purpose, not only because its modifications can be readily followed and their differences readily appreciated, but because the function of nutrition is perhaps the most important of all. A creature may exist without any obvious nervous or circulatory system, but it must eat in order to live. Of necessity this will be, indeed, but the briefest glance at the subject, since to describe the digestive apparatus as it is found even in the larger groups of animals, noting the variations in structure, the apparent exceptions to the general plan and the simplification of parts brought about through degeneration, would be to usurp the functions of a text book. The primary divisions, or branches, of the animal kingdom are termed the *phyla*, and are based on the common possession of some fundamental anatomical feature. Authorities are not agreed as to the exact number of even these primary divisions, but that most generally accepted is eight, although as our knowledge of extinct forms and of the embryonic changes undergone by various animals increases, it is entirely probable that this number may also be increased. It is quite probable, too, that there may be more or less shifting about of forms, and that animals now placed in one category may be transferred to another. Formerly the animal kingdom was divided into the two groups of Invertebrates and Vertebrates, but anatomy long ago showed that this arrangement was by no means as natural as it seemed; that some of the so-called Invertebrates were really Vertebrates, and that several distinct plans of structure prevailed among the others. The eight phyla are as follows:

I. Protozoa.—Minute (often microscopic) animals, consisting of a single cell, destitute of blood, nerves and other organs differentiated for the various functions of life. They include the Foraminifera, Infusoria and similar low animals.

II. Porifera.—Fixed, aquatic, compound animals, composed of numerous individuals disposed about a common cavity through which water flows in and out. The body wall is often composed of two layers only—ectoderm and endoderm—and there are no tentacles. Reproduction may take place, as in the Protozoa, by division; or young may be developed from eggs. This division comprises the Sponges.

III. Cœlenterata.—Animals composed of numerous cells, usually arranged in two layers only; body cavity formed entirely by the digestive tube, which has but a single opening; no circulatory nor excretory system. Tentacles, for grasping food, are present, and in some species a rudimentary peripheral nervous system. To this group belong the jelly-fishes, sea anemones, and corals.

IV. Vermes.—Body usually elongate, often segmented; digestive system distinct, sometimes forming the sole body cavity, sometimes suspended in a separate cavity; circulatory system imperfect or wanting; nervous system, a ring about the mouth and accessory ganglia. This branch contains the worms, in the widest sense of the word.

V. Echinodermata.—Digestive system distinct from the general body cavity; circulatory system imperfect, largely distinct; nervous system, a ring about the mouth with radiating branches; integument entirely or partly calcified. This division contains the star-fishes, sea-urchins, and sea-cucumbers.

VI. Arthropoda.—Digestive system complete and distinct; circulatory system, a central contractile organ, with branches open at the ends; nervous system, a ring about the gullet, and usually a line of ganglia along the under side of the body; body segmented and provided with jointed legs or appendages. Crustacea, insects, spiders, &c.

VII. Mollusca.—Digestive apparatus complete and distinct; circulatory system incomplete through the opening of the ends of the branches; nervous system, a ring about the gullet, with accessory ganglia and connected with another ganglion on the lower side; body not segmented, and usually covered with a hard, calcareous shell. The shell-fish, in the broad acceptation of the word.

VIII. Vertebrata.—Digestive and respiratory apparatus distinct and complete; circulatory system forming a complete circuit; nervous system lying along the dorsal side of the body (spinal cord) and usually having an enlargement (brain) at the anterior end; an internal cartilaginous or bony skeleton present. The vertebrates, or back-boned animals, including some very simple primitive and degenerate forms, recognizable as vertebrates only through careful study of their anatomy and development.

Starting with those simple animals which consist of but a single cell, it is found that in many food may be taken in and the digested material rejected at any part of the body; neither is there any distinct digestive apparatus, food being assimilated freely by the contents of the cell. But even in some of these low forms—the Infusoria, for example—we find the starting point of an alimentary canal, since food is taken in at one definite point and the waste products of digestion rejected at another. A step above these, in such animals as the sea anemones, there is a pocket-like cavity in which digestion takes place, material which is not assimilated being cast out by the way it entered. The walls of this primitive stomach also serve for purposes of respiration, and there may be a suggestion of the more complicated organs of higher animals in the shape of finger-like projections which serve to convey nutriment into various parts of the body. Among worms we, for the first time, meet with an alimentary canal in the form of a tube, often much convoluted, opening at either end of the body and often having a certain amount of division into three portions; a hint of the gullet and stomach; and the small and large intestine of vertebrates. Hard, tooth-like bodies are also frequently present in the mouth; while in this group, too, we meet with additional glandular structures, which may be regarded as the forerunners of such organs as the salivary glands and liver of still more specialized forms. By no means all worms have so good an alimentary canal as this, for some species have merely a tube with various branches penetrating the soft substance of the body, the same opening serving for ingestion and excretion; while in some degenerate parasitic forms there is no canal whatever, food being directly absorbed through the surface of the body. Although the alimentary canal of the Echinodermata—the star-fishes, sea-urchins, and sea-cucumbers—is in itself quite simple, it shows a decided advance of structure, in the fact that it is not a mere cavity in the general substance of the body, but an independent tube suspended in a body cavity. As in previous instances, part of the digestive tube serves for purposes of respiration, but in the sea-cucumbers there are certain curious structures attached to its hinder portion which seem to be also connected with locomotion. These structures are hollow, branching, tree-like organs, which can at will be filled with water, and when this is done, it renders the back part of the body somewhat rigid, thus affording a point of support from which the body can be pushed forward. So in these creatures the alimentary canal performs the three functions of digestion, respiration, and locomotion. In Arthropods there is a still farther advance in the digestive system, for not only are the functions of the alimentary canal strictly confined to digestion, but parts of it are so differentiated as to perform special duties; thus, the interior portion is mainly concerned in swallowing and preparing food, the middle portion doing the main work of assimilation, the hinder portion being charged with getting rid of waste products. In this group a crop, or dilatation of the front part of the digestive tube, is often present, serving to retain the food in order that there may be more time to prepare it for digestion. Many arthropods, and particularly insects, have appendages which serve as salivary glands, while a liver is quite generally represented; organs regarded as connected with the products of excretion being also present. There is much difference in the length and complexity of the digestive tube among the members of this group, according to the character of their food, and the direct relation between the two is well shown by the fact that when the caterpillar transforms to a butterfly great changes take place in the organs of digestion in order that they may be adapted to the new conditions of life. Among mollusks the digestive tube is quite distinct from the general cavity of the body, and, as it is always longer, forms several coils or loops. It is also more or less clearly divided into three separate regions, and there is frequently an enlargement of the gullet to form a crop in which food is temporarily retained before passing to the stomach proper. In many species the mouth is provided with an elaborate arrangement of horny teeth, while the Cephalopods (squids, &c.), have a beak suggestive of that of a parrot. Sometimes the stomach is strong and muscular, acting as a gizzard to grind food, and sometimes it is divided into two or more portions, one of which acts as a gizzard, the others treat-

ing the food chemically by the admixture of secretions similar to the gastric juice. The salivary glands and liver are well developed, and on the whole the digestive system shows a great advance in complexity. Vertebrates vary greatly in the development of the digestive system, and there is a wide difference between the simple tube of the lancelet (*Branchiostoma*) and the complex apparatus of a mammal; but in all the following divisions of the alimentary canal may distinguished, viz.: mouth, gullet, stomach, small and large intestine. There may also be present salivary, mucous, thyroid and thymus glands, liver and pancreas, while the surface of the digestive tract may be further extended by folds and its effectiveness increased by numerous small glands in the stomach and intestine, any one of which is a more complicated structure than one of the simple animals with which we started.—There is indeed a vast distance between the Amœba and Man, and it is the province of Comparative Anatomy to furnish the facts with which to bridge over the gap, to show how the simplicity of the one may be connected with the complexity of the other, and to trace the various steps by which such great structural differences are brought about.—From the comparative study of the digestive apparatus we learn that there is no constant and regular advance in passing from group to group, but that in some species of a division the system may be less developed than in some members of the group immediately lower in the scale. In other words, there is some "overlapping." Nevertheless, on the whole, progress is from simplicity to complexity; so that starting with such a form as Amœba, in which food enters at any part of the body and is digested at any point within, we finally reach the complex digestive system of mammals, where one portion of the alimentary canal is devoted to preparing food for digestion, another to the extraction of the nutritious portion, and still a third to removing waste products. So, too, we find that while in the simpler animals respiration is more or less performed by the digestive apparatus, and that it may even aid in locomotion, in its more perfected state it is devoted to digestion only. Not only this, but as we come upwards we find organs, such as the salivary glands and liver, added to the digestive tube in order that it may the better perform its work. These facts not only show that the same organ may differ somewhat in its function in different animals, but also that the progression is from generalization to specialization; that while in the simpler animals the same part may serve for varied uses, in the higher forms the various functions of life are performed by special organs or systems of organs. And this is why the zoologist speaks of animals as being "generalized" or "specialized" in structure; although it must be remembered that, while an animal may be generalized as regards its entire structure, it may be highly specialized in some way in order to adapt it to a certain mode of life. It will also be found, although little stress has been laid on the fact in this brief review, that there is a direct relation between the nature of the food and the character of the digestive apparatus, and that differences between the organs of different species of animals may be due to adaptations for some particular use and not to any real fundamental difference in plan of structure.. With all these problems of structure, modification and function, anatomy is more or less intimately connected; and, while their final solution may rest with some other branch of science, the work must rest upon a foundation of Comparative Anatomy. Works of reference: *Lessons in Elementary Anatomy*, St. George Mivart (London, 1873); *Anatomy of Vertebrated Animals*, T. H. Huxley (New York, 1878); *Comparative Anatomy and Physiology of Vertebrates*, Richard Owen (London, 1866–1868, three vols.); *Elements of Comparative Anatomy*, Carl Gegenbaur (London, 1878); *Comparative Anatomy of Vertebrates*, Robert Wiedersheim (London, 1886); *Text Book of Comparative Anatomy*, Arnold Long (London, 1891–1896, two vols. Does not include vertebrates).

Anat'ropal, *n.* (*Bot.*) An ovule which is turned down upon itself, so that the foramen, or true apex, points to the base, and the chalaza is at the apex.

Anchor Ice. Ice which forms at the bottom of streams or lakes; also ice below the surface of water. The former sometimes lifts anchors with it when it rises; the latter often clogs water wheels, pipes, &c. It is formed when the bottom of a body of water is below the freezing point; and also when the whole body of water is below this point, though wind keeps ice from forming on the surface, while it is free to form below. At other times ice is formed by eddies below the surface, or small masses of snow form nuclei for the formation of ice in water of low temperature.

An'derson, Mary, an actress, b. at Sacramento, California, July 28, 1859. She was educated at the Ursuline Convent, Louisville, Ky., and determined at the age of 13 to devote herself to the art of acting. She was encouraged in this by Charlotte Cushman, the tragedienne, took lessons in New York, and on Nov. 27, 1875, made her *début* at her native place, with great success, in the character of Juliet. After appearing in all the principal cities of the U. S., she made a very successful tour of England. She was married in 1890 to A. F. de Navarro, and retired from the stage.

An'derson, Rasmus Björn, an author of Norwegian ancestry, born at Albion, Wis., Jan. 12, 1846. He was educated at Luther College and the University of Wisconsin, in which latter he was Prof. of Scandinavian Languages and Literature, 1873–84; subsequently becoming U. S. minister to Denmark, 1885–89. His works include *Norse Mythology; America not Discovered by Columbus; The Younger Edda*, and numerous translations, both in English and Norwegian. Most important of these is a translation of the works of Björnsen, in 7 vols.

An'derson, Robert, born near Louisville, Ky., June 14, 1805; graduated at West Point, 1825; performed various military duties until the outbreak of the Civil War, in particular participating in the battles of Scott's campaign in Mexico, where he was severely wounded and made brevet major. In the winter of 1860–61 he was in command of Fort Moultrie in Charleston harbor, whence he removed to Fort Sumter, which he was forced to surrender after a heavy bombardment, April 13, 1861. He was made brevet major-general, but ill-health prevented him from taking an active part in the war. He rehoisted the flag he had lowered on Fort Sumter over the walls of that fort on April 13, 1865, on the 4th anniversary of its fall. D. Oct. 26, 1871.

An'derson, Rufus, D.D., LL.D., b. at North Yarmouth, Me., Aug. 17, 1796; graduated at Bowdoin College in 1818, and studied theology at Andover 1819–22. He became assistant secretary to the American Board of Foreign Missions in 1824, and its corresponding secretary in 1832, which position he very ably filled for thirty-four years. On his resignation he was presented with $20,000, contributed by New York and Boston merchants. This sum he made over to the Board, reserving the right to draw from it for his support. His publications on the subject of missions were numerous. Died May 30, 1880.

An'derson, William, D.C.L., a civil engineer, born in in St. Petersburg, of British parents, Jan. 5, 1835, and educated at the High Commercial School of that city, where he graduated with distinguished honors. He subsequently, in 1851, graduated from King's College, London, and entered upon an active course of engineering duties, becoming in 1863 President of the Institution of Civil Engineers of Ireland. In 1889 he was made Director-General of the royal ordnance factories of Great Britain and Ireland. The honorary degree of D.C.L. was conferred upon him by the University of Dublin. He translated, from the Russian, several important works on steel working, and published lectures on the *Generation of Steam; The Conversion of Heat into Work*, etc.

Andkhuy, (*and'ki,*) a town in Afghanistan, stormed and plundered by Mohammed Khan in 1840, since when it declined in importance. *Pop.* 15,000.

Andrassy, Julius, Count, (*ahn-drahs'se,*) an Austrian statesman, b. at Zemplin, Hungary, 1823. He was returned by his native town to the Diet of 1847, where he rose to distinction in consequence of his oratorical powers and political tact. To the revolutionary movement of 1848 he lent all his influence; and, after the Hungarian Government had fled to Debreczin, in 1849, he was dispatched on a mission to the Porte. On the defeat of the revolution he went into exile, and resided in France and England until the general amnesty of 1857 enabled him to return to his native country. Being elected a member of the Hungarian Diet in 1860, he gave a hearty support to the Deak party, and was nominated Vice-President. On the reorganization of the Austrian Empire, and the constitution of an Hungarian ministry in 1867, he was appointed Prime Minister of Hungary, and charged with the department of the defence of the country. Among the principal events of his administration were the civil and political emancipation of the Jews, and the raising of a large sum of money to extend and complete the railway system in Hungary. At the general election of 1869 he was unanimously returned by the electors of Pesth to the Hungarian Chamber of Representatives. Count Andrassy succeeded Count Beust as Minister for Foreign Affairs in Nov., 1871, when he retired from the post of President of the Ministry at Pesth. D. 1890.

Andrée, S. A. A distinguished Swedish civil engineer and scientific aeronaut, who has made himself famous by his effort to reach the North Pole in a balloon. His plan, which was first made public in 1895, was to construct a balloon sufficiently impervious in texture to hold gas without serious loss for 3 months, with provision to manufacture new gas, and refill, if necessary, in the Arctic Circle. He proposed to make it buoyant enough to carry 3 persons, with provisions and apparatus, the whole to weigh 3 tons. Though trusting to the winds, M. Andrée hoped to gain some steerage power by the aid of guide ropes dragging on the ground, and attached to different points around the circumference of the car. A sail attached to the balloon aided in this result. Experiments made with this end in view proved that he could turn 27° aside from the direction of the wind. The balloon being constructed and all arrangements made, M. Andrée conveyed it, in the summer of 1896, to one of the small islands north of Spitzbergen, hoping to avail himself of the southerly winds which often blow for a long time together over that region, and by their aid to reach the polar district in a brief journey. Unluckily for his project, the winds proved adverse and the effort was not made. In the summer of 1897, he repeated the attempt, and this time found the winds favorable to his daring enterprise. Cutting loose on July 11, the bold aëronaut, with his 2 companions, floated north at a speed of 22 miles an hour, before a southwest wind, and soon disappeared from sight. The outcome of the perilous enterprise is at this writing undetermined. For details regarding it, see Polar Research.

An'drew, John Albion, lawyer and statesman, born at Windham, Maine, 1818, graduated at Bowdoin College, and became a member of the Boston bar in 1840. He early distinguished himself by his anti-slavery views, and in 1860 was chosen governor of Massachusetts, and 4 times re-elected to the same office in succession. He nobly responded to the call made upon his State for volunteers during the Civil War, and died in 1867.

An'drews, Elisha Benjamin, D.D., LL.D, born at Hillsdale, N. H., Jan. 10, 1844; entered the army as a private in 1861 and served till 1864, when he retired as second lieutenant, being wounded and losing an eye. He graduated at Brown University in 1870, and at Newton Theological Institute in 1874, and after filling several positions as pastor, professor, &c., became Professor of History and Political Economy at Brown University in 1882; of Political Economy and Finance at Cornell University in 1888; and President of Brown University in 1889, which position he still occupies (1897). He was a commissioner to the International Monetary Congress, at Brussels, in 1892, and is the author of *Institutes of General History; Institutes of Economics*, &c.

An'drews, Stephen Pearl, an American philosopher and linguist, born in Mass. in 1812. He acquired the philology of some 30 languages, including Latin, Greek, Sanskrit, Chinese, and several other oriental tongues, and prepared a system of instruction in French, which for many years was a standard text-book. He was a prolific writer, a frequent contributor to magazines and a firm believer in Spiritualism, on which he wrote voluminously. What he considered his most important work was the creation of a universal language, to replace all existing languages and dialects. This artificial language he called Alvato. He wrote many pamphlets concerning it, but without the desired effect. Died in 1886.

Andromania, *n.* A disposition in certain women to imitate the actions and characteristic habits of men. —(*Med.*). The same as Nymphomania (*q. v.*)

Anem'ograph, *n.* (*Physics.*) An instrument that makes, by tracing a curved line, an automatic record of the force, direction, and velocity of the wind.

Anemom'eter, Electrical. (*Meteor.*) A form of anemometer, invented by Mr. J. E. H. Gordon. It consists of an ordinary pair of Beckley fans and a set of revolving cups, fixed in any convenient situation, and connected by insulated wires with a galvanic battery and with a recording apparatus. There is no limit to the length of the connecting wires. The recording instrument itself consists of a clock, a wind-dial, a reel of paper, and an endless band carrying a carbon paste for printing. The dial indicates the direction of the wind, and the printing band prints this direction every half hour. The same band records every quarter of an hour of time and every completed mile that the wind has traversed. The slip of paper issued by the machine is about an inch broad, and it receives the time on its left-hand margin, the direction of the wind on its right-hand margin, and a dot for each mile on a central line, so arranged as to be comparable with the time record. The number of dots marked on the paper between 10 and 11, for example, indicate the velocity of the wind during that period of time, and the dots become crowded as the velocity increases, and stand farther apart as it decreases. The battery is composed of zinc and carbon elements with dilute sulphuric acid, and will work for six months without attention. The reel of recording paper holds a supply for three months, and the clock can be made to run this length of time without winding; so that the whole apparatus would be as nearly as possible self-acting. Ordinarily, however, it would be desirable for the attendant in charge of it to date the recording slip every 24 hours, and an eight-day clock would be sufficient for the requirements of most observers. The great advantage of the instrument is in the character of its records, and in the fact that the electrical communication does away with the use of cranks and shafting, which are not only costly and heavy and far less delicate, but which also render it necessary that the recording instrument should be in the immediate neighborhood of the fans.

Anem'oscope, *n.* An instrument to indicate the direction of the wind, as a weather-cock.

Anemo'sis, *n.* [From Gr. *anemos*, wind.] (*Bot.*) The condition known in timber by the name of wind-shaken. A trunk which is apparently sound externally, proves, when felled, to have given way in the direction of the concentric layers of which it is composed, so that the connection between them is more or less completely broken. This occurs in many kinds of exogenous timbers, and is no less common in foreign woods than in those of native growth. Some have supposed it to be due to the pressure of extremely violent gales. This, however, is very doubtful, the effect being more probably due to frost or lightning. Wind, however, may be injurious to trees without producing absolute fractures or separation of parts, by causing too rapid evaporation and in consequence chilling the tissues to such a degress as to retard development, or induce an unhealthy condition, or temporary sterility.

An'ethol, *n.* (*Chem.*) An organic compound, formula $C_{10}H_{12}O$, which forms the essential constituent of the oils of anise, fennel, and tarragon. At ordinary temperatures it occurs as a solid (*anise-camphor, solid anethol*), at higher ones as a volatile liquid (*liquid anethol*). Also better designated as *methyl allyphenol.*

An'gell, James Burrill, LL.D., born at Scituate, R. I., Jan. 7, 1829; graduated at Brown University, and studied for two years in Europe. From 1853 to 1860 he was Professor of Modern Languages and Literature at Brown University; editor of the *Providence Daily Journal*, 1860–66; President of the University of Vermont, 1866–71; and since 1871 has been President of the University of Michigan. He served as U. S. minister to China 1880–82; and in September, 1887, was appointed

a member of the U. S. Fishery Commission and Regent of the Smithsonian Institution. Appointed Minister to Turkey (1897), but the appointment seemed to be ill-received by the Turkish government.

An'gelus, *n.* [Lat.] (*R. Cath. Ch.*) A devotion in memory of the Annunciation, named from its opening words *Angelus Domini*, "Angel of the Lord." It consists of three descriptive scriptural texts, alternating with the salutation *Ave Maria*, "Hail Mary." A bell is rung at morning, noon, and evening to indicate the hour for the devotion. The sound of the Angelus bell reaching workmen in the fields forms the subject of a celebrated painting by Millet.

Angi'na Pector'is, *n.* (*Pathol.*) An intense pain in the region of the heart, occuring in paroxysms. It is also called Breast Pang and Heart Stroke, and is attended with a sense of suffocation and faintness and an apprehension of sudden death. It is usually confined to persons having an organic disease of the heart, and frequently arises from a sudden emotional disturbance, particularly in men over fifty years of age. Death sometimes occurs in the paroxysms. Morphia, nitrate of sodium, nitrate of amyl, and other sedatives are useful as remedies.

Angiotenic, (*ăn-je-ŏt'ĕn-ĭk,*) *a.* [From Gr. *aggeion*, a vessel, and *teinein*, to stretch.] (*Med.*) An epithet given to inflammatory fever, owing to its action seeming to be chiefly exerted on the vascular system.

Angostu'ra Bark. (*Med.*) The bark of *Galipea cusparia*, used as an aromatic or stimulant tonic. Dr. Hancock, who had large experience of its use in tropical South America, even preferred it to cinchona in the treatment of fever. In this country it is but little used, being deemed inferior to other remedies, and possibly from the fact that a false Angostura bark was at one time, through inadvertence or cupidity, substituted for the genuine bark.

Anhinga, (*ăn-hĭng'gah,*) or WHITE-BELLIED DARTER, *n.* (*Zoöl.*) The *Plotus anhinga*, a very elegant species of the *Colymbidæ*, or Diver family, common in some parts of Brazil. Its body is about the size of a tame duck's, but its length, from the tip of the beak to that of the tail, is nearly three feet. It has a long, slender bill, yellowish at the base; a small head; the neck long, round, and slender, and covered with soft downy feathers of a rufous gray color; while those on the breast, belly, and thighs are of a silvery whiteness. The plumage at the beginning of the back is brown, each feather having an oblong spot of whitish yellow in the centre, so that it appears speckled; the rest of the back is black; and the tail consists of shining black feathers tipped with gray. The legs are remarkably short, the thighs feathered, and the claws very sharp and crooked. The *A.* builds its nest on trees, on which it roosts at night and when not on the water, being very rarely seen on

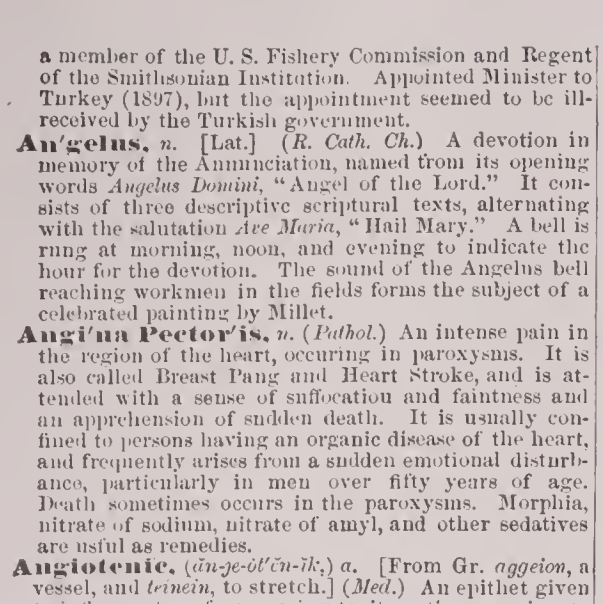


Fig. 2669.—PLOTUS ANHINGA.

the ground. It feeds upon fish, which it catches most dexterously, darting upon them with great rapidity. These birds delight to sit in little communities, on the dry limbs of trees, hanging over still waters, with their wings and tails expanded. When any one approaches, they will drop off the limb into the water as if dead, and for a minute or two are not seen; when on a sudden, at a great distance, their long slender heads and necks only appear, so that while swimming they greatly resemble snakes, no other part of them being visible, except occasionally the tip of the tail.

Anhy'drid, ANHY'DRIDE, *n.* (*Chem.*) An oxide which becomes an acid on the addition of water, or one which is looked upon as an acid which has been deprived of water, and which combines with basic oxides to form salts.

An'iline Colors, *n.* (*Dyeing.*) Coloring substances derived from aniline (*q. v.*). The first of these, a violet-blue color, was discovered by Runge in 1835, by treating aniline with chloride of lime. In 1835 Beissenhirtz obtained a blue color from the action upon aniline of potassic dichromate and sulphuric acid. This color was isolated in 1856 by W. H. Perkin, and named by him mauve. He showed that it could be used as a dye. Since then chemists have produced, from aniline, colors of almost every tint and shade, many of which are used in dyeing and calico printing, taking the place of the previously used vegetable and animal colors. The chemical composition of many of these colors is known, and important conclusions have arisen from their study. Aniline reds, or *rosaniline* salts, are the most important of the aniline colors. They yield brilliant tints, and constitute the base from which many of the other colors are prepared. In addition we may name aniline violets, blues, greens, browns, maroons, and greys. No good black dye has as yet been derived from aniline, though in calico-printing blacks of great intensity and durability have been discovered and are now used almost exclusively. Aniline colors are also used for inks and for coloring leather, soap, candy, ivory, horn, etc. Their high cost is more than balanced by their brilliancy of tint and the simplicity in the process of dyeing which they permit.

An'imus, *n.* The animating thought or purpose; spirit; intention; hostile feeling or intent; as, "the *animus* of the speech was partisan."

Ankyloglossia, (*ăng-kĭl-o-glos'shah,*) *n.* [From Gr. *ankyle*, a curve, and *glossa*, the tongue.] (*Surg.*) Impeded motion of the tongue in consequence of adhesion between its margins and the gums, or in consequence of the shortness of the frænum; the latter affection constituting *Tongue-tie*. It merely requires the frænum to be divided with a pair of scissors.

An'naly, in *California*, a township of Sonoma co.

An'niston, in *Alabama*, a city of Calhoun co., which, from its manufacturing activities, has grown with great rapidity. Its population in 1880 was 942; in 1890, 9,998; and is now considerably increased. It is the industrial and commercial centre of one of the richest iron districts in the world, is surrounded by a fertile agricultural country, and is among the most progressive manufacturing communities in the South.

An'nulus, *n.* [Lat. *annulus*, a little ring.] A ring-like figure or body. Geometrically, it signifies the area between the circumferences of two concentric circles. Botanically, it indicates the elastic ring of cells which surrounds the sporangium in ferns, and certain other ring-like cell layers. In astronomy, it is the visible edge of the sun's disk which appears around the body of the moon in an annular eclipse. Also, in general, any ring-shaped structure, marking, &c.

An'sted, DAVID THOMAS, F.R.S., an English geologist, born in London about 1814, and educated at Cambridge University. In 1840 he was appointed Professor of Geology in King's College, London, and afterward travelled widely in America and elsewhere, engaged in geological research. His published works on geology are numerous, including *The Ancient World; The Great Stone Book of Nature; The World We Live In*, and other popular productions. D. May 20, 1880.

Antanana'rivo, the capital and chief city of Madagascar, situated in a mountainous region in the central portion of the island, about 5,000 feet above the level of the sea, from which it is 110 miles distant. It was reached and occupied by the French army of invasion on Sept. 30, 1895, and now forms the centre of the French protectorate established in the island. *Pop.* estimated at 100,000 in 1897.

Antapod'osis, *n.* [From Gr. *antapodidomi*, I return in exchange.] (*Pathol.*) The succession and return of the febrile periods.

Antare'tic Sea, The. (*Geog.*) For a number of years scientific inquiry was rife towards and in the Antarctic Circle, discovery following discovery in quite rapid succession. The most brilliant period was that extending from 1838 to 1843, when three great national expeditions, under the command of Admiral D'Urville for France, Sir James Ross for England, and Captain Wilkes for the U. States, prosecuted their researches. It is hardly necessary to attempt a summary of what was accomplished by these intrepid navigators, or to discuss the question as to whether the lands discovered by Captain Wilkes were continental or insular. One discovery of great moment, by Sir James Ross, was that of active volcanoes in South Victoria Land having a height of 12,000 feet, access to which was barred by a wall of solid ice 200 feet in height, along which he sailed for hundreds of miles without finding a favorable opportunity to penetrate farther into the interior. Of late years, renewed attention has been directed towards the Antarctic lands, largely in consequence of the publications of the Meteorological Institute of the Netherlands, in which it is shown that the current of warm water which comes from the Straits of Mozambique, and is known further S. as the Agulhas Stream, does not, as originally supposed, continue around the Cape of Good Hope, but at the southern point of Africa bends around towards the E., and unites with the waters that strike along the coast of Australia, and in the region of Kerguelen Land turns more and more to the S., having been traced in that direction as far as the fiftieth degree of S. Lat. How much further it goes has not yet been ascertained; but it is extremely probable, judging from the analogies of the currents of the northern hemisphere, that this may penetrate to quite a high latitude, and that it is along its path that researches are to be prosecuted which will lead more or less near to the heart of the mystery that now surrounds the south pole. The discoveries of Ross and Weddell are really due to their persistency in following the warm currents—the first from New Zealand, and the other to the S. of Cape Horn. There is the more hope of a satisfactory result in this experiment, as little special effort hitherto has been made in that direction. It is quite probable that one result of a successful exploration would be to limit very materially the supposed mass of land, as many of our best geographers maintain the existence of an archipelago of islands firmly united by bands of ice, rather than a continent. In 1893 Larsen penetrated in the Graham Land region to lat. 68° 10′, and on Seymour Island discovered a number of Tertiary fossils and an abundance of fragments of coniferous wood, these being indicative of a former higher temperature and the presence of organic life in these regions. Two Norwegian explorers, Kritensen and Borchevink, following Ross's path in the steamer *Antarctic*, reached lat. 74°, and saw open water still ahead, but were forced to return on account of deficiency in food supply. They landed on what was either the mainland or a main island, being thus the first to set foot on the supposed continental mass of the Antarctic land. The most important result of their journey was the finding of some shreds of lichen on Possession Island, being the first living organic material ever found within the Antarctic Zone. A strongly renewed interest in Antarctic research has been awakened by these results, and expeditions to that region by Borchevink, Dr. Cook, and others, have been projected, but as yet not carried out. In the coming years it is very probable that renewed efforts, under better auspices and with the advantage of the best methods employed in Arctic research, will be made to penetrate the mystery of this great unknown region, and there is every reason to expect important results. See ARCTIC EXPLORATIONS.

Antever'sion, *n.* [Lat. *ante*, before, and *vertere*, *versum*, to turn.] (*Path.*) Displacement of the uterus, in which the fundus is turned towards the pubes, while its orifice is towards the sacrum. It may be caused by extraordinary size of the pelvis, pressure of the viscera on the uterus, &c., and is recognized by examination *per vaginam*. A simple forward inclination of the body of the uterus, without the os uteri being carried much backwards, is termed *anteflexion* of the uterus, *anteflexis uteri*. Not infrequently, however, it is used synonymously with retroversion of the uterus.

An'therozoid, *n.* (*Bot.*) The male fecundating body in cryptogamous plants. It is a minute mass of protoplasm, usually naked, provided with vibritile cilia, and has its origin in an antheridium, the male sexual organ of these plants.

An'thony, HENRY BOWEN, b. at Coventry, R. I., April 1, 1815; graduated at Brown University in 1833, and was editor of the Providence *Journal* 1838–59. In 1849 he was elected Governor of Rhode Island, and in 1859 became U. S. Senator from that State, remaining in the Senate until his death, Sep. 2, 1884. In 1883 he was elected president *pro tem* of the Senate, but declined on account of ill health.

An'thony, SUSAN BROWNELL, b. at South Adams, Mass., Feb. 15, 1820. For fifteen years she was a teacher in New York, and since 1852 has been one of the most active and influential advocates of woman's rights, particularly of woman's suffrage. The temperance and anti-slavery causes also had her earnest advocacy. She has long been distinguished for zeal and eloquence in these movements.

An'thony, in *Kansas*, a city, cap of Harper co. *Pop.* in 1890, 1,806; in 1897, about 2,150.

Anthracene, (*ăn'thrah-seen.*) or PARANAPHTHALINE, *n.* (*Chem.*) A hydrocarbon obtained from the heavier portions of the tar produced in the dry distillation of wood and coal. It forms small colorless plates, which melt at about 415° to a colorless liquid, and distils at a temperature above 572°. It is insoluble in water, but easily so in hot alcohol, ether, and benzol. The composition of *A.* is $C_{14}H_{10}$; it is now of considerable importance, as it is the starting-point in the manufacture of artificial alizarin. According to Dr. J. Gessert, the best method of preparing *A.* is as follows: *A.* is found in that portion of the distillation of coal-tar, commonly called "green grease," which is composed of about 80 per cent. of the heavy oil naphthaline, and 20 per cent. of *A.* The semifluid grease is first placed in a centrifugal machine in order to expel, mechanically, as much as possible of the oil; the residue is heated to 40°, and pressed, preferably between hot plates. The cake thus obtained (crude *A.*, containing 60 per cent. of that substance) is purified by boiling with light tar-oil (coal-tar naphtha), or with petroleum naphtha. The pasty mass is again placed in the centrifugal machine to remove the last traces of heavy oil, and the material next submitted to sublimation. In order to test the green grease for the quantity of *A.*, from 5 to 10 grms. of that substance are taken, placed between folds of filtering-paper, and pressed between hot plates; the remainder of the substance is repeatedly boiled with alcohol, washed with cold alcohol upon a filter, and next dried and weighed. The fusion-point of the mass should be, as near as possible, 210°. The author says that sulphide of carbon is not well suited for the purification of *A.*, because that substance is too readily soluble in that fluid. One hundred parts of alcohol dissolve, when cold, 0·6 parts of *A.*; 100 parts of cold benzol dissolve 0·9 parts of *A.*; and 100 parts of sulphide of carbon dissolve 1·7 parts of *A.*

Anthracia, (*ăn-thra'she-ah,*) *n.* [From Gr. *anthrax*, coal.] An eruption of tumors, imperfectly suppurating with indurated edges, and, for the most part, a sordid and sanious core.

An'thracite, *n.* [From Gr. *anthrax*, charcoal.] (*Min.*) A variety of mineral coal which is distinguished by its high specific gravity, its semi-metallic lustre, and its burning without emitting smoke, while yielding an intense heat. It differs from bituminous coal in its harder and denser character and greater proportion of carbon, of which that of Pennsylvania contains from 85 to 93 per cent. and that of Wales from 88 to 95 per cent.

It occurs in strata like other coal and is believed to have had a similar vegetable origin, it having been changed from the bituminous to the anthracite variety by the action of underground heat, occasionally by the influence of intrusive igneous rocks. Anthracite may be of any geological age. The coals of China, which embrace much anthracite, are of Mesozoic age, while in New Mexico, Colorado, Queen Charlotte Island, &c., very recent coal has been converted into *A.* by the action of volcanic outbursts. *A.* also occurs in Wales and in some other parts of Europe, but far the most productive beds of it are those of Pennsylvania, where it occurs in great abundance and is of the highest industrial importance. The *A.* region extends through much of northeastern Pennsylvania, covering an area of about 1,700 sq. miles, of which nearly 500 are underlaid by workable coal beds. At Tamaqua there are 21 coal veins whose aggregate thickness is 126 feet, the Mammoth vein being, near this locality, 114 feet thick. At Pottsville there are 28 beds, with 154 feet in thickness of coal. Pennsylvania *A.* varies in hardness from the semi-bituminous of the western to the very hard Lehigh coal of the eastern portion of the field. Anthracite is the favored domestic coal, wherever obtainable, for its cleanness and freedom from smoke, though in many places it is considered less desirable than bituminous for steam-making purposes. Attempts to mine the Pennsylvania anthracite were made in 1793, but no regular shipments were made until 1820, and it did not come into use for manufacturing purposes until after 1830. The mining and use of it have steadily increased until the product of the Pennsylvania mines has become enormous in quantity and widespread in distribution. In 1895 the total output was 57,999,337 tons, valued at the mines at $78,488,063. See COAL PERIOD and MINERAL COAL.

Anthraco'sis (*ăn-thra-ko'sis*). [From Gr. *anthrax*, charcoal and *osis*, morbid condition.] (*Pathol.*) A species of carbuncle which affects the eyelids and globe of the eye. The term is also applied to the "black lung" of coal-miners, an affection induced by an accumulation of carbonaceous particles in the lungs. Sometimes ulceration results from this cause, and the malady is then termed *black phthisis.*

An'thrax, *n.* [Gr., charcoal.] (*Path.*) A name formerly applied to the painful eruption known as carbuncle, but now used for a widely distributed and very destructive disease, most common among sheep and cattle, but occasionally attacking man. It is now known to be due to the action of a special micro-organism, the *bacillus anthracis*, and is of interest as being the first disease traced to this cause, and as giving rise to the GERM THEORY OF DISEASE (*q. v.*). It has been known by many names, including Splenic Apoplexy, Splenic Fever, Siberian Plague, Charbon, &c., and in man as Malignant Pustule, Wool-sorter's Disease, &c. In addition to cattle and sheep, it is very destructive to horses and camels, attacks many of the smaller herbivorous mammals, and may be contracted by domestic fowls. In the most acute cases the animal falls as if it had received a severe blow, and goes into convulsions; death soon following. Even when less acute, it is apt to recur after seeming recovery, and death frequently follows within two days' time. Man is not very susceptible to it, but is occasionally attacked when exposed to its influence, as in the case of the affection known as wool-sorter's disease, a rapidly fatal illness which attacks those working among wool. It takes the form of a malignant eruption, or a gangrene, attended with dangerous internal disorder of the system. The *bacillus anthracis* is a minute, rod-shaped organism, of persistent vitality and very rapid increase, multiplying in the blood of affected animals.

Anthropogenia, (*ăn-thro-po-je'ne-ah*) *n.* [From Gr. *anthropos*, man, and *genesis*, generation]. (*Biol.*) The knowledge, or study, or phenomena of human generation.

Anthropol'ogy, *n.* The science of man. It may be divided into three departments, viz.: biology, the study of man as an animal; psychology, the study of human mind and its development; and ethnology, the study of man in his social, industrial, racial and political relations. It has to do with questions concerning the origin of man, and with all the stages of his development from the primitive to the most recent period. Two main views exist as to man's origin—one based on a literal interpretation of Scripture, which regards man as a separate creation, distinct from and superior to the animal kingdom in general; the other founded on recent scientific research and theory, which considers man to be a lineal descendant of the lower animals. As an argument in support of the latter view, is advanced the fact of the discovery of very ancient human remains and implements, indicating a progress from very inferior conditions of art and industry; while the former is favored by the fact that no direct and indubitable connection of man with the lower animal kingdom has yet been demonstrated. The subject of human development is far too extensive to be treated here, but its separate branches are well treated in various articles throughout this work. It must suffice to say that man is cosmopolitan, being distributed over all the regions of the earth and having succeeded in adapting himself to all the variations of natural conditions; and that he is divided into a number of distinct races, such as the African, the Aryan, the Mongolian, the American, &c., which show no tendency to merge, and each of which is treated in this work under its appropriate heading.

Anthropom'etry, *n.* The measurement of the human body, to discover its exact dimensions and proportions, for the comparison of race characteristics. Anthropologists have long depended on the measurement of the skull as a leading element in the classification of races, but it is found that measurements of all parts of the body are important in this determination. French anthropologists have been particularly active in this direction, and have made more than 100 measurements of a single individual. Sculptors have also adopted certain rules of measurement, for the purpose of obtaining a canon of proportion for the most harmoniously developed human body. As regards the measurement of human height, nearly 200,000 persons were measured at draft stations during the American civil war, while the Anthropometric Committee of the British Association have collected similiar measurements of peoples from all parts of the earth. In addition to height, tables are given of weight and of various dimensions of the body, the observations having grown more minute and varied as their scientific value has become more evident. In 1882 a collection of data of this character was begun in the French prisons, as a means of identification of criminals, in connection with photographs of the various parts of their bodies. This system has much developed, and promises to render absolute the detection of any suspected person, of whom measurements exist. In the U. S. Army the use of tattoo marks, vaccination marks or other scars, etc., in connection with height and color of hair and eyes, are depended upon for the detection of deserters. A method in anthropometry, long practiced in China, and coming into use elsewhere, is the taking of impressions of the fine lines and circles at the extremities of the thumbs and fingers. These seem to be alike in no two individuals, and in the East are used as seal marks on important documents.

Anthropon'omy, *n.* [From Gr. *anthropos*, man, and *nomos*, a law.] (*Biol.*) A knowledge of the special laws which preside over the functions of the human body.

An'tical (*ăn'te-kăl*), *a.* (*Bot.*) Placed in front of a flower, the front being regarded as the part most remote from the axis. Thus, the lip of an *Orchis* is antical.

Anticryp'tic, *a.* [From *anti*, and Gr. *kryptos*, hidden.] A term employed to designate a color in animals suitable to conceal them for aggressive purpose. As an example may be mentioned the large South American frog, which buries its body in the ground, while its head agrees in color with its surroundings.

Anti-cyclone (*ăn'-ti-sī-klōn'*), *n.* (*Meteorol.*) An atmospheric condition opposite to that of a cyclone. It is characterized by high barometer, gentle winds outflowing from a center, clear skies and dry state of the atmosphere, in contrast to the low temperature, inflowing winds, and storm conditions of the cyclone. *A.* conditions cover wide areas, and are apt to follow cyclonic conditions, moving eastward with some slowness and usually yielding cooler weather, and in winter often producing cold waves. A long-continued *A.* is a season of draught. In meteorological science, in the *A.* the upper air gently sinks to the surface, bringing down dry conditions, which are widely extended as the descending air flows out, carrying with it the cool temperature brought down from the higher atmosphere. The clearness of the sky makes the day warm by uninterrupted sunshine, while the freedom of radiation chills the air at night and often produces killing frosts.

Antifeb'rin, or ACETAN'ILID, *n.* (*Med.*) A substance introduced in 1886 as a febrifuge, in substitution for quinine, it having the favorable features of cheapness and rapidity of action. It is a white powder, with burning taste, and almost insoluble in water, though soluble in alcohol. It is derived from and closely allied to aniline. Its general action resembles that of antipyrin, and when given to fever patients, in doses of from 10 to 15 grains, it produces in an hour's time a fall of temperature often accompanied by a profuse perspiration. In poisonous doses it may yield wide-spread paralysis with convulsions, and death in collapse. It often affords a great relief in nervous pains, such as nervous or sick headache, &c.

An'tigo, in *Wisconsin*, a city, cap. of Langlade co. Has wood-working and agricultural interests. *Pop.* in 1890, 4,424; in 1897, over 5,000.

Antilep'sis, *n.* [From Gr. *antilambano*, I take hold of.] (*Surg.*) The mode of attaching a bandage over a diseased part, by fixing it upon the sound parts. The mode of securing bandages, &c., from slipping.—Treatment by revulsion or derivation.

Antil'ogous Pole. See ANALOGOUS POLE.

Antipyret'ic, *n.* [Gr. *anti*, against, and Eng. *pyretic*, from Gr. *puretos*, heat.] (*Med.*) A remedy against fever.

—*a.* Having power to reduce bodily heat or fever.

Antipyrin, (*ăn-tī-pēr'in*), *n.* (*Med.*) A white powder, obtained from the coal-tar products. In doses of 15 to 30 grains, it reduces the temperature 2° to 3° in an hour, and is of great value as a febrifuge. It is the most serious rival to quinine, but not being an antiperiodic, it cannot take its place in intermittent fevers and ague. It is not, except in very large doses, depressing to the heart, though there is an occasional collapse in fever due to some indirect influence. The habitual use of *A.* is deleterious to the general health, and yields a livid color from its action on the red blood corpuscles.

Antisep'sis, *n.* (*Surg.*) The exclusion of microbic organisms that cause putrefaction, especially from surgical wounds.—Also, antiseptic measures and agents, collectively.

Antisep'tic, *a.* [From Gr. *anti*, against, and *septikos*, putrefying.] Opposed to or preventive of septic action or putrefaction. The word is applied to all substances which act to check or prevent the decay or putrefaction of organic materials. One of the simplest antiseptic processes is the exclusion of air and moisture, both of which are necessary to putrefaction. This is commonly done by the preservation of food substances in air-tight vessels of glass or tin. If the air is exhausted, or if the microbes which it may contain are destroyed by heat and the intrusion of others prevented, decay or decomposition is permanently prevented. Cold has a powerful antiseptic action, it preventing decay in the most readily putrefying substances. It has, therefore, come greatly into use for the purpose of food preservation, cold-storage warehouses being provided in our larger cities where meats and provisions can be kept unchanged for an indefinite period. Cold storage is also in use on ship-board and in cars, for the preservation of perishable organic freight. Timber is often treated with corrosive sublimate, chloride of lime, heavy oil of tar, &c., to prevent decay. By charring the surface of posts, thus providing them with a coating of charcoal, the like effect is produced.—The chemical substances exerting an antiseptic effect are numerous. Among the more important may be named alcohol, wood-spirit, creasote, carbolic acid, sugar, glycerin, salt, sulphurous acid, charcoal, nitre, alum, chloride of zinc, and sulphate of iron. This is an incomplete list, there being many other substances at times employed. They differ in action, sulphurous acid deoxiding the substance, sugar uniting with its water, others combining with the substance itself and forming non-putrescent compounds. Antiseptic processes are very largely used in modern industries, particularly for food-preservation; air-tight canning, cold-storage, and drying having became among the most extensive and important of industrial processes.

—*n.* Any agent which has an antiseptic effect; as corrosive sublimate, iodoform, &c.

Antisep'tic Sur'gery, or LISTERISM. (*Surg.*) The modern mode of treating surgical wounds, introduced by Sir Joseph Lister, and founded on his recognition of the fact that sepsis, or putrefactive action, is the chief danger against which the surgeon has to contend in dealing with wounds. This method is now in almost universal use by surgeons, it having become clearly evident that putrefactive changes in the tissues are due to the action of microbes, and that the entrance of these to wounds can be prevented by simple and easily-applied methods. Pyæmia, septicæmia, gangrene, and erysipelas,—microbic diseases which were once the scourge of surgical hospitals, and whose origin was quite unknown,—have now become of rare occurrence, the result being a great reduction in mortality among hospital patients. For the purpose in question, antiseptic substances are used. Until recently, carbolic acid was the favorite agent for this purpose, but various others are now in use, including thymol, oil of eucalyptus, boric and salicylic acids, iodoform and corrosive sublimate. An aqueous solution of the last named is now very generally employed, in common with carbolic acid, they being used whenever the presence of harmful germs is suspected.—*Mode of Operation.* In a surgical operation as now conducted, the skin of the part to be acted on, the hands and clothing of the surgeon and his assistants, and also the instruments, are first carefully cleansed and purified by washing in the antiseptic solution, and during the operation the atmosphere around the wound is kept impregnated with a spray of carbolic acid, or the wound irrigated with the corrosive sublimate solution. The sponges, ligatures, &c., employed are kept in carbolic acid until needed. When the operation is completed and the wound closed, it is covered with a specially prepared oil-silk, to prevent irritation by the antiseptic dressing. This consists of muslin, impregnated with a mixture of carbolic acid, resin and paraffin; or of fine cotton wadding impregnated with corrosive sublimate or salicylic acid. Whenever the dressing is changed, the same precautions as to purification of hands, utensils, &c., are needed. Ordinary wounds are carefully washed out with a searching antiseptic, and then treated as above. If taken in time, putrefaction in these can be usually prevented. The results of these operations are strikingly favorable in preventing the diseases mentioned, pain in the wound, fever, and formation of pus, healing being rapid and continuous. By the aid of antiseptic methods it is now often possible to save a limb where amputation was formerly deemed necessary; mortality from injuries and operations is greatly diminished, and many operations are fearlessly and safely undertaken which were formerly often followed by death, or were deemed too dangerous to be ventured upon.

Antitox'in, *n.* (*Med.*) A substance capable of combatting the poison of microbes or micro-organisms. It has been found that the deleterious action of bacteria is indirect rather than indirect, they yielding certain toxic substances from which the poisonous effects of infectious diseases arise. The toxins of different bacteria differ widely in action, and yield diseases of greatly varied character. Eventually the bacteria yield products antagonistic in action to the toxins, and which have been called antitoxins. Both toxins and antitoxins are found in the blood, and the latter are now obtained from the blood of animals which have been treated with constantly increasing doses of the toxins of the disease-producing bacteria. An increasing quantity of antitoxin is in this manner produced in the blood, and is finally isolated by bleeding the animals and separating the serum from the other constituents of the blood. This serum is used in the method of vaccination. It has been successfully employed for the cure of diphtheria and tetanus, and with some degree of success in other diseases. See BACTERIA.

Apart'ment-house. *n.* (*Budd.*) A building containing a number of families under one roof, but differ-

ing from a tenement house in providing more space and comfortable surroundings for its inmates. Such buildings have long been common in Europe, but are of recent introduction in the U. S. They are mainly due to the high price of building lots, the relative economy of living in flats, and the greater comparative profit to be obtained from many-storied buildings. By the use of passenger and freight elevators the disadvantage of height is avoided, while the employment of speaking tubes, electric bells, ash shoots, trunk rooms, combined laundries and other conveniences add to the comfort of life in such edifices. In Paris, the social standing of a family diminishes in proportion to the height of the floor it occupies, but in the U. S. this distinction is avoided by the use of elevators. Some American apartment houses, especially in New York, are remarkable for their size, some of them being nine or more stories high, and with very numerous suites of apartments.

Apha'sia, *n.* [Gr. *aphasia*, speechlessness.] (*Path.*) A medical term applied to loss or disorder of the power of speech due to brain disease. It is distinguished from *aphonia*, in which the same effect arises from disease of the vocal chords or some other internal part.—The function of speech seems to have its seat in a portion of the left side of the brain, and whenever this is diseased, aphasia results. The disorder may vary from a slight difficulty in speaking to entire speechlessness. In some cases it takes the form of inability to speak correctly, the words of a sentence being misplaced. In others they are improperly applied, as when a chair is called a table, or the like. This is not due to lack of intelligence, as the patient may be fully aware of his mistake in speech, but unable to avoid it. There is one curious form in which the patient cannot speak his thoughts, but can easily repeat poems, declaim or sing. There are other varieties of aphasia, not yet fully understood. In some cases where the speech centre is diseased beyond cure, a new centre of speech has developed in the brain and the lost power of speech in part recovered.

A'piculture. See Bee Culture.

Aplanat'ic Lens, *n.* (*Optics.*) A lens which causes all the rays of light which fall upon it to converge to a single point or true focus. Such a lens must be of the form necessary to prevent aberration of light, and must also be formed of different transparent media, so as to be achromatic. These conditions cannot be perfectly obtained in actual practice.

Apomorphia, (*ăp-o-môr'fe-ah.*) [From Gr. *apo*, from, and *morphia*,] *n.* (*Chem.*) An organic base discovered by Dr. Matthiessen and Mr. Wright. It is prepared by the action of hydrochloric acid on morphia at a high temperature. The physiological effects of *A.* are those of a non-irritant emetic and powerful anti-stimulant, the action, however, rapidly passing off, leaving no after ill effects. *Form.* $C_7H_{17}NO_2$. According to Dr. Gee, *A.* always produces favorable effects when employed, and by a single dose. As the salt is free from any alcoholic irritant preparation, it can be used hypodermically. A very small dose is one-fifth of a grain by the month, or one-tenth by hypodermic injection (which answers the purpose much more rapidly and freely).

Apostaxis, (*a-pŏs'tăks-ĭs.*) [Gr., from *apostazo*, I distil from.] (*Bot.*) Unusual discharge of the juices of plants. This may arise merely from an extreme abundance of fluid, which is in consequence discharged, as in Indian shot or the vine, from the point, or serrated top of the leaves. If, however, it is elaborated sap which flows out, either from injury or weakness of the tissues, the effect may be injurious. And this is exactly the case in what is called *gumming;* a condition which may be induced artificially, by allowing water to drop constantly over a branch. This always proceeds from injured or diseased tissues, and is with difficulty arrested when once set up, and, if so, is the certain forerunner of fatal canker. In some cases, as in the tragacanth plant, the gum is organized, and is derived apparently from the medullary rays. In conifers, a flow of resin is often attended with the same fatal results as gumming in plums and other allied plants. In this case it seems to arise generally from root-confinement and a consequent check of circulation.

Aplysi'idæ, *n. pl.* (*Conch.*) A family of slug-like gastropods, with epipodia recurved on the back, forming two ear-like lobes, and with an interual lamellar shell; the sea-hares.

Appendici'tis, (*ĭ'-tĭs*, or *-ē'-tĭs*) *n.* [From Lat. *appendix;* suff. *itis*, inflammation.] (*Pathol.*) Inflammation of the vermiform appendix (*q. v.*) of the cæcum.—This term, which came suddenly into general use about 1894–5, is a specialization of those inflammatory abdominal disorders formerly generalized as typhlitis and perityphlitis.—*Causes.* The causes of *A.* are various, exposure to cold or dampness, or some indiscretion in diet, being the most usual. It was popularly believed, at first, that *A.* was caused by the lodging of some small foreign body, as a grape-seed, in the appendix. This supposition has been effectively disproved by careful clinical observations. In some 3,000 consecutive surgical cases, of which a careful record was kept at a leading Western hospital during 1895–96, less than 5 per cent. proved to be complicated with grape seeds or similar small objects, and in no case were these thought to be the prime cause of the trouble. The original inflammation is almost always of a catarrhal type; but in many cases foreign substances, especially fæcal concretions, seem to be active factors in the development of the disease when a catarrhal condition of the mucous membrane already exists. In the absence of such condition, foreign bodies may be present and cause little or no disturbance; but should the membrane become inflamed, they add to the irritation by occluding the lumen of the appendix, thus favoring pus formation, ulceration of the walls, perforation, or even gangrene of the whole organ. Several forms of *A.* are now recognized, as acute, chronic, and recurrent; also rheumatic *A.*, which is observed in cases presenting a rheumatic or gouty diathesis. Acute, severe attacks occur when the *bacillus communis coli* is present in a virulent form; and if this condition be associated with a fæcal concretion or other foreign body causing pressure, the danger rapidly increases, and, in the absence of prompt relief, death may speedily ensue. Chronic *A.* is marked by a constantly inflamed condition of the appendix and its immediate surroundings, causing more or less distress and some intestinal irregularities. It may continue, in various degrees of intensity, for an indefinite time; or, owing to the irritation caused by a cold, the pressure of an uncmptied cæcum, &c., may swiftly develop into the acute form. Recurrent *A.* is that form in which attacks of moderate severity occur at intervals, with intervening periods of comparative (or entire) freedom from recognizable intestinal lesion.—*Symptoms.* The onset of acuto *A.* and of the periodical attacks of recurrent *A.*, is marked by intense cramp-like pains in the abdomen. These pains are not always located, at first, in the right iliac fossa, but may be in the left side or the upper central abdominal region; eventually, however, the pain becomes localized directly over the inflamed organ, which may generally be felt by deep palpation. Extreme local tenderness at this spot is a valuable diagnostic sign, distinguishing *A.* from general peritonitis. In most cases there is vomiting, but not always nausea; the abdominal walls are rigid, especially on the right side and before the pain is localized; constipation is almost always present, but occasionally there is diarrhœa. Other common symptoms are intense thirst, a disposition to flex the thighs upon the abdomen, and the absence of abdominal respiration. In moderately severe cases, pulse-rate and temperature are not seriously affected, but a sudden fall in temperature often indicate perforation, and is therefore a suspicious symptom.—*Treatment.* Medical treatment, directed to the cleansing of the cæcum and large intestine, with local and general methods of allaying the inflammation, very frequently results in speedy cure, if begun in time. This plan of relief is growing in favor, as a result of experience, although some practitioners recommend excision of the appendix as the only positive cure and also as a preventive. This operation, which is effected by means of an incision about 1½ inches long, is now performed with great success by antiseptic methods, the rate of mortality being only 2 or 3 per cent., exclusive of cases in which surgical interference is made during an acute attack, or as a last resort, when the mortality is much greater—perhaps 15 to 20 per cent. It is held by some that, inasmuch as the vermiform appendix is thought to be an almost functionless organ in man, its removal is eminently desirable as a guard against possible disease, whether it has ever shown signs of inflammation or not; but this view is not generally endorsed, nor could such an operation be advisable in every case, since complete natural obliteration of the lumen of the appendix has been frequently observed, resulting in a spontaneous cure and a condition of presumably permanent immunity from attack. See Vermiform Appendix.

Ap'pleton, Samuel, an American philanthropist, born in N. H., 1766, became a wealthy merchant of Boston, and devoted as much as $25,000 of his yearly income to works of benevolence; gave $10,000 to Dartmouth College, and by his will left $200,000 to literary and charitable institutions. Died in 1853.

Applique' (*ăp-plī-kā'*), *n.* [Fr.] Any ornament cut out and applied to another surface, in cloth, wood or metal. Also, a piece of work thus ornamented.

Aqua'ria, *n. pl.* In addition to small aquaria, described under Aquarium, there have been instituted in modern years numerous public and scientific aquaria which call for some further mention. The first of these was that erected at the London Zoölogical Gardens in 1852. Many others have succeeded, usually in the vicinity of the ocean, but sometimes inland, as in the case of the Berlin Aquarium, in which a large collection of marine animals is maintained at a considerable distance from the sea. The aquarium connected with the Naples Zoölogical Station has been of particular value, in enabling students of science to investigate the habits and life histories of marine plants and animals. The aquarium in the Jardin d'Acclimation at Paris, constructed in 1860, is 150 feet long and 36 feet wide. Among the most notable of European aquaria are those at Amsterdam and at Brighton, England, in which large collections of fish and other marine creatures are well displayed. In the U. S. a notable aquarium was exhibited in 1893 in the Fisheries Building, at the Chicago Exposition, 1000 miles inland. In 1896 one was opened in New York, on the old Castle Garden site, which, from its proximity to the sea, is likely to become of much public and scientific interest.

Aquilariaceæ (*ăk-wĭl-a-ri-a'se-e*), *n. pl.* (*Bot.*) An order of plants, alliance *Rhamnales*, characterized by a top-shaped leathery calyx, downy externally, whose limb is divided into five small oblong, reflexed segments; from the throat of the calyx project ten woolly scales, which adhere to the whole length of the interior of the calyx tube, and alternate with the ten stamens, the filaments of which also adhere for nearly their whole length to the calyx tube, and are attached to the back of the anthers below their middle. *Aquilaria Agallocha*, a large tree, inhabiting Silhet, and provided with alternate lance-shaped stalked leaves, furnishes an odoriferous wood, called Aloes-wood, or Eagle-wood, supposed to be the aloes-wood of Scripture. The wood contains an abundance of resin, and an essential oil, which is separated, and highly esteemed as a perfume. The Orientals burn it in their temples for the sake of its slight fragrance, on which account also it was used in the palace of Napoleon I. It has been prescribed in rheumatic affections in Europe.

Aquiparous, (*ăk-wĭp'ăr-ŭs,*) *a.* [Lat. *aqua*, water, and *pario*, I bring forth.] (*Med.*) An epithet for glands, which, like the parotid, secrete much water, in contradistinction to the submaxillary glands, which are *muciparous.*

Ara, *n.* (*Ast.*) The Altar, one of Ptolemy's southern constellations. According to Aratus, the Centaur was conceived by ancient astronomers as in the act of placing an offering on the altar; but by a strange mistake the altar is represented in all modern star-maps in an inverted position. It seems not improbable that the ancient astronomers recognized in the strangely complex parts of the Milky Way which lie to the north of this constellation some resemblance to smoke from an altar.

Ar'abi Pasha' (Ahmed-el-Uraby), the leader in the Egyptian revolutionary movement of 1882. Born at Tantah, on the Nile delta, about 1835, worked as a laborer, and was afterwards for twelve years a private in the Egyptian army. Later became lieutenant, and rapidly advanced to colonel, minister of war, and pasha. A rebellious feeling arose in the country in consequence of the pledging by the Khedive of all the revenues to pay foreign bond-holders and the filling of all positions of trust with English and French officials. Arabi headed the party in rebellion, was joined by thousands of natives and proclaimed a holy mission, the motto of which was "Egypt for the Egyptians." He took possession of Alexandria, where his forces massacred many foreign residents, and where they were bombarded by the British fleet, July 11 and 12, 1882. Driven from Alexandria, Arabi was followed and his army was totally defeated at Tel-el-Kebir, Sept. 13, 1882, by the British forces under General Wolseley. Arabi surrendered and was sentenced to death, but his sentence was changed by the Khedive to life exile and he was sent to Ceylon, where he died.

Ar'bitrage, *n.* (*Com.*) The buying and selling of the same thing simultaneously in different markets, as New York and London, so as to gain a profit from the difference between quotations in such markets. It is chiefly used in relation to such traffic as exchange, stocks and bonds.

Arbitra'tion, Interna'tional. Arbitration, in addition to its use in the settlement of private disputes, is coming more and more into employment in the solving of questions between states, war having more than once been averted by it, while it is full of encouraging promise for the future. There are several ways in which international disputes or difficulties can be settled, without recourse to war, the first and simplest of these being diplomatic negotiations; the second, mediation, in which a third power offers its services to settle a difficulty between two states; and the third, arbitration, in which the points in dispute, which cannot be settled by negotiation, are submitted to the decision of a third party or parties, with the definite understanding that the decision of the arbitrator or arbitrators shall be binding. It has been particularly within the nineteenth century that this wise and economical method of settling national disputes has come into vogue, and several notable instances of it have taken place, particularly between Great Britain and the U. S. The first of these of high importance was the settlement by arbitration of the Alabama Claims (*q. v.*), which was followed by an arbitration settlement of the fishery dispute. More recent instances of importance have been the settlement by arbitration of the Bering Sea seal fishing difficulties, and the formation of a board of arbitration, through the intervention of the U. S., to decide the long disputed boundary question between British Guiana and Venezuela. In 1883 Switzerland proposed a general arbitration agreement to the U. S. and other republics of America, and some instances of the incorporation of this principle in treaties exist. In the Pan-American Congress of 1889–90 an earnest effort was made to have the principle of arbitration adopted for the settlement of all the controversies that might arise between any two American states. Though no decisive action was taken, the proposition was favorably received by the members of the Congress. The most recent and most important example of the adoption of such a general principle is in the treaty of general arbitration arranged by the diplomatic representatives of the U. S. and Great Britain in 1897, with the desirable purpose of averting all danger of war between those two countries for the five years contemplated by the treaty, and for an indefinite period thereafter. It may be said in conclusion that the principle of *I. A.* has made great progress within the quarter of a century since the submission of the Alabama Claims to such a tribunal, and will certainly, in the near future, greatly decrease the danger of war between the civilized nations of the earth.

Arbor Day. A day set apart in most of the States of the American Union for the voluntary planting of trees by the people, its object being to encourage tree planting and arouse a public interest in forestry. The day is made a school holiday and efforts made to interest school children in its observance, for the purpose of infusing a sentiment in favor of forest preservation; in the minds of the rising generation. Arbor Day was inaugurated in 1874, by the Nebraska State Board of Agriculture

at the suggestion of Hon. J. Sterling Morton, then Governor of Nebraska and subsequently Secretary of Agriculture during Mr. Cleveland's second term. At present the holiday is kept in 44 States and Territories, usually in April or May; but it occurs in the winter season in some of the Southern States.

Arbo'real, *a.* Of or pertaining to trees; arborescent, as an *arboreal* growth. Also living or situated among trees, as *arboreal* animals; *arboreal* habits.

Ar'boriculture, *n.* A term signifying the cultivation of trees, but generally restricted to the planting and management of timber trees, and excluding the cultivation of fruit trees, which is a branch of horticulture or the gardening art. See FORESTRY.

Arca'num, in *Ohio*, a village of Darke co. *Pop.* (1890), 1,134.

Arch, JOSEPH, an English reformer, born at Barford, Warwickshire, Nov. 10, 1826, and brought up as a farm laborer. Gaining some education, he became a Primitive Methodist preacher, and subsequently organized a union of the agricultural laborers of England. From this movement arose, in 1872, the National Agricultural Laborers' Union, of which he became president, and in whose interest he visited Canada in 1873, to investigate the labor and immigration questions. He was elected to Parliament in 1885 for Northwest Norfolk, was defeated in 1886, and was re-elected in 1892 and again in 1895. He continues the leader in the movement for bettering the condition of the rural laboring population.

Archæ'an, *a.* (*Geol.*) Pertaining to or characteristic of the oldest geological period containing stratified rocks, those being granitoid gneisses and crystalline schists. It is sometimes divided into the Azoic and the Eozoic periods, the former being without fossils, the latter containing what may be the earliest fossils, though their fossiliferous character is greatly doubted. It is also divided into the Laurentian and the Huronian periods, including all stratified rocks earlier than the Cambrian. The Upper Huronian rocks are now called Algonkian (*q.v.*) by the U. S. Geological Survey, the term Archæan being restricted to rocks of earlier date.

Archæol'ogy, *n.* The study of the ancient relics of human art. It may be divided into three branches, written, monumental, and traditional *A.*, the first including writing in its ancient forms, inscriptions, and manuscripts; the second including works of art and industry in a vast variety of forms; the third embracing the oral literature of peoples, covering all the various forms of traditional thought and customs which are understood under the term folk-lore. The study of *A.* was long confined to the antiquities of the classic nations, Greece and Rome, but has been extended to embrace the antiquities of all peoples, savage and civilized alike. The reading of the Rosetta Stone inscription has led to remarkable progress in the study of Egyptian *A.*, and the discovery of the cuneiform writing has been equally prolific in increasing our knowledge of Assyrian and Babylonian antiquities; while the field of archæological research has been widened to embrace India and China, Africa and America, and has been extended backward through time to take in the relics of prehistoric man, now so abundantly collected. Despite this widening of the field, special interest still attends research in classic lands and in the regions of the earlier neighboring civilizations, and remarkable progress has been made in recent years in the investigation of the antique remains of Greece, Italy, Egypt, Syria, and Babylonia. In Italy, the excavations at Pompeii, Rome, and in ancient Etruria have been prolific in results; Cyprus yielded to Cesnola a remarkable series of relics of ancient art; and the investigation of the sites of Eleusis, Olympia, Delphi, and other localities in Greece have been rife with important additions to our knowledge. Schleimann, in his work on the site of ancient Troy and among the ruins of prehistoric Mycenæ, was admirably successful; while the explorers in Egypt, from Mariette to Petrie, have enormously added to our knowledge of the remote civilization of that land of wonders. Still more interesting are the recent researches in Babylonia, particularly those made on the site of the very old city of Nippur by the University of Pennsylvania Exploring Expedition. [See BABYLONIA.] In brief, the results of modern *A.* have gone far to unfold to us the conditions of the ancient world, from the most primitive period to that of classic civilization, while many museums of archæological relics now in existence have opened the study of human antiquities to the students of all lands. As regards the literature of the subject, it is enormous in volume, embracing a considerable library of works on the various branches of this multifarious theme.

Archæop'terix, *n.* (*Paleontol.*) A remarkable fossil bird of the Jurassic geological period, the oldest bird known to exist, and of special interest in the strikingly close relation between birds and reptiles which it indicates. It was about the size of a crow, with a tail 8 or 9 inches long, composed of vertebræ (unlike other birds), with feathers arranged in pairs corresponding to each vertebræ. It was provided with teeth, and the three fingers of its wing terminated in claws. Two specimens of this interesting fossil exist, both found in the lithographic limestone of Solenhofen, Bavaria. The head, chest and forelimbs were reptilian, while the hind extremities were like those of birds of prey.

Archegone (*ăr-chĕk'o-ne*), *n.* (*Bot.*) A term applied to the long-necked cellular sacs which occur in the higher or acrogenous cryptogams, and which are analogous to the pistils of phænogams. They contain at the base of their cavity a sac which is analogous to the embryo sac of phænogams, and which is impregnated by the agency of spermatozoids. Within this latter sac, either the young plant, as in ferns, or the capsule, as in mosses, is formed by means of cellular division.

Arctic Exploration. The hyperborean regions of the earth have attracted the energies of adventurous explorers since the earliest times, in spite of the adverse physical conditions which discourage the pursuit of knowledge amid such inhospitable surroundings. Modern research has established the fact that the Norsemen visited the coasts of Greenland and North America during the tenth and eleventh centuries. In historical times, the Cabots (1497) are credited with the discovery of the mainland of North America; and Sebastian Cabot, in 1498, is known to have penetrated northward along the coast as far as Hudson Strait. During the subsequent 400 years Aretic Exploration has steadily progressed; and, at the cost of much heroic sacrifice, the limits of the unknown have been gradually circumscribed. Incentive is not lacking, however, even now, for further research in the North; and it is reasonable to assume that, with many problems connected with

Fig. 2670.—CHART OF THE NORTH POLAR REGION.
The starred line shows course of driftwood from the *Jeannette*, upon which Nansen's theory was based; the dotted line indicates the course which Nansen expected to follow.
(*By Permission of the French Geographical Society.*)

terrestial magnetism, meteorology, and oceanography unsolved, with a circumpolar area of over 3,000,000 square miles unexplored, and the geographical pole unattained, the spirit of modern scientific research and adventure will not rest content until the utmost limits of the globe have been conquered by man.—In the desire to find a short route to the Orient and to share in its commerce, is found the primary motive for the long series of voyages wherein successive expeditions sought to reach the shores of Asia by means of the Northeast and Northwest Passages. The expeditions of the Cabots, and of the Cortereals (Portuguese navigators, 1500–02), were fruitful in extending knowledge of the new continent, but failed in their avowed object, viz., the discovery of a route to Cathay. Hence, the same spirit of commercial enterprise which fostered the voyages to the American coast, now found expression in efforts to reach Asia by expeditions along the northern limits of Europe and Asia, known as the *Northeast Passage*. Sir Hugh Willoughby was sent out with two ships in 1553, and sighted Nova Zembla, whence he retreated southwards and perished while wintering on the coast of Lapland. His companion, Chancellor, passed the winter in Russia, and was instrumental in establishing a profitable trade between England and the north of Europe. The three voyages of the Dutch navigator Barentz (1594–96), resulted in the discovery of Spitzbergen and the acquisition of definite knowledge about Nova Zembla. English attempts to discover a Northeast Passage virtually ended in the voyage of Pet and Jackman in 1580, although a final unsuccessful effort was made in 1666 in the expedition under Wood and Flaws. Russian traders and explorers, during the eighteenth century, conducted important voyages with the view to determine the northern outlines of Asia and the commercial possibilities of the Siberian coast. Cape Chelyuskin, the most northern point of Asia (77° 41′ N. Lat.), was reached in 1742 by the man whose name it perpetuates. The systematic survey of the Asiatic coast by the Russians began in 1725 and continued till 1742. Vitus Bering, a Danish sailor in the Russian service, made important discoveries in the North Pacific Ocean. He traversed the strait which bears his name in 1728, and explored the northwest coast of North America in 1741. Although Bering was probably anticipated in discovering the Alaskan coast of America by Gwosdef (1731), to him is given the credit of demonstrating the separation of the continents of Asia and America. In connection with the Northeast Passage, Parry's north-polar expedition may be considered. This experienced Arctic explorer arrived north of Spitzbergen in 1827, and, leaving his vessel, made a wearisome journey over the drifting ice to 82° 45′ N. This high latitude was not exceeded for 48 years. It was reserved for the last quarter of the nineteenth century to witness the accomplishment of the Northeast Passage. Baron A. E. Nordenskjöld, the distinguished Swedish explorer, whose scientific training and varied

Arctic experience especially fitted him for the task, sailed from Tromsoe on July 21, 1878. His vessel, the *Vega*, a steam whaler of 300 tons, was fitted out with a complete scientific equipment and a crew composed of twenty-eight officers and men. Preliminary voyages undertaken by Nordenskjöld had demonstrated the practicability of summer cruises to the mouth of the Yenesei by way of the Jugor Strait and Kara Sea. Pursuing this course, the *Vega* reached Dickson Harbor, at the mouth of the Yenesei, on August 6, 1878. Proceeding to the northeast along the coast of Asia, Cape Chelynskin was rounded on August 19th, and after compassing many obstacles, the *Vega* arrived off Cape Serdze Kamen, only 120 miles from Bering Strait, where, unfortunately, she encountered close pack-ice which barred further progress and compelled the expedition to go into winter quarters for ten months. The ice released Nordenskjöld on July 18, 1879, and two days later, after passing through Bering Strait, he had the satisfaction of rounding Cape East, the most eastern point of Asia, thus achieving the purpose of three centuries of maritime effort.—The attempt to discover a route to Asia along the Arctic seacoast of North America, otherwise known as the *Northwest Passage*, was probably responsible for a greater expenditure of life and money than any other Arctic problem. Frobisher determined the existence of Frobisher Strait in 1576. The illustrious navigator, Davis, in three voyages (1585–86–88) discovered the strait which bears his name, traversed the west coast of Greenland as far north as Sanderson's Hope, 72° 12′ N., and examined the American shore from Cumberland Island to Labrador. Hudson, who had previously visited Spitzbergen and discovered the island of Jan Mayen (1607) in his search for a North-

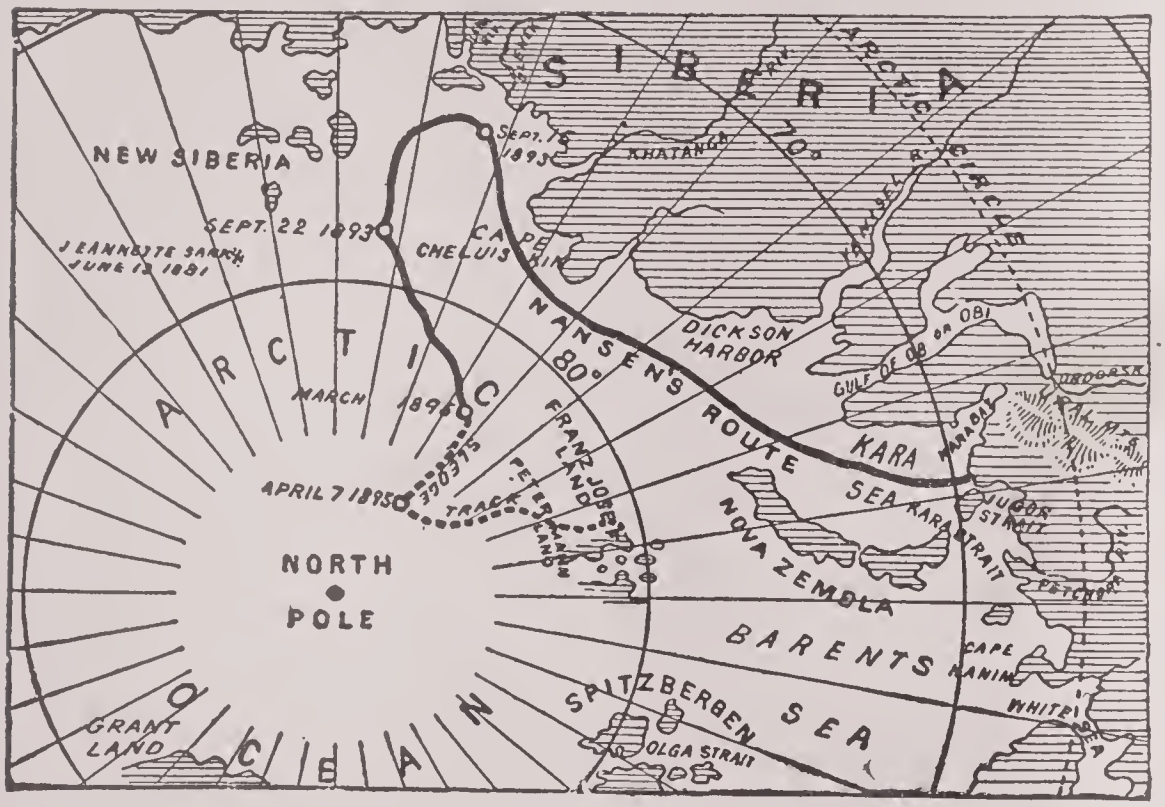


Fig. 2671.—ROUTE OF NANSEN'S POLAR EXPEDITION, 1893–95.

east Passage, sailed under English auspices in 1610, and, passing through Hudson Strait, discovered the great bay which commemorates his name. Misled by the vast size of this inland sea, Hudson believed he had entered the Pacific. Button, who visited the region in 1612, disproved this theory. One of the most remarkable voyages in Arctic annals was undertaken by William Baffin in 1616. Sailing from England in the *Discovery*, a craft of only 55 tons, this intrepid navigator, favored by an open season in the North, passed the greatest northing of his predecessor, Davis, and succeeded in reaching the surprisingly high latitude of 77° 45′ N., a position which remained unsurpassed in that region for 236 years. After the unproductive voyage of Fox and James in 1631, the North American coast was neglected for over a century. The reign of George III. witnessed a revival of interest in northern exploration in England. In 1773, Phipps sailed for Spitzbergen on a north-polar expedition, and attained 80° 47′ N., surpassing the record of another famous English navigator, Cook, who, passing through Bering Strait in 1778, was unable to proceed beyond 70° 44′ N. To stimulate Arctic research, the English Government had meantime offered a reward of £5,000 to any one reaching the 89th parallel of north latitude. No important sea-voyages to the North were undertaken at this time; but land journeys, to find an outlet to the Pacific, were pushed with great energy. Hearne, in 1772, made an overland journey across the territories of the Hudson Bay Company to the mouth of the Coppermine river, and was followed by Mackenzie, who, in 1789, traversed the region between Port Chipewyan and the delta of the Mackenzie river. Sir John Franklin (see FRANKLIN, SIR JOHN), whose fame is inseparably connected with Arctic exploration, made two notable journeys, the first, 1819–21, and the second, 1825–26, in conjunction with Richardson. By these journeys, a large stretch of the Arctic coast of North America east of the Mackenzie river was delineated. To this period also belongs the work of Wm. Scoresby, who explored in 1822 the east coast of Greenland between Lat. 69° 30′ and 72° 30′ N., and by his publications added largely to the knowledge of the physical phenomena and natural history of the Arctic regions. The east coast of Greenland was subsequently examined by Clavering (1823), by Graah (1828), and by De Blosseville (1833). The extreme point on this coast reached by Koldeway, of the German north-polar expedition (1870), was 77° 01′ N., which was not exceeded until Peary reached Independence Bay in 1892.—The systematic exploration of the present century may be said to have begun with the despatching of Ross and Parry in 1818 to find the Northwest Passage. They explored Lancaster Sound, and were the first Europeans who encountered the primitive Eskimos of Cape York. The following year Parry penetrated Lancaster Sound and discovered an extensive archipelago and the communicating water passages—Prince Regent Inlet, Barrow Strait, and Melville Sound. Continued explorations of this region were conducted by John Ross in an expedition which extended during five years (1829–33). Among the results of this voyage were: the discovery of Boothia Felix, the most northern land of the American continent, and the location, by James Clark Ross, of the North Magnetic Pole on its western coast. By land journeys under Dease and Simpson, in 1828, knowledge of the Arctic coast was extended for about 100 miles beyond Point Turnagain. The successful journeys of Dr. John Rae completed the delineation of the greater part of the coast. In 1846–47, while exploring Boothia Gulf, he proved that Boothia Felix was a peninsula; and subsequently, in 1851, he surveyed the coast from the Mackenzie river to King William's Land. Awakened interest in the possibility of a Northwest Passage was aroused by Ross' discoveries, and led to the fitting out of the expedition under Sir John Franklin, which was so tragic in its ending and so important from the geographical discoveries which the various search expeditions effected. On May 19, 1845, Franklin sailed with the ships *Erebus* and *Terror*, with orders to reach the Pacific by way of Lancaster Sound and its western extensions. In September, 1846, his ships were beset north of King William's Land, and, on June 11, 1847, Franklin died. The remaining officers and men abandoned their ships in the spring of 1848, and all perished in an attempt to reach Back's Fish river. The search expedition under Collinson and M'Clure sailed for Bering Strait in 1850. The two vessels searched independently. Collinson returned to England in 1855 without solving the mystery of the disappearance of the Franklin party. M'Clure reached Barrow Strait in his eastward voyage, where his vessel was imprisoned by the ice for two winters. Rescued by Belcher in the spring of 1853, M'Clure and his men accompanied Belcher on his return to England, and were thus the first to make the Northwest Passage from the Pacific to the Atlantic. No less than six expeditions started in 1851 to seek for the Franklin party; but definite knowledge of its fate was finally secured by M'Clintock, who had been sent out by Lady Franklin in 1857. This able commander secured, from the Eskimos, many relics of the party, and found a record left by the survivors on the northwest coast of King William's Land. The researches of Hall in 1869 confirmed those of M'Clintock. Another American sledge expedition, under Schwatka and Gilder, visited the region in 1879–80. They learned further details of the movements of the Franklin party and found evidence that Franklin had completed the discovery of the Northwest Passage.—The Smith Sound region, unvisited since the time of Baffin, now received attention as offering a route to the Pole. Inglefield, in 1852, entered its southern confines and surveyed the adjacent coast. The American expedition under Dr. E. K. Kane (1853–55) attracted world-wide attention by its achievements, and made a record for the highest land yet seen, by reaching Cape Constitution, 81° 22′ N. Dr. I. I. Hayes, the surgeon of Kane, surveyed part of the coast of Grinnell Land in 1860–61, and gave further currency to the theory of an "open polar sea." Later expeditions which have reached higher latitudes in Smith Sound have proved the fallacy of this contention. Capt. C. F. Hall, in 1870, pushed his vessel, the *Polaris*, through Kane Basin and Robeson Channel to the very confines of the Polar Ocean (82° 11′ N.), a position by ship which remained unexcelled until surpassed by the British North-Polar Expedition of 1875–76, under Nares. This well-equipped expedition surveyed the coast of Grinnell Land to Cape Columbia, extended geographical knowledge of north Greenland, reached a higher latitude in the *Alert* than heretofore attained by ship, and by a sledge journey under Commander Markham advanced the English flag to the farthest point north to that time: 83° 20′ N.—To this period belongs the ill-fated expedition in the *Jeannette*, under Commander G. W. DeLong, which sailed in 1879, and, passing through Bering Strait, was caught and held in the pack near Herald Island, whence she drifted westward until crushed (77° 15′ N., 155° E.) on June 12, 1881. In their retreat by boat and sledge to the Lena delta, one boat, under Lieutenant Chipp, foundered in a storm; and the remaining two, under DeLong and Melville, became separated. The latter officer, by heroic efforts, reached an outlying Russian settlement where he obtained assistance. DeLong landed in safety but was forced to abandon his boats, and, encumbered with disabled men, succumbed to starvation with eight of his party before November 1, 1881. Melville recovered the bodies of his companions early in the spring of 1882. DeLong's expedition discovered Jeannette and Henrietta Islands, and demonstrated that the Siberian Polar Sea is shallow.—Through the efforts of Lieutenant Weyprecht, international action was secured in establishing a series of fifteen circumpolar stations (1881–83) for the purpose of securing simultaneous observations in meteorology and terrestrial magnetism. One American station was established at Point Barrow, Alaska. The command of the other American expedition was entrusted to Lieutenant A. W. Greely, who established his party of four officers, nineteen men, and two Eskimos (in August, 1881) at Lady Franklin Bay, on the west side of Robeson Channel. By various sledge journeys the interior of Grinnell Land was explored and its western coast surveyed from Archer to Greely Fiord. New laurels were won for America by Lockwood and Brainard, who, traversing the north shore of Greenland, reached (May 13, 1882) Lockwood Island, 83° 24′ N., thus securing the honors of the highest North. Two relief expeditions failed to bring succor, and Greeley's party—provisioned only to Aug., 1883—found itself in the desperate position of facing the rigors of an Arctic winter with only about forty days' rations, and in a region which yielded no game. Greely, having failed to reached the Greenland shore, accepted the inevitable with heroic fortitude and continued his scientific observations to the last. When the relief expedition under Schley arrived in June, 1884, death by starvation had claimed all but the leader and five of his men.—American zeal in Arctic exploration has found expression in recent years in the voyage of Lieut. R. E. Peary, whose researches in North Greenland have involved the despatching of three main expeditions and a like number of auxiliary expeditions to the Inglefield Gulf region. Convinced, from a preliminary examination of the Greenland ice-cap, in 1886, that the inland ice afforded a suitable highway for a properly equipped sledge party, he established himself at McCormick Bay in Aug., 1891, and the following spring, with Astrup, made a brilliant sledge journey of 650 miles over the great snow mantle of the interior to Independence Bay on the unknown northeast coast of Greenland, 81° 37′ N., 34° W. A subsequent attempt to extend his discoveries on the north and northeast coast, in 1894, failed, owing to unprecedented weather conditions and the consequent loss of dogs and disability of men. Peary, having remained over another winter, succeeded with two men and native aid in again reaching Independence Bay in May, 1895. Failure to locate his caches on the inland ice endangered the lives of Peary and his two companions on this last journey; and the courage and physical endurance shown under the most trying circumstances makes this one of the most notable sledge journeys in Arctic annals. Walter Wellman, an American journalist, attempted to reach the Pole in 1894 by the Spitzbergen route. His supporting ship was crushed in the ice; and, after almost reaching 81° N. by sledge and boat, he was forced to retreat.—The Austro-Hungarian expedition (1872-74) under Weyprecht and Payer, discovered a new land within the Arctic circle—Franz Joseph Land. Payer partially explored the region, which consisted of an archipelago, with land masses, which, he asserted, extended northward beyond the 83rd parallel. Leigh Smith, by expeditions in 1880 and 1881–2, explored the

outlying islands on the south coast and extended the limits of Franz Joseph Land to the northwest. These explorations drew the attention of geographers to this archipelago as a promising base from which to conduct extended operations to the northward. Much is expected from the Jackson-Harmsworth expedition, which has already passed three winters at Cape Flora. Yearly communication has been maintained with Europe by means of the yacht *Windward*. Mr. Frederick Jackson, in letters sent to Mr. Alfred Harmsworth, the patron of the enterprise, intimates that his surveys will show that the main mass of the Franz Joseph Land archipelago does not extend as far northward as heretofore supposed. The Zichy Land, of Payer, is reduced to a chain of islands, and the very existence of Petermann Land is questioned.—The scientific world and the general public were thrilled by the announcement, in August, 1896, that Dr. Fridtjof Nansen (see NANSEN) had arrived at Vardö, Norway, a passenger on board the Jackson-Harmsworth relief ship *Windward*. Dr. Nansen—a man of scientific attainments and ideal physical endowments, already famous for his crossing of the inland ice of Greenland in 1888—had sailed from Christiana in June, 1893, with twelve companions, in the *Fram*, a vessel specially constructed to resist the pressure of the ice floes. The novelty of this last attempt to reach the Pole consisted in the dependence on a drift current, running from the Siberian coast across the polar basin, and thence through the sea between Spitzbergen and Greenland. Nansen was convinced of the existence of this current from the massive character of the east Greenland ice and the finding of an Alaskan throwing-stick and some relics of the *Jeannette* on the Greenland coast. Disregarding the tenets of Arctic navigation, after arriving off the New Siberian Islands he thrust the *Fram* into the ice-pack, on Sept. 22, 1893; and, provisioned for five years, resolved to surrender his vessel to the mercies of the ice floe. The general drift of the imprisoned party was to the northwest; and during her long besetment their vessel justified the confidence of her designer and withstood the severest pressures. By March 14, 1895, their vessel had reached 83° 59′. Not satisfied with his progress, Nansen, with one companion, Johansen, now left their ship to make a sledge journey towards the Pole. After enduring great hardships, they reached (April 7, 1895) 86° 14′ N., the farthest north ever attained, when the roughness of the polar pack defeated further advance. After an eventful journey over the polar ice-pack, the explorers reached an island of the Franz Joseph Land archipelago, where they passed the winter of 1895–96 in a stone hut, subsisting on bear meat. A start for Spitzbergen was made on May 19, 1896, and when off Cape Flora they providentially encountered the members of the British expedition under Jackson, who provided them with some creature comforts to which they had long been strangers, and furnished them with passage in the *Windward* to their native land. By a happy coincidence, Capt. Sverdrup and the *Fram* reached the coast of Norway within a week after Nansen's arrival, and the entire party was reunited. The results of this expedition, while somewhat negative in a geographical sense, are most interesting and suggestive in their bearing on the conditions which subsist in the regions nearest the Pole. No land was seen during the long drift of the *Fram*, making it probable that the Pole itself is situated in an ice-covered area. The existence of a deep sea basin in the circumpolar region, from 1,800 to 2,000 fathoms in depth, was demonstrated. In this deep sea basin a stratum of comparatively warm water was reached, and covering the entire region a restless, drifting mass of ice was found, where heretofore an immovable mantle of ice was supposed to exist. The Nansen expedition marks an epoch in Arctic exploration. Never, since the voyages of Barent, in the latter part of the sixteenth century, has a single expedition made an advance of 200 miles beyond the borders of the unknown. At a single bound, he covered a distance which it took one hundred and twenty years of united effort to accomplish. See POLAR RESEARCH.

Arctis'ca, *n. pl.* (*Comp. Anat.*) An order, usually referred to the Arachnida and including the bear-animalcules. They have a worm-like body, a suctorial mouth, and four pairs of short legs.

Arc'tium, *n.* (*Bot.*) A genus of biennials of the Aster family (*Compositæ*), and including the common burdock.

Arcto'tis, *n.* (*Bot.*) A plant of the Aster family, indigenous in Southern Africa, but now cultivated to to some extent here and in Europe. The flower is usually a deep yellow, and in massive heads or clusters.

Arden'nite, *n.* [From *Ardennes*, in France.] (*Min.*) A yellow or brownish-yellow silicate, seemingly combined with vanadium, occurring in orthorhombic crystals.

Ardis'ia, *n.* (*Bot.*) An extensive genus of small trees or evergreen shrubs of the family *Myrsinaceæ*, several of which are frequently seen in gardens and greenhouses. The flowers are white or pinkish in tint.

Ardi'ti, LUIGI, an Italian musician, conductor, and composer; was born July 16, 1825, at Crescentino, in Piedmont, and became the leading conductor of Italian opera. Has visited America frequently in his professional capacity. His compositions include many popular songs and several orchestral numbers of somewhat unpretentious character, all of which are written according to the modern Italian melodic school. He has spent a great deal of time in London, engaged in musical enterprises.

Ard'more, in *Pennsylvania*, a suburban village of Montgomery co., 6 m. N.W. of Philadelphia. It has a number of yarn factories. *Pop.* (1890), 2,205.

Areameter, (*a-re-ăm'e-tŭr.*) [From *area*, and Gr. *metron*, measure.] (*Surveying.*) An instrument invented by Mr. James R. Maxwell for calculating cross sections of embankments and cuts. It consists (Fig. 8) of a board, *e*, *e*, with a groove, *g*, *g*, in each side. To this board is attached a piece of ordinary cross-section paper, *d*, *d*. On this the slopes of a cut, 2, 2, and embankment, 1, 1, are laid off of any required size and inclination. *f*, *f*, is a brass frame which slides in the grooves, *g*, *g*. To this frame is attached a revolving rim

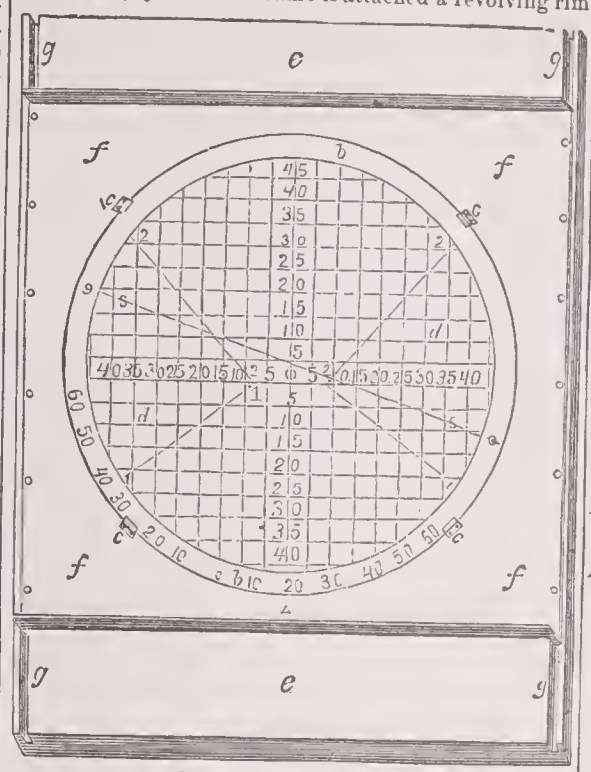


Fig. 2672.—AREAMETER.

of the same metal, graduated in degrees to correspond with the surface slopes, the line of which is represented by a thread, *s*, *s*, stretched across its centre. In using it, the frame, *f*, *f*, is moved up or down in the slides until the thread, *s*, *s*, cuts the elevation of slope or embankment at centre. The rim, *p*, *p*, is then turned until the thread corresponds to the angle of the surface of the slope. The horizontal width is then seen at the intersection of the thread with the side-slope lines of the diagram.

Arecibo, (*ah-ra-the'bo,*) a seaport of Porto Rico, W. Indies, C. of a p. of same name, on the N. coast of the island. It carries on a considerable trade. *Pop.* 11,187.

Argelander, FREDERICH WILHELM AUGUST, (*ahr-jă-lănd'ŭr,*) a German astronomer, b. at Memel, in Prussia, 1799, was appointed Professor of Astronomy in the University of Bonn, 1837. He published, about 1830, the results of his observations at Abo, viz., *A Catalogue of* 560 *Stars, with Observations upon their Motions*, a work which obtained a prize from the St. Petersburg Academy of Sciences. At Bonn he continued the great work of Bessel, and determined principally the position of the stars found in the zone of 45° to 80° declination. The results of his labors were published in 1846, in his *Observations in the Observatory of Bonn*, a work which contains the positions of 22,000 stars. D. 1873.

Argenteuil, a S.W. county of Canada, province of Quebec. *Pop.* (1898) 15,950.

Argen'tine, in *Kansas*, a city of Wyandotte co. Here is a smelter employing a large number of men, and treating gold, silver, copper and lead. Street car lines extend to Kansas City, 4 m. distant. *Pop.* (1898) 6,100.

Ar'gon, a constituent of the atmosphere, discovered in 1895 by Lord Rayleigh and Prof. William Ramsay, through a critical investigation of atmospheric nitrogen. It was learned, as the result of an extended series of experiments, that atmospheric nitrogen had a higher specific gravity than chemically prepared nitrogen, and the suspicion arose that some other, as yet unknown, atmospheric substance gave this extra weight to the nitrogen examined. This element, which was evidently heavier than nitrogen, was finally isolated by several methods and its characteristics investigated. It was found to have a density of about 20, that of nitrogen being 14, and when examined by the method of spectrum analysis was perceived to have a spectrum different from that of nitrogen, or of any other known substance. Another marked characteristic was its remarkable chemical indifference, it refusing to combine with any substance with which it was brought into chemical contact. For this reason it was given the name of Argon, signifying idle or inactive. Berthelot, however, has caused *A.* to combine with benzine, under the influence of the electric spark; and the first notions as to its chemical indifference may hereafter be further modified by experiment. *A.* composes nearly one per cent. of the atmosphere, but performs no function in respiration. It is found in no organic tissue, but has been detected in meteoric iron. *It is easily soluble in water; liquifies at* 186°C. under a pressure of 38 atmospheres, and solidifies at about 190°C. In 1898 three new elements were discovered in liquid argon, named respectively Neon, Metagon, and Xenon. These were distinguished from *A.* by their spectra, each of which had peculiar bright lines, and by their distinct freezing or boiling points. Little is known about them, except that they are very rare atmospheric gases. At the time of its discovery the Smithsonian Institution had offered a prize, under the Hodgkins bequest, of $10,000 for the most important new discovery respecting the atmosphere. This prize was awarded to the discoverers of *A.*, as having added materially to our knowledge of the constitution of the atmosphere.

Arid Region. The name given to a broad western area of the U. S. in which so little rain falls as to render it incapable of cultivation except by irrigation, and much of which is a waterless desert. This region includes the whole of Montana, Wyoming, Colorado, Utah, New Mexico, Nevada and Arizona, part of North and South Dakota, Nebraska, Kansas, Texas, California, Oregon and Washington, and nearly the whole of Idaho, its total area being 1,340,000 sq. m. Irrigation from rivers, mountain streams, and artesian wells has rendered a small proportion of this great region cultivable, and by a full use of the mountain waters, through the aid of reservoirs and distributing canals, the area open to irrigation may be greatly extended. Yet a large section of the arid region, particularly in Utah, Nevada, and Arizona, must remain permanently incapable of cultivation, and is of sufficient extent to constitute one of the great deserts of the earth. See GREAT BASIN.

Arkansas City, in *Kansas*, a city of Cowley co., on Arkansas river, the A., T. & S. Fé, Mo. Pac., and St. L. & S. F. R.Rs., 14 m. S. of Winfield; has some manuf. and an extensive distributing trade. *Pop.* (1898) 7,550.

Armaged'don, the great battle-field of the Apocalypse, in which the final struggle between the powers of good and evil is to be fought.

Armenia.—*Continued from* SECTION I.

Within the past few years Armenia has been the seat of many remarkable events, which have brought the empire of Turkey to the verge of dissolution and threatened to involve the nations of Europe in a general war. These events may be held to have had their inception in the independence of Bulgaria, which roused a strong desire in the Christian population of *A.* to be similarly relieved from Turkish rule, and gave rise to a revolutionary agitation which has led to a most sanguinary and deplorable result. This agitation was largely carried on by Armenians in other countries, but its influence was felt in *A.* itself, and led to outbreaks and hostile relations which reached a bloody culmination in 1895–96. By the terms of the treaty of Berlin the Porte agreed to carry out, and without delay, certain reforms—an agreement to which but little subsequent attention was paid. In 1894 an attempt was made to assassinate the Armenian patriarch at Constantinople. This aroused indignation in Armenia, a collision with the police followed, and the trouble spread till fears of an armed insurrection of the Christian population arose, leading to a conflict with a Kurdish regiment in which a body of 750 Armenians were slaughtered. Exaggerated reports of the revolt of the Armenians reached Constantinople, and orders seem to have been sent to the Turkish authorities in Armenia to surpress it with merciless severity. These orders were carried out to the letter. For eight years previously hostile relations had existed between the Kurds and Armenians, and in August, 1894, a force of Kurdish irregulars attacked Sasun, overcame the resistance of the Armenians, pursued them into the woods and mountains, and slaughtered them without mercy. Uniformed troops followed the irregulars, who destroyed over 40 villages, while from 3,000 to 5,000 Armenians are said to have been massacred. In January, 1895, another massacre took place, and nearly 3,000 Armenians were seized and imprisoned in Constantinople and Asia. As the news of this reign of massacre and outrage spread over Europe and America great indignation was excited, and some of the leading powers intervened, insisting on a cessation of the outrages and the adoption, in the Armenian administration, of a system of reform which would prevent their recurrence. The Porte prevaricated and protracted the negotiations, while jealousy between the powers prevented any steps of coercion being taken. In the midst of the negotiations the massacres were resumed. In September, 1895, a body of 3,000 Armenians assembled at the Cathedral in Constantinople, and attempted to march to the palace to present a petition to the Porte. A collision with the police followed, and a riot arose in which many Armenians were killed, while others took refuge in their churches, whence they were driven by the police. When the news of this riot reached Armenia the Kurds rose again and the slaughters were resumed, 7,000 or 8,000 innocent villagers being killed. In Zeitun the Armenians broke into open revolt, and held the town vigorously against their foes, though the neighboring country was desolate and 20,000 of the inhabitants slain, while several hundred thousand were left destitute. Zeitun was evacuated on Dec. 24, 1895, but its defenders were saved from massacre by the intervention of the powers, whose ambassadors arranged a capitulation. In the spring of 1896 it was estimated that in all no fewer than 80,000 Armenians had been slain. In Aug., 1896, a new outbreak occurred. Certain members of an Armenian society seized the Ottoman Bank in Constantinople, and held it for some hours as a protest against the inactivity of the European Powers. The results of this ill-advised act were deplorable. The mob rose and killed thousands of Armenians in the streets of the city, the police and troops not interfering, while in the following month the massacres began again in Armenia. The Sultan further ordered the

deportation of nearly 30,000 Armenians from Constantinople. During this long reign of slaughter the powers protested and threatened, while their fleets gathered in the waters of the Levant; but no decided action was taken, and the Sultan remained master of the situation. Mutual jealousy, fears of a general war, and other influences kept the leaders of European diplomacy inactive, and though the massacres ceased, none of the promised reforms were instituted, and destitution and misery reigned unchecked through the desolated country. There are in all probably 2,400,000 Armenians in the world, of whom over 1,300,000 are in Armenia, in which country a Mohammedan population of nearly 4,000,000 also resides. The Christians of *A.* have, however, been notably reduced in number in consequence of the events described, and the embracing of Mohammedanism by many of them as a means of escaping massacre.

Ar'mistead. WALTER KEITH, an American general, born in Va., in 1780, graduated at West Point, became chief engineer in the war against England in 1812–13, and commanded the army sent out against the Indians in Florida, 1836–37. Died in 1845.

Armor Plate. The word armor, in recent times, has come into use in a new significance, it being applied to an iron or steel covering for ships and fortifications as a protection against cannon projectiles. The idea of protecting ships in this manner originated with American engineers—particularly with Robert Stevens, of Hoboken, N. J., who in 1842 presented to the Government plans for an armored vessel having a sloping battery protected by iron. His plans were accepted, and in 1844 the keel of the famous Stevens battery was laid. The next step was taken in 1854, when the French and English began to construct iron-clad naval batteries, covered with 4- and 4½-in. iron respectively. In the following year the French batteries, the first finished, silenced the Russian forts at Kinburn, in the Crimea. In 1860 the French ship *La Gloire* was covered with iron plates of 4½ in. thickness, a protection which proved superior to the attack of the smooth-bore 68-pounder, then the most powerful naval gun in use. In 1862 took place the first contest between armored vessels, in the famous combat in Hampton Roads between the *Monitor* and the *Merrimac*. In the former of these the revolving turret system was first introduced; the latter was a naval battery, with sloping, iron-clad roof. The result of this battle proved conclusively that the day of wooden war vessels was at an end; and, during the remainder of the American Civil War, a number of iron-clad monitors, gun-boats, and floating batteries were brought into active service. This practical demonstration was followed by a period of inactivity on the part of the U. S. Government, but of active operations in iron-clad construction by Great Britain and other European powers, with the result of an enormous advance in the resisting power of ships and a correlative advance in the penetrating power of guns. The 4½-in. plates of 1860 soon proved useless against the powerful rifled guns later brought to bear upon them, and a contest between the penetrative power of projectiles and the resistance of armor began, which has continued up to the present time. In 1867—the heaviest reliable plate that could then be made being 6 or 7 inches—a system was adopted of superposing several thick plates. By 1872 it had become possible to produce 12-in. plate of good quality, but by this time the power of guns had so increased that even this thickness would be pierced by projectiles, and new progress in armor plating became necessary. The British ship *Dreadnaught* had her turrets covered with two 7-in. plates, separated by 9 in. of teak, and backed by 6 in. of teak and two ¾-in. skin-plates. But the rifled gun soon gained the supremacy over this weight of armor, and the *Inflexible* was covered with two layers of 12-in. plate, separated by 11 in. of teak and backed by 6 in. of teak and two 1-in. skin-plates. Continued tests, however, have rendered it evident that armor made up of several superposed thin plates has much less resisting power than solid plates of the same thickness, and the latter only is now used. Thus a 60-lb. round shot that failed to penetrate a 4-in. solid plate, readily passed through 6 in. of 1-in. plates laid together. In 1876 the Italian government, having resolved to build iron-clads surpassing any previously produced, called for a competitive test of 22-in. plates of various materials. The result was instructive, proving that solid steel plates alone was capable of resisting the force of impact from the 100-ton rifled Armstrong gun then in use. Plates of this kind, though wrecked, kept out all shot, while the iron targets were pierced. The result of this trial practically put an end to the use of wrought-iron armor, steel taking its place in subsequent operations. Compound plates (consisting of wrought iron with a steel face), were manufactured in 1877, but their resisting power was put to a severe test in 1882, again at a trial instituted for the Italian government. Two plates were offered, one a compound, the other of solid steel, each 18.9 in. thick. The compound plate was wrecked by two shots from the 100-ton gun, while the steel plate continued partly intact after three shots. When, in 1886, the U. S. came into the market for heavy armor of home manufacture, only steel plates were ordered; and in 1890 a new material, steel alloyed with nickel (first made at the Krupp works in Germany), was made at Annapolis and showed a remarkable power of resistance. In the same year was tested a steel plate surface-hardened by a new process of carbonization (called Harveyized steel), which showed striking resistance to impact. Plates of these kinds are now alone used on American ships, and are in general use in Europe. In 1891 it was shown that plates could be produced by the rolling process equal in quality to those made by the much more costly process of hammering, an important step in the direction of economy. During the years that have elapsed since that date many instructive tests of nickel steel, surface-hardened plates have been made, both in this country and abroad, with the result that at present armor seems to have the best in the contest between the penetrating force of projectile and the resistance of steel plates. At a test made in 1895, a 16-in. steel plate, with 36 inches of oak backing, was attacked at short range successively by a 10-in., 12-in. and 13-in. gun. The 10-in. gun, with a 500-lb. shell and a striking velocity of 1,856 feet per second, caused a penetration of 11 inches, but no cracks were developed and the backing remained sound. The 850-lb. projectile of the 12-in. gun, with a velocity of 1,800 feet per second, was destroyed after it had penetrated 17 inches; the plate was cracked but the backing held firm. The great 13-in. gun, with a striking velocity of 1,800 feet and energy of 24,736 foot pounds, sent its 1,100-lb. shell through the entire target and two 16-in. oak timbers, after which the shell buried itself 12 feet in the sand. The resistance to 4 shots of such energy and striking within so limited a space, show

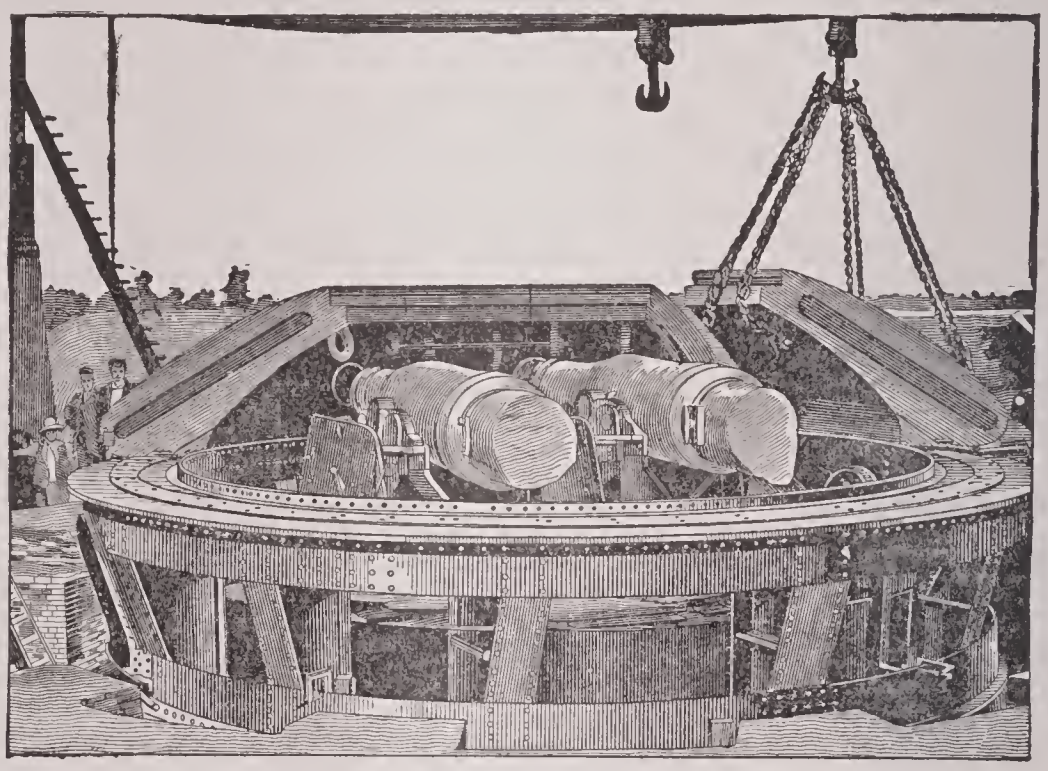


Fig. 2674.—UNFINISHED REVOLVING TURRET, SHOWING MODE OF CONSTRUCTION.

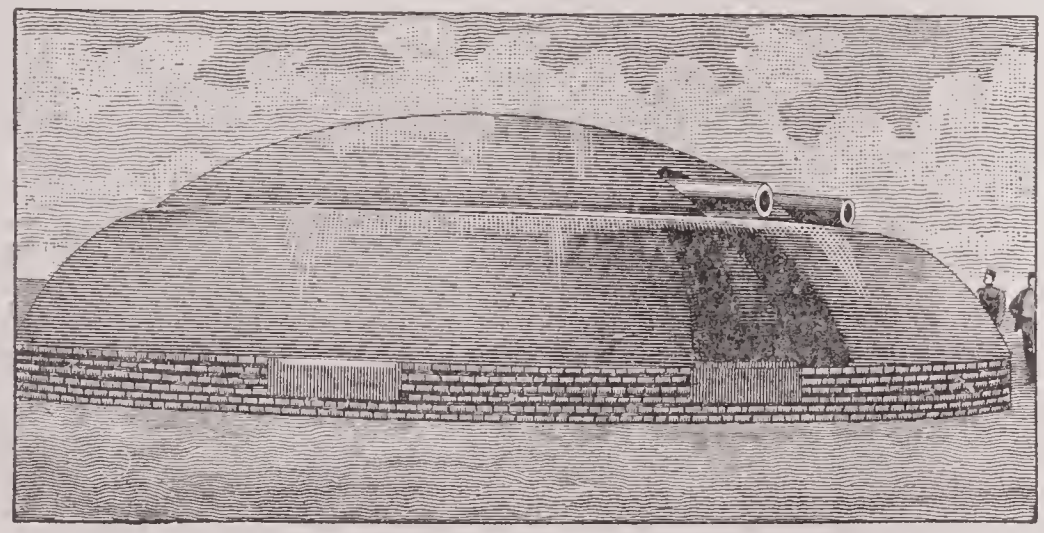
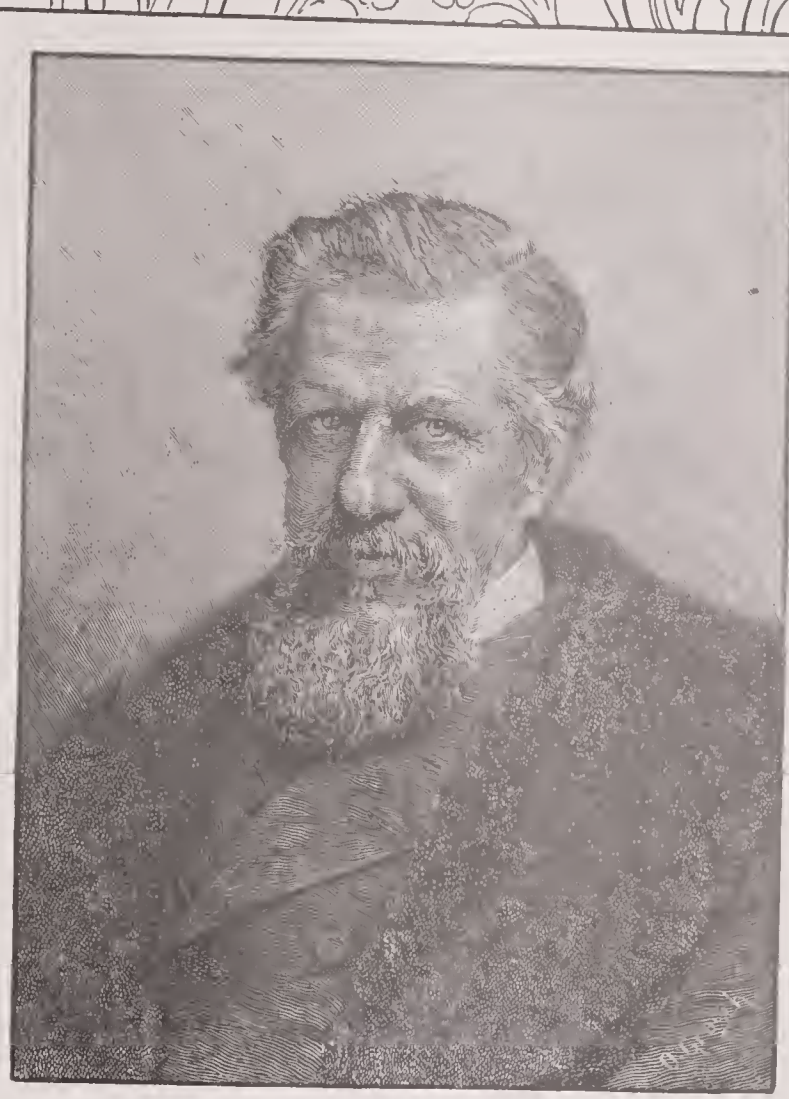


Fig. 2673.—THE GRUSON REVOLVING CHILLED IRON TURRET—EXTERIOR.

remarkable toughness in the Harveyized nickel steel plate. In actual warfare no single plate is likely to receive such a battering, particularly at such short range. In another test in which the powerful 13-in gun was employed, the projectile having a striking energy of 25,000 foot pounds, the shell was completely destroyed, after penetrating 10 inches into the plate, and considerably splitting the oak backing of the target.—*Mode of Applying Armor.* The *Warrior*, the first British ironclad, had her ends unprotected and her steering gear exposed. She was provided with masts and a full spread of canvas. The *Minotaur* and *Agincourt*, which followed were protected from end to end, and the *Achilles* was provided with a complete belt at the water line. Various other methods were adopted, with the view of gaining the best protection with the least weight. In 1893 the Italian ironclad, *Duilio*, was provided with a water-line belt of armor, while a curved protected deck was built below the water line, so that a large share of the armor might be used to protect a citadel rising from the deck in the centre of the ship and containing the engines and boilers. On the top of this citadel stood two turrets, each containing two 100-ton guns. This arrangement permitted the use of 22-in. armor over the whole citadel. Since then the curved protected deck, from which projectiles are expected to glance, has come into general use. Under water little protection is needed, and the weight of armor is placed above. The turret system is now much used, the English sea-going ships of this type elevating the turret breastwork deck to 11 or 12 feet above the water line, while the upper deck is generally raised to the same height by means of lightly built superstructures. American monitors are less lofty in build. See BATTLESHIP, CRUISER, STEEL, &c.

Armored Fortifications. For years past armor plates have been used on land fortifications, it being impossible to build walls thick enough to resist the terrible force of the new guns brought into use; or, if so, walls of such immense thickness would have been needed that the depth of the embrasures would have limited the range of the guns behind them. Armor plates like those used on vessels were therefore employed on the walls of forts; but this was subsequently replaced by chilled iron armor of a weight that rendered it impracticable for vessels but made it very effective in destroying the striking energy of projectiles. Armor of this character is used for stationary parapets, for batteries, and for revolving turrets. Where a large range is to be covered, armored turrets are used, which are made to revolve so that the guns can be fired in all direction. Chilled iron armor of the type used for vessels is employed for these turrets, which at first resembled those used on monitors, but subsequently were made by Gruson of a new type, in which the cylindrical form with a flat or arched top was abandoned, and the whole turret given a cupola-like arrangement presenting no vertical surface. In this way the action



Sir Edwin Arnold

1832-

Chester A. Arthur

1830–1886

of the striking projectile was very much weakened. As only long cannon for direct fire can be employed in such revolving turrets and batteries, cupolas for howitzers and mortars have to be differently arranged. These weapons being always fired at the same angle, the cupola which turns in the circular glacis can be quite flat, and, on account of its light weight, be rigidly connected with the carriage, which revolves on a central pivot. For the shorter mortars the cupola is contracted to a sphere inclosing the mortar, so that only a small portion of the cupola about the opening extends from the glacis. The revolving turret was succeeded by the introduction of disappearing turrets for small and medium-sized guns, these yielding greater safety than those which simply revolved to turn their portholes away from the enemy. Subsequently, disappearing turrets for heavier guns were built in France by Galopin. In these the moving part, cylindrical in shape and covered with a slightly arched hood, has a sinking as well as a turning motion, and can be lowered until its top is on a level with the glacis, so that when loading there is no opening exposed to the enemy and the turret itself is scarcely visible. In many cases, especially in vast fortifications, overhead covering to the fort is not deemed necessary; and in these the barbette turret, in which the guns fire over a stationary ring of armor, or the disappearing carriage (designed by Moncreiff and completed by Armstrong and others) has been adopted. In the former the gunners are protected by a shield connected with the carriage mounted on a turntable. In the disappearing carriage the gun also stands on a turntable in a basin of masonry or armor, which is provided with a perfectly flat, armored top, which cannot be seen from a distance. When such an invisible turret is brought into action, the barrel of the gun is raised by a pneumatic device, and appears at an aperture in the roof, which is opened at the proper time; and after firing the gun is returned automatically, by recoil, to the protected loading position. Armored fortresses now exist on the coasts of all maritime civilized countries, the chilled iron turrets being preferred in Germany and Italy, the disappearing carriage in England and the United States. Immense inland fortresses exist in Roumania, on the Russian frontier, and armored fortifications are found inland in many other countries, as on the eastern frontier of France. As will be seen, the development of projectile power has made armor more and more indispensable, the competition between shot and armor being no longer a feature of naval warfare only, but of war on land as well.

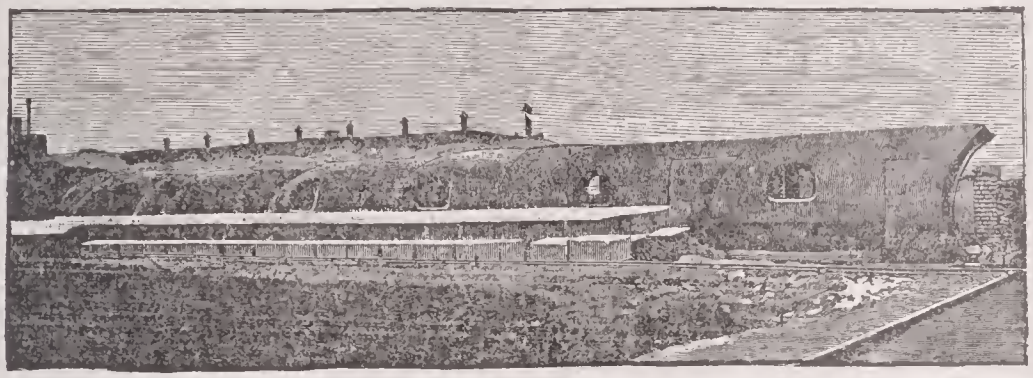


Fig. 2675.—ARMORED FORTIFICATIONS OF FRANCE AND ROUMANIA.

Armstrong. SAMUEL CHAPMAN, born at Wailuka, in the island of Mani, Sandwich Islands, Jan. 30, 1839, being the son of a missionary; was educated at Williams College, Mass., where he graduated in 1862. He entered the army as a captain in a New York regiment, and in 1863 was made lieutenant-colonel of the 9th U. S. colored infantry. He left the service in 1865 as brevet brigadier-general, and at once applied for a position that would enable him to work among the freedmen. He was put in charge of the Freedmen's Bureau work at Hampton, Va., with the supervision of 10 counties in eastern Va. At his suggestion the American Missionary Association bought land in that locality, and in 1868 opened the Hampton Normal and Agricultural Institute for negroes, under the management of General Armstrong. Indians were subsequently introduced into this institute, and he devoted the remainder of his life, with the highest success, to the important work which he had thus undertaken. D. May 11, 1893.

Arnold. SIR EDWIN, an English poet, born at Rochester, June 10, 1832; graduated at Oxford in 1854, and was subsequently appointed principal of the Govt. Sanskrit College at Poona, India. He resigned in 1861, and became an editor on the London *Daily Telegraph*. He was made knight commander of the Order of the Indian Empire by the Queen in 1888, lectured in the U. S. in 1889, and afterward visited Japan, whence he wrote letters to the *Daily Telegraph*, which were subsequently published in book form. His epic poem, *The Light of Asia*, has run through many editions. He also wrote *The Light of the World*, and many other poems, with various works in prose, descriptive of India and Japan.

Arras'tra, *n.* (*Mech.*) A sort of rude grinding mill, used in Spanish America for crushing ores, etc., and consisting essentially of one or more heavy wheels propelled by a horizontal beam that revolves about a vertical axle standing in the centre of the pit, or vat, on the floor of which the ores, &c., are placed for grinding.

Artemus Ward. See BROWNE, C. F.

Arteriver'sion, *n.* (*Surg.*) In amputations, the method of closing the mouths of severed arteries, by folding over their ends.

Artesian Well.—*Continued from* SEC. I.

The sinking of Artesian wells for the purpose of irrigation has come greatly into vogue within the last two decades, and with results of immense importance. We have already spoken of their employment for this purpose in the Sahara, where they are now very numerous and have added greatly to the habitability of that vast desert region. In the United States, *A. W.* for this purpose were first sunk in California, and with such success that their use has been extended widely through the arid region, in much of which water is found in large volumes at a depth of 800 to 1000 feet. They are particularly abundant in South Dakota, along the course of James river, which seems underlaid by a great subterranean lake or stream, whose waters come to the surface with such force as to yield abundant power for manufacturing purposes. Many square miles of desert land have already been reclaimed in this country through irrigation from *A. W.* In June, 1890, the census showed that over 8,000 wells were then in use in the Western States and Territories, of which nearly 4,000 were utilized for irrigation, about 52,000 acres being thus reclaimed; 2,000 of these were in California. The average discharge of these wells was about 78,000 gallons a day. Since that date the number of such wells has greatly increased. But their use is approaching a limit, the discharge from the wells in many cases equalling the supply entering the underground reservoirs. *A. W.* for other purposes are very abundant in the U. S., and furnish in the aggregate a large amount of water for domestic and municipal purposes, for cattle, &c. In nearly every large city deep wells have been sunk to obtain water for industrial purposes, and often with much success. The water of many of these is clear and pure, though in some cases it is saline, and in others it is rendered useless for drinking purposes by sulphuretted hydrogen. On low lands along the coast, where the surface water is undrinkable, *A. W.* have proved of the greatest benefit. In addition to *A. W.*, for the purposes indicated, great numbers have been sunk for the purpose of tapping the reservoirs of petroleum and natural gas. In the range of States from western New York to Kentucky and Tennessee, probably more than 5,000 wells, 1,000 to 2,000 feet in depth, have been sunk for this purpose. Salt water would flow from many of these if not prevented, and in every respect of structure and method of drilling they are *A. W.* As regards the depth of wells in this country, there is one in St. Louis of 3,843 feet, and others in the oil region still deeper. One at Wheeling, W. Va., 4,500 feet deep, did not encounter water below 1,600 feet. Others have been driven to nearly 5,000 feet. There are several wells in Germany over 4,000 feet deep, but the deepest drilled excavation in the world is probably that at Schladebach, near Kötschan, Prussia, which was sunk in a search for coal; the extreme depth reached was 5,740 feet. As regards the flow of water from such wells, one sunk at Passy, near Paris, yielded at first 4,400,000 gallons a day, but obstruction by sand has greatly reduced this flow. There are many others of enormous outflow.

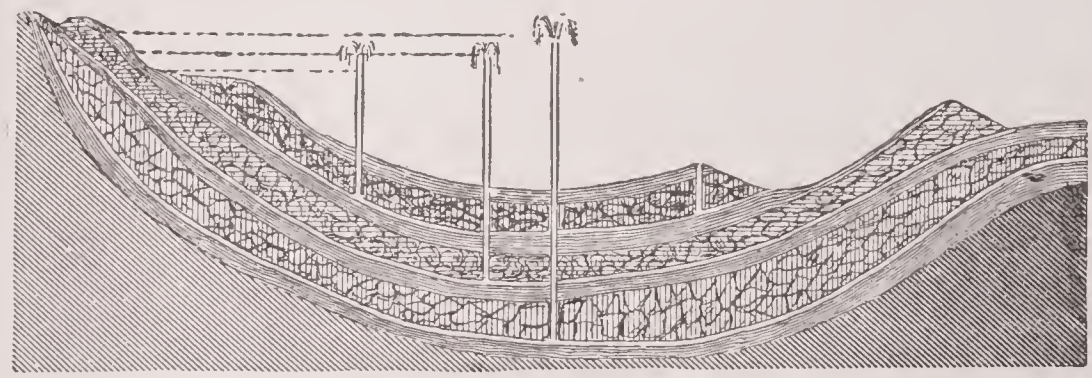


Fig. 2676.—ARTESIAN WELL—WATER-BEARING STRATA.

Arthrop'oda, *n.* [From Gr. *arthron*, a joint, *pous*, *podos*, foot.] (*Zoöl.*) One of the great divisions of the animal kingdom, formerly included in the *Articulata* of Cuvier. The *A.* are made up of closely similar joints or segments, each of which may bear a pair of jointed feet, whence the name. They include three divisions, the *Crustacea*, breathing by gills; the *Arachnida*, or spiders, mites, &c., breathing by gills, lungs or air-tubes; and the *Insecta*, or true insects, breathing by air-tubes. The *A.* are very numerous, the *Insecta* in particular, having several thousand distinct species.

Arthrosia, (*ăr-thro'zhah.*) [From Gr. *arthron*, a joint.] (*Path.*) A generic term applied to painful inflammatory swellings of the joints. It induces many forms of gout and rheumatism.

Arthur, CHESTER A., 21st President of the U. S. Born in Vermont, Oct. 5, 1830. His father, a Baptist minister, emigrated to the U. S. from Antrim, Ireland. *A.* was educated at Union College, and taught school for two years in Vermont, then removed to New York and practiced law. During the Civil War, he was Quartermaster-General of the State of N.Y. In 1872, appointed by Grant, Collector of the Port of N.Y., from which he was removed by Hayes in 1878. Elected Vice-President of the U. S. in 1880, upon the Republican ticket with Garfield, and by the assassination of the latter, *A.*, by virtue of his office, became President of the U. S. on Sept. 19, 1881. Died Nov. 18, 1886.

Arthur, TIMOTHY SHAY, an American author, born near Newburgh, Orange co., N. Y., in 1809. In about 1835 he became assistant editor of a newspaper at Baltimore, and commenced the publication of works of fiction having a special moral purpose. He continued his connection with the periodical press from that time until his death, he having removed, in 1841, to Philadelphia, where he became the editor of *Arthur's Magazine* and of the *Children's Hour*, a juvenile monthly. His popular tales, or novelettes, which were very numerous, were directed to the moral improvement of some classes of society and attained an immense circulation. His temperance tales, *Ten Nights in a Bar Room*, *Lights and Shadows of Real Life*, *Tales for Rich and Poor* (6 vols.), *Library for the Household* (12 vols.), and *Good Time Coming*, have been sold by the hundred thousand, and many of them reprinted in Europe, and translated into other languages. Died 1885.

Artificial Limbs. The origin of the manufacture of *A. L.* goes back to a very early date, and in Paré's work on Surgery, of 1579, he describes and illustrates an artificial arm and leg, rude in construction, but fairly well adapted to their purpose. Others are spoken of at intervals down to 1800, when one became celebrated as the "Anglesea leg," it being worn by the Marquis of Anglesea. Others were patented in this country, though as a rule only the rude "wooden leg" was in use until after the American Civil War, when the purpose of the government to supply mutilated soldiers and sailors with artificial limbs led to many useful inventions in this direction. These veterans are supplied once in every five years, and the demand for these and others who have lost their limbs makes a large market for *A. L.* in the United States, and has greatly stimulated inventive talent. Such limbs are now brought to a remarkable degree of perfection, persons wearing them being able to walk almost without detection, even in cases where both legs are artificial. The joint movements are admirably simulated, sitting and rising are satisfactorily provided for, and limbs of this character are so cheaply produced that the rude stump-form wooden leg of the past has almost vanished

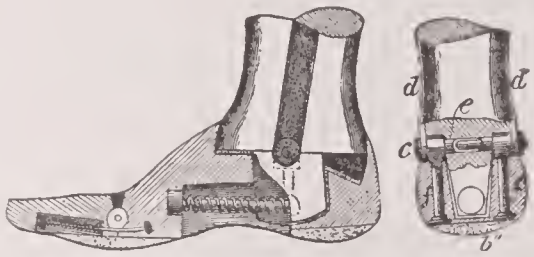


Fig. 2677.—ARTIFICIAL FOOT AND ANKLE—STEEL.

from sight. The manufacture of *A. L.* has been brought to such perfection that an arm and hand of less than a pound weight can now be made, with which all the ordinary motions, such as holding a hat, using a pen, &c., can be satisfactorily performed, while invention has been so active that the U. S. Patent Office records more than 150 patents for this purpose, being more than double all the European patents for artificial limbs. Among the latest improvements is the introduction of an universal motion at the ankle-joint. Another improvement, of no less importance, is in the knee joint provided in the case of thigh amputation, which is so arranged that when sitting the cord and spring are completely relaxed, thus doing away with

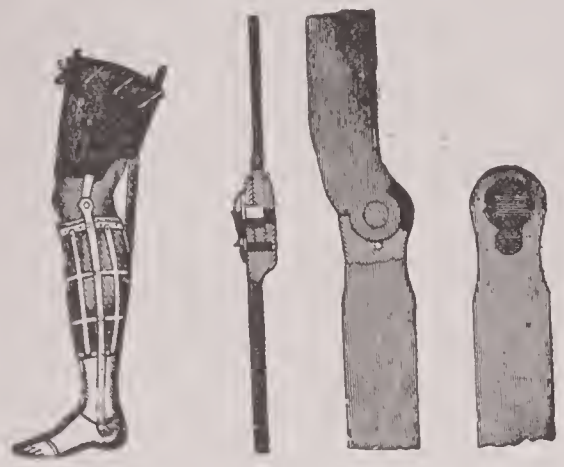


Fig. 2678.—ARTIFICIAL KNEE-JOINT—STEEL.

strain and pressure: while, on rising, they are again brought into their proper positions without strain, no extra attachments being needed for this purpose. Another field in which American inventors have produced strikingly useful results is in the production of artificial arms, and extension apparatus for short legs. The articular surface of the joints of the *A. L.* are of steel, playing in smoothly pressed leather sockets. The knee joints consist of two steel braces, which are riveted firmly to each side of the lower leg. By the use of steel the modern *A. L.* is made a model of lightness, which may in the future be much increased by the substitution of aluminium bronze.

Asep'sis, *n.* (*Pathol.*) Absence of blood poisoning; exemption from putrefaction and its consequences.

Asep'tin, or SEPAN, *n.* (*Chem.*) A substance introduced as a preservative material for milk, meat, &c. It is said to be simply boracic acid, or borax; the double *A.* consisting of two parts of borax to one pound of alum. Putrefaction is said to be prevented by the addition of this preparation, but mouldiness in animal substances is not. ..

Fig. 2679.—ASERÖE PENTACTINA.

As'eröe (*ăs'ār-o*), *n.* (*Bot.*) A gen. of phalloid *Fungi*, distinguished by the bifid rays of the receptacle (Fig. 2679). The species, which may probably be reduced to three, are of a delicate pink or green. They vary greatly in the degree to which the rays are divided. Like others of the group, they are very fetid when fresh. They are confined to the islands of the Southern hemisphere.

Ash Grove, a town of *Missouri*. *Pop.* in 1890, 1,350.

Ash'land, a town of *New Hampshire*. *Pop.* in 1890, 1,193.

Ash'land, in *Oregon*, a town of Jackson co. Numerous mineral springs are here and in the vicinity. *Pop.* in 1890, 1,784.

Ash'ley, in *Pennsylvania*, a borough of Luzerne co., 3 miles from Wilkesbarre. *Pop.* (1890) 3,192.

As'pen, in *Colorado*, a city, cap. of Pitkin co. It is situated at an elevation of 7,700 feet, and is in the vicinity of some of the most productive silver and lead mines of the State. About $10,000,000 worth of silver is produced here annually. *Pop.* (1890) 5,108; (1897) est. at 8,000.

As'phalt, Asphal'tum.—*Continued from* SEC. I.

Asphalt occurs in America in an immense number of places. The asphalts from the various localities are without exception the more or less perfectly solidified residual products of the spontaneous evaporation of petroleum, but exhibit great diversity of physical character, and some of chemical composition. These differences are, doubtless, in part due to differences in the petroleums from which they have been derived. The greatest noticeable diversity is, however, probably due to difference of age, and is a record of the slow but constant changes which time effects in these, as in other organic compounds. Among the most important of our asphaltic minerals are the Albertite and Grahamite. The first from New Brunswick, the second from W. Virginia. Both these are found filling fissures, opened across their bedding, in strata of carboniferous age; which fissures mark lines of disturbance, where the strata are more or less tilted and broken, and where oil-springs abound. There is little room for doubt that in each instance, the fissures which contain the *A.* have afforded convenient reservoirs into which petroleum has flowed, and from which all the lighter parts have been removed by evaporation. A large number of similar deposits, though of less magnitude, are known, all presenting the same general features. Among these may be mentioned a nearly vertical bed in the mountains W. of Denver, in Colorado. On the banks of the Arkansas, S. from Denver City, a number of smaller fissures cutting cretaceous rocks, are filled with a similar asphaltic mineral. In the great Devonian black shale of Ohio and Kentucky (Huron Shale) fissures cutting across the bedding of the formation filled with Albertite, occur near Avon Point, Lorain co., Ohio, and Liberty, Casey co., Kentucky. Petroleum flows from this formation nearly everywhere along its line of outcrop. The *A.* from all the above localities is hard, bright, and brittle, and seems to be the product of very long continued and complete spontaneous distillation and oxidation. In Butler co., Kentucky, the central member of the Lower carboniferous group is saturated with petroleum. This flows out from the cut edges of the formation in the valley of Green River and its branches, forming sheets of mineral tar and ultimately asphaltum which cover the exposed surfaces on the rock. The quantity of asphaltic material in this vicinity is large, and it may sometimes be utilized for road-making in the same manner as the Syssel *A.* In S. California, the accumulations of *A.* on the coast at Santa Barbara, San Luis Obispo, &c., have attracted the notice of all travellers who have visited that region. The *A.* is here plainly inspissated petroleum. It drips from the cliffs at many points and forms a scum on the ocean off the coast. There it is evaporated and oxidized, then thrown upon the beach by the waves, where it accumulates in large masses, generally mingled with sand and other foreign matter. When pure, the *A.* of California resembles that from Trinidad, and is beginning to be used for the same purposes, roofing, paving, lining of cisterns, &c. The wants of the entire W. coast can be easily supplied from this source. About Chicago, Illinois, the Niagara limestone is in some localities completely saturated with a thick petroleum, which on exposure is converted by evaporation into *A.* There are no important asphaltic accumulations here, and it is perhaps a little doubtful whether the hydrocarbon which fills the limestone is not too oily to serve the same purposes as the bitumen in the limestone of Val de Travers. The above list includes all the most important deposits of *A.* in our country of which anything definite is known. At various points in the far West occur what are known as "tar springs," really oil-springs, around which more or less asphaltum accumulates as the result of evaporation. In Texas, S. from Shreveport, a pitch lake is spoken of, in which are said to occur large quantities of bitumen; but of this almost nothing is known. *A.*, supposed to have originated in petroleum, is also found in enormous deposits in Mexico, the most noted being at Tamaulipas, on both sides of the river Thamesi. A small mountain near the village of Moloasan, Vera Cruz, is largely composed of asphalt. *A.* is found in many other parts of the world, and lakes of it occur near San Timolis, Venezuela, and in the island of Trinidad, each of which is about three miles in circumference. The depth of the Trinidad lake has been found to be 18 feet near the sides and 78 feet in the centre, and it is estimated to contain 6,000,000 tons. The *A.* of commerce is largely obtained from this lake; and also from Cuba, Dalmatia, and Syria; while asphaltic limestone of high quality is procured at Seyssel and Val de Travers, Switzerland.—*Uses of Asphalt.* *A.* is a dry solid, with a glossy black surface and conchoidal fracture. It is easily melted, is very inflammable, and leaves little residue. It is very brittle at low temperatures, and may be broken when warmed, but at the same time is soft enough to yield to the heat. It is largely used for various purposes, such as varnish-making, water-proofing, insulation, cementing, roofing, and paving, being very extensively employed for the last named purposes. Varnish into whose composition *A.* enters is known as *black varnish*, and used principally on structures of iron. *A.* is employed in the manufacture of mastics and cements which are chiefly used for the purpose of underground insulation. It is also used to make constructions waterproof, brick or stone foundations saturated with dissolved *A.* being laid in asphaltic cement. Foundations of this character are highly durable. Its resistance to water is shown in the La Salle Street tunnel of Chicago, which continues dry, while tunnels finished with hydraulic cement all admit some water. Trinidad *A.* is very largely used in the manufacture of roofing materials, felt in several thicknesses, saturated with a mixture of *A.*, coal-tar, pitch, and petroleum residue being laid on the roofs and covered with sharp sand or screened gravel. The use of *A.* for paving purposes has grown enormously of recent years, these being largely composed of Trinidad asphalt and sand, while in Europe the bituminous limestones of Switzerland are employed in connection with Trinidad asphalt. In most of the large modern cities many miles of streets of asphalt pavement now exist. In the U. S. more than 200 miles of such street pavement existed in 1890, and since then this has been very greatly increased, the streets of some of our cities, as Philadelphia and Washington for example, being largely laid with this admirable material for light driving use.

Assin'iboia. (*Geog.*) A district of the Northwest Territories of Canada, bounded by Saskatchewan on the N., Manitoba on the E., Alberta on the W., and North Dakota and Montana on the S. It forms part of the great plains east of the Rocky Mountains, but has many hills. It is well-watered and possesses numerous

Fig. 2680.—ASSINIBOIAN WOMAN AND CHILD.

small lakes. The climate is severe, though chinook winds often soften the winter temperature. Most of the cold waves of the U. S. come from this district. Wheat is extensively grown, and large numbers of cattle, swine, &c., are raised. *Area*—9,500 square miles. *Pop.* in 1890, 30,285.

Association of Ideas. (*Psychol.*) A natural tendency of the mind, in the event of its becoming conscious of any thought, idea or new sensation, to call up into consciousness, through the principle of association, something that has previously been connected with it, either in nature or in the mind.

Assyrian Explorations. Modern exploration in the ruins of the great cities of Assyria has yielded abundant and highly valuable information in regard to the arts, customs, and history of that interesting country, of which little was known previous to the time of Layard, but concerning which we now possess an extensive store of information. The former conceptions of Assyrian history, as derived from Greek history and other sources, we have given under ASSYRIA (*q. v.*). We may say here that records reaching back to nearly 2000 B. C., are now known and the list of kings and the story of their doings have been corrected and extended until it is somewhat complete from the 16th century, B. C., down to the fall of the Assyrian empire. Asshurbanipal (the misconceived Sardanapalus of classic tradition), the most eminent of the rulers of Assyria, was a great patron of letters, and gathered in his palace at Nineveh a large library of clay books, which, fortunately, has been in great measure recovered, and which has yielded highly important information of the most varied character concerning this once almost unknown empire of the past. Assyrian exploration began with excavations into the ruins of Nineveh, the former great capital of the empire, by P. E. Botta, French consul at Mosul, on the Tigris, in 1842. He discovered at Khorsebad, a few miles from Nineveh, the ruins of the palace of Sargon, a great Assyrian king, and obtained from it many interesting antiquities. His results led A. H. Layard, an English investigator, to take up this important work, which he prosecuted with the greatest energy and success, far surpassing Botta in the value of his results, and enriching the British Museum with stupendous and very numerous examples of Assyrian art. His explorations, extending from 1845 to 1847, and resumed in 1849, are very interestingly described in his *Nineveh and its Remains*, and *Nineveh and Babylon*. Many other explorers followed, but their work was largely given to the ruins of the older kingdoms of Babylonia, and will be described under that heading. Among them may be particularly mentioned George Smith, of the British Museum, who was particularly successful in reaching the clay tablets recovered from the library of Asshurbanipal, and discovered on them a traditional record of the deluge sufficiently similar to that of the Scriptures to excite the greatest attention.—*Art and Literature.* The literature of Assyria is written in pecu-

liar wedge-shaped characters, known as cuneiform, the books consisting of clay tablets, on which those characters were stamped while soft and moist, the tablets being afterwards sun- or heat-dried and stored away in successive layers in library halls. Many of these are broken, but much success has been attained in fitting the fragments together; while the discovery of the secret of the language, through the finding, in Persia, of a trilingual

Fig. 2681.—COMMON DRESS OF ASSYRIANS.

cuneiform inscription, has rendered their decipherment comparatively easy, and diligent students of Assyrian and Babylonian literature have restored to us much of the ancient history of the interesting Mesopotamian region. The art relics from the Assyrian palaces consist largely of sculptured slabs of alabaster and limestone, which formed a wainscoting of some 8 feet in height around the brick walls of the apartments. They repre-

Fig. 2682.
ASSYRIAN PRIME MINISTER AND ROYAL OVERSEER.

sent, in low relief, scenes of war and the chase, mythological subjects, &c., and are full of curious information. More striking than these are the great sculptured animals found at the portals of the palaces, winged and human-headed bulls, and lions of great size and striking aspect, several of which have, with great difficulty, been transported to the British Museum. In addition to these, very numerous other relics of Assyrian art are in existence, teaching us much about the manners and customs of the ancient dwellers on the Tigris. The palaces were erected on enormous terraces of brickwork, and were themselves of brick, the country being largely destitute of stone and affording but little timber. To hide the crude brick walls the stone wainscoting mentioned was employed, while above this they were plastered and painted, or ornamented with enameled tiles in symbolical or conventional patterns of various colors. In addition, the Assyrians were expert in the arts of weaving, embroidering and bronze-working, and showed much skill and artistic taste in the engraving of gems, of which many examples exist. The use of the arch was known, but it was little employed, the rooms being made narrow and spanned by timber. The column, so common in Egypt, was little utilized in Assyrian palace architecture. See BABYLONIA.

Asth'ma, *n.* [Gr. *asthma*, laborious breathing; Fr. *asthme.*] (*Pathol.*) A disease of the lungs, characterized by a difficulty of breathing, which comes in paroxysms, accompanied by a wheezing noise and a feeling of tightness across the chest. The fit occurs most frequently during the night, suddenly awaking the patient from sleep, who is obliged to assume an upright posture to prevent suffocation, and to struggle and pant for breath while the paroxysm continues, which is usually two or three hours. Though a distressing, it is seldom, in itself, a fatal disease. It is frequently hereditary, or it may arise from some affection of the respiratory organs. Among the other causes that may give rise to it, are, dwelling in a moist or impure atmosphere, cold, indigestion, mental anxiety. The paroxysms are generally preceded by languor, flatulency, headache, sickness, a feeling of anxiety, and a sense of tightness and fullness about the chest. Physicians usually distinguish three kinds of *A.*: the *humid*, *dry*, and *spasmodic*, according as they are, or are not, attended with cough and expectoration. During the paroxysms, gentle aperients, and anti-spasmodic medicines are recommended. A blister on the chest, bathing the feet in hot water, a cup of hot coffee, or the smoking of stramonium, are frequently of use. To prevent the return of a paroxysm, the exciting causes are to be avoided; the bowels kept gently open, the food to be light and nourishing, regular and moderate exercise taken, and a change of climate or of situation to be tried. As regards this last, it has been found that some have been least subject to *A.* in the country, others in the centre of a town.

Astragalus, (*ăs-trah-ga'lŭs.*) (*Antiq.*) From the earliest times, the huckle-bones of sheep and goats have been used by women and children to play at a game which consisted in throwing those bones into the air, and catching them on the back of the hand. Where these bones were without any artificial marks, the game

Fig. 2683.—THE ASTRAGALUS GAME.

was entirely one of skill; when the sides of bones were marked like dice, it became a game of chance. This subject is frequently represented in ancient art. Our figure is copied from a Greek painting discovered at Resina.

As'trolabe, *n.* (*Astron.*) An instrument, often in the form of an armillary sphere, which was formerly used in navigation to obtain the altitudes of stars and planets. Also a projection of the sphere upon the plane of the equator, or of any great circle of the earth.

Astronomy.—*Continued from* SEC. I.

who translated it into their language in 827, and which, as the Ptolemæan system, notwithstanding its many errors, has maintained its value down to the latest times. The Arabians continued for many ages to direct their attention to astronomical science: and though they confounded it with the dreams of astrologers, they, nevertheless, deserve the regard of all who came after them, by their valuable observations. Among the Christian nations at this period a profound ignorance generally prevailed; but in the 13th cent. *A.*, as well as other arts and sciences, began to revive in Europe, particularly under the auspices of the emperor Frederick II., who, in 1230, caused the works of Aristotle and the Almagest of Ptolemy to be translated into Latin. King Alphonso of Castile, about the same time, invited to his court several astronomers, and commissioned them to prepare a set of new astronomical tables, which under the name of *Alphonsine Tables* have acquired much celebrity, but which in the 17th cent. differed a whole degree from the true situations of the celestial bodies. We now approach the era of reviving science. Many astronomers of inferior note paved the way, by various isolated observations, for the great restorer of *A.*, Copernicus, who, at the beginning of the 16th cent., gave the science an entirely different aspect, exploded the Ptolemæan hypothesis, and in its stead substituted the Copernican system of the world, which, with a few modifications, is now universally acknowledged to be correct. His system did not, however, immediately meet with a general reception; and among his opponents was Tycho Brahe, a Dane, who asserted that the earth is immovable, in the centre of the universe, and that the whole heavens turn round it in 24 hours; an opinion which he supported principally by the literal sense of various passages in the Bible, where a total absence of motion is ascribed to the earth. His pupil and assistant Kepler, however, found that all the planets revolve in elliptical orbits, in one of the foci of which the sun is placed; and he moreover demonstrated that, in each elliptical revolution of the planets round the sun, an imaginary straight line, drawn from the latter to the former, called the *radius vector*, always describes equal areas in equal time, and, lastly, that in the revolutions of the planets and satellites, the squares of the times of revolution are as the cubes of the mean distances from the larger body. These great discoveries paved the way for views still more comprehensive. The Italian Galileo, B. 1564, invented the telescope, and his discovery of the value of the pendulum as a recorder of time, rendered also invaluable services to *A.* To Newton belongs the glory of having established the law of universal gravitation in its entire generality, and applied it with demonstrative evidence to all the movements within the solar system. Descartes had sought the cause of the motion of the planets around the sun, and of the satellites around the planets, in the rotatory motion of a subtile matter. But Newton and Kepler have rescued the laws of the material universe from the thraldom of a false philosophy, and left to later times merely the development of the truths which they established. Passing over the names, however illustrious, of Halley, Bradley, William Herschel (who discovered in 1781 the planet Uranus), Lacaille, Lalande, Delambre, Piazzi, Clairaut, D'Alembert, &c., we come to Lagrange, who immortalized his name by several great discoveries, the most remarkable being that of the invariability of the mean distance of the planets from the sun (1776). With the name of Lagrange is associated that of Laplace, their rival labors dividing the admiration of the scientific world during half a century. The researches of Laplace embraced the whole theory of gravitation; and he had the high honor of perfecting what had been left incomplete by his predecessors. By the brilliant discoveries of Laplace, the analytical solution of the great problem of physical astronomy was completed. The principle of gravitation, which had been found by Newton to confine the moon and the planets to their respective orbits, was shown to occasion every apparent irregularity, however minute, in the motions of the planets and satellites; and those very irregularities, which were at first brought forward as objections to the hypothesis, have been ultimately found to afford the most triumphant proofs of its accuracy, and have placed the truth of the Newtonian law beyond the reach of all future cavil. The 19th century opened with the discovery of the four small planets—Ceres, in 1801, by Piazzi; Pallas (1802) and Vesta (1807), by Olbers; and Juno, by Harding, in 1804. In 1845, Hencke discovered the 5th of this group, revolving between Mars and Jupiter, to which the name of Astræa was given; and up to the present time (1897) upwards of 425 asteroids have been discovered. The great events of the century are, perhaps, the discovery by Leverrier of the planet Neptune in 1846, the application of photometric analysis to the measurement of the light of the sun and stars, and the use of the spectroscope in determining their composition with very promising results; but astronomical discoveries in recent times, both in Europe and America, have been so brilliant and numerous, and the progress in every department is so rapid, and involves so many details, that it would be impossible to give here even a condensed account of that progress, to which Young, Arago, Leverrier, Adams, Kirchoff, Huggins, Secchi, Zöllner, Lockyer, Respighi, Janssen, Rowland, Pickering, Newcomb, Swift, Young, Gould, Burnham, Barnard and many others have contributed. But notwithstanding the relative perfection to which the theory and other departments of astronomy have been brought, the science is still far from having reached the limit beyond which further refinement becomes superfluous, and numerous portions still remain to be discussed, the solution of which will occupy and reward the future labors of astronomers, and in which much progress has been made during the present century by means of the powerful instruments now employed at the great observatories of every civilized country, and the improved methods of analysis brought to bear upon the results of observation. See ASTEROIDS, ATTRACTION, CIRCLE, COMET, CONSTELLATION, EQUATORIAL, FORCE, GRAVITATION, FRAUNHOFER'S LINES, KEPLER'S LAWS, LUNAR THEORY, METEORS, NEBULÆ, NUTATION, PARALLAX, PLANETS, PRECESSION, SEXTANT, SYSTEM, SPECTROSCOPE, STARS, TELESCOPE, TRANSIT INSTRUMENT, &c.

Astrophotog'raphy, *n.* The art or practice of photographing stars or other heavenly bodies.

As'tro-photom'eter, *n.* (*Ast.*) An instrument described by Zöllner for measuring the intensity of the light of celestial bodies.

Astu'rian, *n.* One of the inhabitants of Asturia, in Spain.

—*a.* Pertaining or belonging to the Asturias.

Asul, (*a'sool.*) (*Bot.*) The Arabic name of *Tamarix orientalis.* Also an Indian name for *Tamarix ferax*, a nut-gall tree.

Asys'tole, *n.* (*Pathol.*) A stage or condition in disease of the heart, in which the muscular contraction of the organ is insufficient to drive the blood freely from the ventricles.

Atamas'eo, *n.* The Indian name of a plant of the amaryllis family (*Zephyranthes atamasco*), having narrow leaves of bright green and a large pink and white flower.

A'tavism, *n.* (*Biol.*) Tendency to recur to an ancestral type, or to any ancestral deformity or disease, after its disappearance for one or more generations; reversion in heredity. It signifies the appearance in men or animals of traits which belonged to ancestors, but which did not appear in their immediate parents.

Athabas'ca, a district of the Northwest Territories of Canada, bounded on the S. by Alberta, on the W. by British Columbia, and on the N. and E. by the undistricted part of the N. W. Territories. The N. boundary is nearly 60° N., and the E. boundary is principally formed by the Athabasca and Great Slave rivers. Great Slave lake lies to the north and Athabasca lake is on the eastern border. The surface consists of wooded plains alternated with low mountain ranges. Wheat, barley, and potatoes can be raised in favorable situations, but fur-hunting is the principal industry at present, and there still exist numerous posts of the old Hudson Bay Company. The population is mostly composed of Indians. —*Area*, 104,500 sq. m. *Pop.*, estimated at 10,000.

Athapas'can Indians. This title has been applied to a family of North American Indians extending from Canada and Alaska to Mexico, and including the Apaches, Navahos, and Lipans of the U. S. In Canada its tribes extend along the Arctic Ocean and from Hudson Bay westward, including the Umpquas, Tinnes,

Fig. 2684.—ATHAPASCAN WARRIOR.

Dog Ribs, Beavers, &c. The total numbers are estimated at over 30,000. This name is also given to a single tribe, the Athapascan Indians proper, who dwell along Slave river and around Athabasca lake. The name is derived from this lake, and is said to signify "place of hay and seeds."

Ath'ermancy, *n.* [From Gr. *a*, priv., and *therme*, heat.] (*Phys.*) A term introduced by Melloni to designate the property of stopping the passage of radiant heat. It is thus the opposite of diathermancy, and corresponds to opacity in the case of light; in fact, an athermanous substance is sometimes spoken of as being *opaque to heat.*

At'kinson, EDWARD, Ph.D., LL.D., an economist; b. at Brookline, Mass., Feb. 10, 1827; educated at Dartmouth College, and widely known as a writer on economic subjects. His large works include *The Distribution of Products; The Industrial Progress of Nations;* and *The Science of Nutrition.* He organized a fire insurance company on new principles, and is the inventor of an improved cooking stove.

Atlan'ta, in *Texas*, a post-town, former cap. of Cass co. *Pop.* (1898) 1,800.

Atlan'ta Exposi'tion. Of all the Southern cities none have shown more enterprise and rapidity of development than Atlanta, the capital of Georgia, the largest city in the State, and the leading railroad center of the South. The first house was built there in 1836, the place being known by the name of Terminus until 1843 and Marthasville until 1847, when it was incorporated as the city of Atlanta, it having then a population of about 2,500. At the beginning of the Civil War, it was made a Confederate manufacturing center and dépôt of supplies. In 1864, when besieged and taken by Sherman, it was found to have 30,000 inhabitants. When the Union Army left it on its "March to the Sea," Atlanta was set on fire and practically destroyed. After the war it was rapidly rebuilt, and developed active manufacturing industries, which have increased until it is now a flourishing center of production and trade, its manufactories including a number of large cotton and furniture factories, over 25 foundries, machine shops, and agricultural implement works, and a considerable number of cottonseed-oil mills, fertilizer, glass, and ice factories. In the surrounding districts are many populous suburbs, and market gardening is actively pursued. Shortly after the close of the Columbian World's Exposition, at Chicago, a desire was manifested in the South for a more adequate display of its products, and Atlanta was selected as the site of the Cotton States and International Exposition, which was opened on September 15, 1895. The locality chosen for the Exposition was Piedmont Park, two miles from the center of the city, 189 acres in area, and admirably adapted by nature for scenic effects. The Park being bordered by elevated ground, sloping down to a low level in the centre, afforded opportunity for a large central lake, on whose border was planted a garden of Southern flowers. The buildings were erected on the elevated ground surrounding, and so artistically grouped that all the structures were visible at one glance, while the central lake and garden gave a beautiful effect from every point of view. The edifices, which were of striking and effective architecture, included structures with the following specific titles: Manufactures and Liberal Arts, Machinery, Mining, Transportation, Horticulture, Electricity, Fine Arts, Minerals and Forestry, Government, Woman's, Negro, Tobacco, Administration, and various smaller buildings. The one devoted to the Negro industries was an interesting innovation, and contained an important exhibit of the productions of the colored people of the South. Exhibits were made by most of the Northern States, by Mexico and the other American republics, and by a number of European countries. The enterprise proved highly successful, and was largely attended, there being on some days more than 100,000 people present. It closed December 31, 1895.

Atlan'tic, in *Iowa*, a city, cap. of Cass co. It has numerous manufacturing industries and is the commercial center of a rich agricultural district.. *Pop.* in 1890, 4,351; in 1897, abt. 7,500.

Atmolyzer, (*ăt-mo-lī'zŭr.*) [From Gr. *atmos*, vapor, *lysis*, a losing.] An instrument devised by Mr. Graham, late Master of the English Mint, to illustrate the application of diffusion through a porous septum as a practical analytical method of separating mixed gases. The apparatus is thus constructed: — The stalk, about two feet long, of a Dutch tobacco-pipe, having an internal diameter of about 2·5 millimètres, is fixed by means of perforated corks within a glass or metallic tube some inches in length, and about an inch and a half in diameter (*w, i*), as in the construction of a Liebig condenser. Another quill tube (*v*) is inserted in one of the end corks, affording the means of communication between the annular space and the vacuum of an air-pump. The external surface of the corks and those portions of the

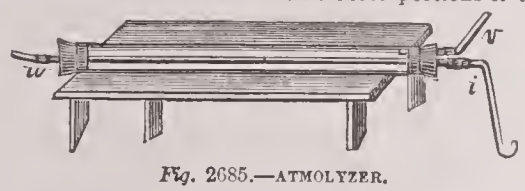


Fig. 2685.—ATMOLYZER.

pipe-stem which project outside the tube should be coated with varnish, to render them impermeable to air. A vacuum is next obtained within the large outer tube, and the mixed gas is then made to enter and pass through the porous tobacco-pipe. A portion of the gas is drained off through the porous tube and pumped away, while another portion passes on through the other extremity of the clay tube, where it may be collected. The stream of gas diminishes as it proceeds. The lighter gas is drawn most largely into the vacuum, leaving the denser gas in a more concentrated state to pass away through the exit end of the clay tube. The more slowly the mixed gas is moved through the tube, the larger will be the proportion of light gas which has been drawn off into the vacuum, and the more concentrated will the heavy gas become. The rate of flow of the mixed gas can be regulated by discharging it from a gas-holder or drawing it into a gas-receiver under ascertained pressure. In his communication to the Royal Society, Mr. Graham gave the following, among other results: — A mixture of 1 measure of oxygen and 2 of hydrogen was passed at the rate of 9 litres per hour; 0·45 litre of the mixed gas was collected. Before traversing the *A.* it contained O 33·3, H 66·7; after traversing the apparatus it contained O 90·7, H 9·3. The result of this experiment was very striking, as the mixture before traversing the tube was explosive, but after its passage through the porous aperture it ceased to be so, and a lighted taper burnt in it as in pure oxygen.

Atrowli (*ăt-ro'le*), a flourishing town of British India, N. W. Provinces, pres. Bengal, dist. of Allygurh, 63 m. N. N. E. of Agra. *Pop.* (1895) 12,722.

At'tala, in *Alabama*, a town of Etowah co., 56 m. from Birmingham. It has a large cotton trade and is surrounded by iron-ore deposits, in which it has a considerable shipping trade. *Pop.* (1890), 1,254.

Au'burn, in *Nebraska*, a city, cap. of Nemaha co. *Pop.* (1890), 1,537.

Au'burndale, in *Ohio*, a village of Lucas co. *Pop.* (1890), 1,609.

Audiom'eter, *n.* An instrument to measure and record the acuteness of hearing; a combination of the telephone, microphonic key, and battery.

Aud'iphone, *n.* A device of fan-like shape, usually made of hard rubber, to aid the hearing by collecting the vibrations of sound and directing them through the teeth and the bones of the head to the auditory nerve.

Audito'rium, *n.* (*Arch.*) That part of a theatre, church or other public building occupied by the audience; also a building especially intended for public meetings.—The reception-room of a monastery.

Audu'bon, in *Iowa*, a town, cap. of Audubon co., on C. & N. W. and C., R. I., & P. R.Rs. *Pop.* (1898) 1,740.

Au'dubon, in *New Jersey*, a post-village of Camden co.

Auersperg, ADOLPH WILHELM DANIEL, PRINCE VON, (*ow'ŭrz-perg.*) Prime-Minister of Austria, son of Prince Wilhelm von *A.*, b. 1821. His political career commenced in Feb., 1867, when he was returned as member of the Bohemian Diet (*Oberstland Marschall*), continuing in that office till 1870, and distinguishing himself by competent and energetic administration, siding, however, strongly with the Germans. In Jan., 1869, he was nominated life member of the Upper Chamber, in the discussions of which he has since taken a conspicuous part. His appointment to the governorship of Salzburg (Mar. 17, 1870) caused great dissatisfaction to the allied party of federalists and clericals, who emphatically demanded his dismissal. He was appointed President of the Austrian ministry on the retirement of Count Beust in Nov., 1871, which position he held till Aug. 14, 1879, when, on the disintegration of the Constitutional party of which he was the head, he resigned, and was succeeded by Count Edward Taaffe. His brother, Prince Carlos, had been Prime Minister before him. D. Jan. 5, 1885.

Augus'ta, in *Kansas*, a city of Butler co. *Pop.* (1890) 1,343.

Aura electrica, (*aw'rah e-lĕk'tre-kah.*) [Lat., Electric breeze.] (*Elect.*) A name sometimes applied to the currents of air which proceed from a point connected with a charged body, such as a needle attached to the prime conductor of an electric machine which is being worked. The existence of these currents of air can be easily felt on bringing the hand or the face near to the point, or shown by placing a lighted candle in front of it. The flame is powerfully repelled, and the candle may even be blown out. Several electric toys are constructed to take advantage of these currents. Thus, in the electric mill, a small wheel, furnished with paper vanes, is turned by means of it; or a piece of wire, with its points bent at right angles, and balanced on a point upon the prime conductor, revolves on the same principle as does Barker's hydrostatic reaction wheel.

Auramine, (*aw'ran-teen.*) (*Chem.*) A new dye-stuff, which occurs in the form of a brownish-yellow powder, wholly organic in its nature, neutral, and not very soluble in water. A given weight of it communicates to mordanted print cloths a rich persistent orange color (or yellow if a lesser amount be used), and is equal in this respect to three and one-half times its weight in Flavine, or four and one-half times its weight of the best Persian Berries. The process of manufacturing this coloring matter is — it is understood — kept a strict secret, but it is certain that it is not an aniline product.

Aurine, (*aw'rĭn.*) (*Chem.*) A coloring-matter discovered by Kolbe and Schmitt in 1861, and which is now known in commerce under the names of *yellow coralline*, or *rosolic acid.* The commercial product, which is obtained by treating phenol with oxalic and sulphuric acids, is a mixture of different bodies, from which these chemists have isolated the pure coloring matter by dissolving the crude aurine in alcohol, and treating this solution with ammonia. A crystalline precipitate then separates, which is a compound of aurine and ammonia, and the other bodies present remain in solution. They next wash this ammonia compound with alcohol by means of Bunsen's filter pump, decompose it with dilute acetic acid, and render the aurine thus obtained still more pure by repeated crystallizations from strong acetic acid. They find that aurine retains water and acetic acid most obstinately, and that the color of the rhombic needles or prisms, with which it crystallizes, varies very considerably, according to the concentration of the acid. They have obtained it in needles having the color of chromic acid, with a diamond brilliant lustre; at other times the crystals have been dark red of varying shades, with a steel blue, greenish blue, or splendid beetle-green reflection. From concentrated hydrochloric acid, aurine crystallizes in fine, hairlike red needles, which, dried at 110°, contain a large quantity of hydrochloric acid. They tried also to obtain this compound pure, by precipitating from a dilute alkaline solution, with weak hydrochloric acid, but this product also, in spite of most careful washing, contains hydrochloric acid, which it only parts with at temperatures above 110°. By spontaneous evaporation of an alcoholic solution, aurine is obtained in dull red crystals, with a green metallic lustre. Dried at 110°, this body contains no alcohol, but still retains water, which only escapes at 140°–180°, the crystals not changing their appearance at all. The authors find that, contrary to Fresenius' observation, aurine crystallized from alcohol does not melt at 156°. The analysis of aurine dried at 200°, which they believe to be pure aurine, gave numbers agreeing with the formula $C_{20}H_{14}O_3$.

Auro'ra, in *Kansas*, a village of Cloud co., about 120 m. N.W. of Lawrence.

Auro'ra, in *Kentucky*, a post-village of Marshall co.

Auro'ra, in *Maine*, a post-township of Hancock co., about 106 m. E.N.E. of Augusta.

Auro'ra, in *Minnesota*, a township of Steele co., 55 m. S.S.W. of Red Wing.

Auro'ra, in *Missouri*, a city of Lawrence co., in a lead and zinc mining district. *Pop.* (1898) 3,880.

Auro'ra, in *Nebraska*, a city, cap. of Hamilton co., on C., B. & Q. R.R., 24 m. W. of York. *Pop.* (1898) 2,320.

Auro'ra, in *Nevada*, a town, former cap. of Esmeralda co., about 100 m. S.E. of Carson City, 7,450 feet above the level of the sea. See ESMERALDA.

Auro'ra, in *New York*, a post-village of Ledyard township, Cayuga co., on the E. side of Cayuga lake, 170 m. W. of Albany.

—A township of Erie co.

—a village, also, of the above township, on Cazenove creek.

Auro'ra, in *Ohio*, a post-township of Portage co., about 25 m. S. E. of Cleveland.

Auro'ra, in *Texas*, a village of Jefferson co., on the W. side of Sabine Lake, about 70 m. N. E. of Galveston.

Auro'ra, in *Wisconsin*, a post-township of Washington county.

—(Formerly SACRAMENTO), a township of Waushara county.

Auro'ra Cen'tre, in *Minnesota*, a village of Steele co., 27 m. S. by E. of Faribault.

Auro'ral, *a.* Belonging to, or resembling the aurora, or aurora borealis.

Auro'ra Mills, in *Oregon*, a post-village of Marion co., about 30 m. N. N. E. of Salem.

Auro'raville, in *Wisconsin*, a post-village of Waushara co., 16 m. E. by S. of Wantoma.

Auro-tel'lurite, *n.* (*Min.*) An ore of tellurium, containing gold and silver.

Au'rum, *n.* [Lat.] Gold. This name was applied by alchemists and chemists to many substances resembling gold in color or virtues. The most celebrated was *aurum potabile*, or gold dissolved and mixed with oil of rosemary, to be drunk, and esteemed a sovereign remedy for curing all diseases.

Aurum fulminans. See FULMINATE.

Aus'tin, ALFRED, an English poet; b. at Headingly, near Leeds, May 30, 1835. He graduated at the University of London in 1853, and was called to the bar of the Inner Temple in 1857, but has devoted his life to literature. His poems include *The Seasons: A Satire; The Human Tragedy; The Golden Age; Savonarola; English Lyrics*, and various other volumes. In addition, he has written three novels and many political articles. He was appointed Poet Laureate Jan. 1, 1896, an appointment which drew much ridicule from the critics, who did not consider Austin's poetry as worthy of this honor.

Aus'tin, in *Pennsylvania*, a borough of Potter co. *Pop.* (1890) 1,679.

Austra'lian Bal'lot. A system of secret voting first adopted in Australia, but since introduced widely into the U. S. This system, or some modification of it, is now the legalized system in very nearly all the States. A list of candidates is furnished the voter, who is instructed to erase the names of candidates for whom he does not wish to vote, or to indicate by a cross-mark those whom he prefers; differing methods being in use in different States. A private room or stall is provided, where the voter can mark and fold his ballot unobserved. See BALLOT REFORM.

Aus'tria.—*Continued from* SEC. I.

A treaty of peace was shortly afterward signed at Vienna (Oct. 30, 1862), by which Denmark made over Schleswig, Holstein, and Lauenburg to *A.* and Prussia. But *A.* speedily suffered terrible retribution for the part she had taken in this affair. By inducing Austria to join with her, Prussia succeeded in removing part of the odium of the proceeding from herself, and she also succeeded in obtaining the aid of a rival power to secure territories which she had previously determined to appropriate as her own. *A.*, desirous of the formation of the duchies into a separate state, supported the claims of the duke of Augustenburg to them. This was strenuously opposed by Prussia, who regarded the public meetings that were permitted to be held in Holstein in support of this as a breach of agreement. *A.* referred the question to the Frankfort diet, which decided in favor of the duke. Prussia, which had long looked with jealousy upon the power of *A.*, and considered a war with that country for the supremacy of Germany as sooner or later a necessity, entered into an alliance with Victor Emmanuel (March 27th, 1866), the latter undertaking to declare war against *A.* as soon as Prussia commenced hostilities, while the former engaged to secure Venetia for her Italian ally. *A.* was in an unprepared state when the war actually broke out, but the Prussian forces, on the other hand, were thoroughly equipped. On June 16th three Prussian armies entered Saxony and then Bohemia. On June 26th a first engagement took place at Podol, and on the following days the Austrians, under command of General Benedek, were defeated in various engagements, with a total loss of 30,000 to 40,000 men. On June 30 the king of Prussia joined the army, and the decisive battle of Königgrätz, or Sadowa, was fought and lost by the Austrians on July 3d. (See SADOWA.) The archduke Albert, who had the command of the army in Italy, with which he had inflicted a severe defeat on the Italians at Custozza, was recalled to take the chief command in place of Benedek; but the emperor of *A.* seeing the disastrous state of his affairs, claimed the mediation of the emperor Napoleon, through whom an armistice was agreed upon, July 22d. A treaty of peace was signed at Prague, Aug. 23d, by which *A.* gave up to the kingdom of Italy Venetia and the fortresses of the quadrilateral, namely, Peschiera, Mantua, Verona, and Legnano; recognized the dissolution of the late German Confederation, and consented to a new formation of Germany, in which she should have no part; gave up all claim to the duchies of Holstein and Schleswig; and agreed to pay a war indemnity of 40,000,000 thalers, less 20,000,000 allowed her on account of the duchies. Having thus obtained peace, the emperor now turned his attention to home affairs, his first effort being to conciliate Hungary, which was still in a very troubled and dissatisfied state. At the opening of the diet on Nov. 19, 1866, an imperial rescript, signed by the emperor, was read, in which he promised to do justice to the claim of Hungary for self-government so far as it would not affect the unity of the empire and the position of *A.* as a great European power; on June 8, 1867, the emperor and empress were crowned king and queen of Hungary at Pesth. On May 25, 1868, marriage was made a civil contract; and on July 30, 1870, the concordat with Rome was declared to be suspended in consequence of the promulgation of the doctrine of Papal infallibility, and it was abolished in 1874, measures being at the same time adopted for restricting the powers of the clergy. In 1873 an International exhibition was held at Vienna. In 1878, by the treaty of Berlin, the government of Bosnia and Herzegovina was confided to *A.* On July 31 of that year, the Austrian troops crossed the Herzegovian frontier, and the news roused the Mohammedan fanatics to desperate efforts, but their ineffectual efforts at resistance were soon crushed, and the occupation was completed before the end of the year. Since that period *A.* has been concerned in sustaining pacific working relations with Germany and Russia, especially in regard to the Eastern Question, and in seeking to reconcile the conflicting claims of her varied peoples, Germans, Magyars, Slavs, Roumanians, Jews, &c. This has been only partly accomplished, and the diversity of origin of the population remains a source of danger to this composite empire.

Au'toplasty, *n.* (*Surg.*) An operation for the repair of lesions made by wounds or disease, by replacing the lost tissue with healthy parts taken from the patient himself, usually from the close vicinity of the lesion to be repaired. Different names, in accordance with the locality affected, are given to those operations; as, *cheiloplastic*, where the lips are treated; *rhinoplastic*, for the nose, &c.

Au'totype, *n.* (*Engr.*) A photographic process by which pictures are produced in monochrome in a carbon pigment.—Also, a print so produced; a facsimile.

Av'enue, in *Pennsylvania*, a village of Alleghany co. *Pop.* (1890), 1,453.

Averill, WILLIAM W., (*a'vŭr-il*), an American general, b. in N. Y. State, graduated from West Point in 1853, and in 1862 was appointed brigadier-general of volunteers, in which capacity he led a famous raid into S. W. Virginia, Dec. 1864, during which he inflicted serious loss upon the Confederate base of supplies at Salem. He resigned in 1865, was restored to his rank of captain in the U. S. A. in 1888, was retired Aug. 31, of the same year.

Avo'ca, in *Pennsylvania*, a borough of Luzerne co., situated in a coal mining region. *Pop.* (1890), 3,031.

Avogadro's Law (*ăv-o-gah'drō*). (*Phys.*) This law asserts that equal volumes of different gases, at the same pressure and temperature, contain an equal number of molecules. It was propounded by Signor Avogadro, whose name is also well known in connection with experiments on the tension of the vapor of mercury. More recently, Professor Neumann deduced the law mathematically from the first principles of the mechanical theory of gases.

Av'on, in *Massachusetts*, a town of Norfolk co. Has shoe manufacturies. *Pop.* (1890), 1,384.

Av'ondale, in *Alabama*, a town of Jefferson co. *Pop.* (1890), 1,642.

Av'ondale, in *Ohio*, a residence suburb of Cincinnati. *Pop.* (1890), 4,473.

Ay'er, in *Massachusetts*, a town of Middlesex co., formerly known as Groton Junction. *Pop.* (1890), 2,148.

Ay'ers, ROMEYN BECK, an American soldier; b. at East Creek, N. Y. Dec. 20, 1825; graduated at West Point, 1847; and served through the Civil War, serving in many engagements, and being successively promoted, till he reached the rank of brevet major-general of volunteers, Aug. 1, 1864. He was given the same rank in the regular army on Mar. 13, 1865. Died at Fort Hamilton, N. Y., Dec. 4, 1888.

Az'arin, *n.* (*Dyeing.*) A coal-tar coloring matter, bright red to crimson in tint, used as a dye for cotton fabrics.

A'zo-, a word derived from *azote* (nitrogen) and used as a combining prefix in organic chemistry, or used separatively as an adjective form, as *azo* compounds. It is applied to compounds containing nitrogen, as nitric acid; and to those substitution derivatives of the aromatic hydrocarbons in which two atoms of nitrogen connect two similar hydrocarbon radicals of the benzene series, as azo-benzene. It is used to designate many of the coal-tar colors, as azo-blue, azo-diphenye, &c.

Azo-colors, *n. pl.* (*Dyeing.*) An important class of artificial dye stuffs that have become prominent within recent years, belonging to a chemical group known as azo-compounds, of which the simplest in composition is azo-benzene. The formula of benzene is C_6H_6; that of azo-benzene, $C_6H_5N_2C_6H_5$. The group of derivatives is somewhat numerous. Both acid and basic azo-colors dye wool and silk readily, but need a mordant to dye cotton; but secondary azo-colors show strong affinity for cotton and can be used without the mordant. Benzo-purpurin is the most extensively used of the azo-colors.

Azotized Bodies. A name frequently given to substances which contain, among their constituents, azote or nitrogen, and which occur in animals or plants as part of their living tissues, or are found among the substance during their decay. Among the most important of these bodies is *albumin*, which occurs in white of eggs and forms an essential part of the juices of organized bodies. In addition to the general form of albumen, it is found in special varieties, of which may be named *globuline* or *crystalline*, which is present in the crystalline lens of the eye; and *vitelline*, of which the yelk of the egg is principally made up. Other azotized bodies are *fibrine*, an abundant constituent of the muscles of animals and the seeds of plants; *caseine*, found in milk, and which is the basis of cheese; *legumine*, a variety of caseine which is common in the seeds of leguminous plants, such as peas and beans; *gelatine*, an important constituent of the skin and bones of some other parts of animals; *chondrine*, a variety of gelatine which finds its seat in the permanent cartilages and the cornea of the eye; *isinglass*, a second variety of gelatine, whose source is the swim bladder of many of the fishes; and *glue* and *size*, secondary forms of gelatine. *Urea*, *uric acid*, and *hippuric acid*, found in the urine of the higher animals, are azotized substances resulting from the first steps of tissue degeneration. In addition may be named *kreatine* and *kreatinine*, which occur in in the juice of flesh; *urinary calculi*, occurring as stones in the bladder; and the very numerous and important class of substances containing nitrogen which are known as *alkaloids*, and include strychnine, morphine, quinine, and many other derivatives of plants. Nitrogen is present as an element in many other chemical compounds arising from the transformation of organic substance or decay of organisms, but the above named are the most important of their class.

Az'urine, *n.* (*Ichth.*) A fresh-water fish (*Leuciscus cæruleus*) belonging to the same genus as the chub, and resembling the red-eye, or rudd (*L. erythrophthalmus*), except that it has a white abdomen and fins, and bluish slate-colored back.

Azzarkal, an Arabian mathemetician who flourished during the 11th century and was the royal astronomer of Al-Mamonn, the king of Toledo. His inventions included an improved astrolabe, an elaborate water-clock, and various mathematical devices.

Azzubeydi, MOHAMMED EL HASSAN, an Arabian lexicographer, born in Seville in 927. His writings included a notable work on Arabian syntax, a grammar, and an abridgment of Khalil's exhaustive biography of Spanish grammarians. He was cadi of Seville, and instructor of the Sultan's son, Hischeam.

B.

B The second letter and first consonant in the English, and in all languages derived from the Hebrew or Phœnician alphabet. It is formed in the voice by a stray and quick expression of the breath, and a sudden opening of the lips; it is therefore called a *labial*. It readily interchanges with the letters of the same organ, principally with *v*; as, *habere*, Latin, *avere*, Italian. In Spain, and the parts of France bordering on Spain, the letter *b* will be often found in words which, in the kindred languages, prefer the *v*;—and with *p*, an interchange of which the pronunciation of the English language by some of the natives of Saxony presents sufficient examples. — *B* is often used as an abbreviation for *Bachelor*; as *B. A.*, Bachelor of Arts; *B. D.*, Bachelor of Divinity, &c.; and for *before*, as, *B. C.*, Before Christ. — *B*, as a numeral among the Romans, stood for 300; with a dash over it, for 3,000; and with a sort of accent under it, 200. Among the Greeks and Hebrews, *B* signified 2. — In chronology, *B* stands for one of the Dominical letters. — In chemistry, *B* is the symbol of the metal *Boron*.

(*Mus.*) *B* is the seventh note in the natural diatonic scale of *C* (or *C major*), answering to the *SI* of the Italians and French. In harmony it is called the *major seventh*. $B_\flat$ stands for *B* flat, the tone or half-tone, or semi-tone lower than *B*. — In Germany it always signifies *B* flat, *B* natural there taking the name of *H*.

Baa, (*bä.*) *n.* The cry or bleating of sheep.

—*v. i.* To cry or bleat like sheep.

> "Or like a lamb whose dam away is set,
> He trebles *baas* for help, but none can get."—*Sidney.*

Baad'sted, BATSTED, or BASTAD, (*bad'sted,*) a seaport town of Sweden, 60 m. W.N.W. of Christianstadt; Lat. 56° 28′ N.; Lon. 12° 45′ E.

Baagoe, (*ba'go,*) two small islands of Denmark, in the Baltic; Lat. 54° 56′ N.; Lon. 12° 3′ E.

Baal, (*bai'al.*) [Heb., lord, master, possessor.] (*Myth.*) The supreme male divinity of the Phœnicians and Carthaginians. The cruel worship of Baal, together with that of Ashtoreth, was frequently introduced among the Israelites, especially at Samaria. The plural *Baalim* was applied to different modifications of the divinity. The temple and altars of *B.* were chiefly built on the tops of hills under trees, and on the roofs of houses. The worship of Baal gave employment to a numerous priesthood, who burned incense, sacrificed children, danced round the altar, and if their prayers were not speedily heard, cut themselves with knives and lancets till the blood gushed out upon them. Through all the Phœnician colonies we find traces of the worship of this god, in names, as Asdrn-*bal*, Hanni-*bal*, &c., and in inscriptions; nor need we hesitate to regard the Babylonian *Bel* or *Belus* as identical to *B.*, though perhaps under some modified form. The same perplexity occurs respecting the connection of this god with the heavenly bodies, as in regard to Ashtoreth. The more common opinion has been, that *B.* is the sun; and that, under this name, this luminary received divine honors. We find the worship of *B* established among the Moabites in the time of Moses, (*Num.* xxii. 41,) and through these nations the Israelites were seduced to the worship of this god, under the particular name of Baal-peor (*Num.* xxv. 3–10; *Deut.* iv. 3). Notwithstanding the fearful punishment which their idolatry then brought upon them, the succeeding generations returned often to the worship of *B.*

Baal'bee. See BALBEC.

Ba'alism, *n.* Worship or adoration of Baal or of idols; idolatry. (R.)

Baal-pe'or. [Heb., Lord of opening.] (*Myth.*) One of the names under which the Jews worshipped Baal. The narrative (*Num.* xxv.) seems clearly to show that this form of Baal-worship was connected with licentious rites. *B. P.* was identified by the Rabbis and early Fathers, with Priapus, the god of procreation.

Ba'alzebub. See BEELZEBUB.

Ba'ard, *n.* (*Naut.*) A sort of sea-vessel or transport-ship.

Ba'asha, son of Ahijah, and commander of the armies of Nadab, king of Israel. He killed his master treacherously at the siege of Gibbethon, and usurped the kingdom B. C. 953, which he possessed 23 years. He exterminated the whole race of Jeroboam, as had been predicted: but by his bad conduct and idolatry incurred God's indignation, (1 *Kings* xv-xvi. 1–7, 12.) God sent him a warning by the mouth of Jehu the prophet; which was fulfilled in the extermination of the family two years after his own death.

Bâb, *n.* See BÂBISM.

Ba'ba, a Turkish word signifying *father*, originating, like our word *papa*, in the first efforts of children to speak. In Persia and Turkey, it is prefixed as a title of honor to the names of ecclesiastics of distinction, especially of such as devote themselves to an ascetic life; it is often affixed in courtesy, also, to the names of other persons, as Ali-*Baba*.

Ba'ba, CAPE, (in Turkish, Babà-Bournou,) is the Cape Lectum of the Greeks. It is a rocky bold headland of Anatolia, north-west of the northern extremity of the Gulf of Adramati, the ancient Adramyttium, and between the islands of Lesbos (now Mitylene) and Tenedos, which preserves its ancient name. The cape, which is scarcely twelve miles distant from the northern extremity of Lesbos, is in 39° 30′ N. Lat., and 26° E. Lon. — A small town, called by the same name, and sometimes St. Mary's, stands on a shelving point of Cape Baba, immediately above the sea.

Baba-Dagh, (*ba'ba-da,*) a town of European Turkey, 93 m. N.E. of Silistria. It has several mosques, and a considerable trade through the port of Kara Kerman, ceded to Roumania under Berlin treaty, 1878. *P.* 7,000.

Bab'bage, CHARLES, F. R. S., an eminent English mathematician and mechanical inventor; B. 26th Dec., 1792. The laborious calculations necessary in constructiug tables of logarithms, early called his attention to the value of any invention which should substitute for mental calculation the more precise principle of mechanism. He commenced observations and experiments on this subject, and made a tour to the continent of Europe, with the view of studying the various pieces of mechanism employed in the arts. On his return he published his *Economy of Manufactures and Machinery*. This work Blanqui, the French economist, has described as a hymn to machinery. In 1828, B. was appointed Professor of Mathematics at Cambridge University. In 1833, he introduced his calculating machine, which was at once adapted both to calculating and printing, and its value may be better estimated from the fact, that a table of logarithms of all natural numbers, ranging from 1 to 100,000, was produced, free from error, by its agency. B. is a member of nearly all the learned societies of Europe and America. His great work, already referred to, has been translated into most European languages, and has been reprinted in the U. States. *B.* was one of the founders of the Royal Astronomical Society, and of the British Associatiou for the Adv. of Science. D. 1871.

Babahoyo, (*ba'ba-ho'yo,*) a town of S. America, in Ecuador, 20 m. N. of Guayaquil, on the Caracol.

Bab-at-the-Bow'ster, *n.* (*Pastimes.*) An old English dance, which somewhat resembles the cushion-dance, *q. v.*, save that a bolster, as the name indicates, supplies the place of the pillow. It is still danced in Scotland, and is always the winding up at "Kirns," and other merry-makings, as, in England, is *Sir Roger De Coverley*, that well known country-dance.

Bab'bitt-met'al, *n.* A soft alloy of copper, zinc, and tin, used for the bearings of journals, &c., to diminish the friction. It takes its name from the inventor.

Bab'ble, *v. i.* [Fr. *babiller*; Du. *babbelen*; from Heb. *Babel*, confusion.] To talk confusedly, indistinctly, or unintelligibly, like the prattling of a child.

> "My *babbling* praise, I repeat no more." — *Prior.*

—To talk irrationally, or inconsiderately; to prate idly; to talk much; to tell secrets; to utter thoughtlessly.

> "There is more danger in a reserved and silent friend, than in a noisy *babbling* enemy." — *L'Estrange.*

—To give a murmuring sound; as the noise of water rippling over stones.

—*v. a.* To prate; to utter.

> "Let the silent sanctuary show,
> What from the *babbling* schools we may not know."—*Prior.*

—*n.* Idle talk; senseless prattle.

> "With volleys of eternal *babble*,
> And clamour more unanswerable."—*Butler's Hudibras.*

Bab'blement, *n.* Idle talk; unmeaning words; senseless chatter. (R.)

> "Deluded all this while with ragged notions and *babblement*."
> *Milton.*

Bab'bler, *n.* One who babbles; an idle talker; an irrational prattler; a teller of secrets.

> "We hold our time too precious to be spent with such a *babbler*."
> *Shaks.*

(*Zoöl.*) See TIMALINE.

Bab'cock Hill, in *New York*, a post-vill. of Oneida co.

Bab'cock's Grove, in *Illinois*, a post-office of Du Page co.

Babe, *n.* [Swed. and Goth. *babe*; W. *baban*; Syr. *babia.*] An infant; a child of either sex who is able to say *ba-ba*, or *pa-pa*, father; a baby.

> "The *babe* had all that infant care beguiles,
> And early knew his mother in her smiles." — *Dryden.*

Ba'bel, *n.* [Heb., confusion.] Confusion of sounds; intermixture or disorder of lingual utterances; as, "London is a perfect *Babel*."

TOWER OF. The name of a lofty tower, only mentioned once in Scripture (*Gen.* xi. 4–9), and then as incomplete. Much controversy has been excited respecting its exact position. It is now generally believed that Babylon was built upon the site of the tower, which was afterwards finished and consecrated to the worship of Belus. The stupendous and surprising mass of ruins situated about 6 m. S.W. of Hillah, called by the Arabs *Birs-Nimroud*, and by the Jews *Nebuchadnezzar's Prison*, is supposed to be the ruins of Babel's Tower. The Birs-Nimroud is a mound of an oblong form, the total circumference of which is 762 yards. At the eastern side it is cloven by a deep furrow, and is not more than 50 or 60 feet high; but at the western side it rises in a conical figure to the elevation of 198 feet, and on its summit is a solid pile of brick, 37 feet high by 28 in breadth, diminishing in thickness to the top, which is broken and irregular, and rent by a large fissure extending through a third of its height. It is perforated by small square holes disposed in rhomboids. The fine burnt bricks of which it is built have inscriptions on them, and so excellent is the cement, which appears to be lime-mortar, that it is nearly impossible to extract one whole. The other parts of the summit of this hill are occupied by immense fragments of brickwork of no determinate figure, lying tumbled together and converted into solid vitrified masses, the layers of brick being perfectly discernible. These ruins stand on a prodigious mound, the whole of which is itself a ruin, channelled by the weather and strewed with fragments of black stone, sand-stone,

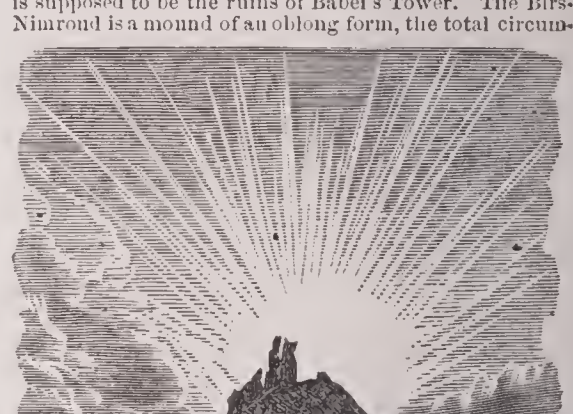


Fig. 256. — BIRS-NIMROUD.
(Supposed to be the remains of the Tower of Babel.)

and marble. In the eastern part, layers of unburnt brick, but no reeds, are to be seen. On the north side may be seen traces of building exactly similar to the brick pile. At the foot of the mound, a step may be traced scarcely elevated above the plain, exceeding in extent, by several feet each way, the true or measnred base.—See BABYLON.

Bab-el-Mandeb, (*bab'el-măn'deb.*) [Ar., the "Gate of Tears."] The name of the straits by which the Red Sea or Arabian Gulf is joined to the Bay of Aden and the Indian Ocean. It is formed by two projecting angles of the Asiatic and African continents, or, more precisely, the two angles of Arabia and Abyssinia. From the Arabian shores a cape of moderate height projects, which is called likewise Cape Bab-el-Mandeb. Opposite Cape *B.*, the coast of Abyssinia may be distant upwards of 15 or 16 miles, and here both continents approach nearest one another and form the straits. Within the straits, but much nearer to the Arabian shores, is the island of *Perim*. The strait to the E. of this island is called the Little Strait, and that to the W. of it the Large Strait. The Little Strait, four miles wide, is most frequented by vessels on no other account but because its moderate depth allows anchorage, if circumstances render it necessary. The depth here varies from nine to fourteen fathoms. The island of Perim is rocky and low, with a gentle declivity from the middle toward the extremities. It is barren and uninhabited. On the S.W. side it has an opening into an excellent harbor or cove, which affords shelter against nearly every wind, and a good anchorage in from four to six or seven fathoms water. This island is from four to five miles long. The Large Strait is from nine to ten miles wide, and to the south of it, near the coast of Africa, are eight small islands, or rather rocks, called the *Eight Brothers*. In the midst of the strait, no soundings are found with a hundred fathoms of line. The Eight Brothers are of moderate height, rocky and barren. Cape Bab-el-Mandeb (12° 40′ N. Lat.) projects a great way from the main land, which here is low, so that when seen from a distance it has the appearance of an island. It rises to no great height, but is rocky and scraggy on its southern side, and extremely barren.

Babelthuap, (*bai'bel-thu'ap.*) The largest of the Pelew Islands, in the Pacific; circumf. about 50 m.; Lat. 7° 30′ N.; Lon. 134° 40′ E.

Ba'ber, (or "THE TIGER,") the historical surname of ZEHIR-ED-DIN-MOHAMMED, the conqueror of Hindostan and founder of the so-called Mogul dynasty. *B.* was of mixed Turkish and Mongol origin, being descended from Timour the Great on the father's side, and from Genghis Khan on the mother's. In feeling, as in personal characteristics, he was a Tartar (Turk), and often in his memoirs speaks most contemptuously of Mongols or Moguls. Yet Hindoo ignorance has designated the throne which he established in India, as that of the Great Mogul (Mongol). Baber was B. on 14th Feb., 1483, and at the age of 12, on his father's death, ascended the insecure throne of Ferghana in Turkestan; soon after he was attacked on all sides by his uncles and other neighboring princes, which obliged him, in his turn, to assume the aggressive. Accordingly, at the age of 15, *B.* seized on Samarcand, the capital of Timour, but while thus engaged, a revolution at home deprived him of his sovereignty. After many years of an adventurous and romantic career, he raised an army, entered Hindostan, and was met by Ibrahim the ruling sultan of that country. The two armies fought the battle of Paniput, which decided the fate of India, on the 21st April, 1525. *B.*, with his army of 12,000 men, completely overthrew that of Ibrahim, numbering 100,000, and entered Delhi in triumph. Difficulties and fresh foes had still to be encountered and mastered, but in the battle of Sakri, in Feb., 1527, *B.* utterly defeated the opposing Hindoo princes, and then proclaimed himself *padishah* or emperor of Hindostan. After a rule of 4 years, he D. near Agra, on 26th Dec., 1530.—*B.* was a man of noble character, simple in his habits, and a lover of nature and of literature. His *Memoirs*, written by himself, were translated by Leyden and Erskine, and published in London in 1826.

Ba'beuf, or **Ba'bœnf,** (*ba'buf,*) FRANÇOIS NOEL, a French writer and political theorist, B. at St. Quentin, 1764. He was one of the earliest and fiercest partisans of the first French revolution, and defended and propagated its most incendiary principles in a journal called *Le Tribun du Peuple*, founded in 1794, in which he wrote under the pseudonym of "Caius Gracchus," taking for his motto the maxim of Rousseau, that "the end of society is the public good." In this publication he promulgated the doctrines of absolute equality, which he soon after endeavored to reduce to practice. In March, 1796, *B.* and his clique formed themselves into a secret committee of the *Société du Pantheon*, a society supposed to number about 16,000 members. Plans were formed by this body to seize Paris, which might probably have been successful, but being betrayed by one of their number, the chief leaders were arrested and brought to trial. This trial lasted for 3 months, at the close of which, on 24th May, 1797, *B.* and Darthé, a fellow-conspirator, were condemned to death; upon sentence being pronounced, however, they stabbed themselves in the very presence of the judges, and, like Robespierre, were dragged in an expiring state to the scaffold, 25th May.

Ba'bery, *n.* Finery to please a babe.

Babia'na, *n.* (*Bot.*) A genus of Cape plants, order *Iridaceæ*. It derives its singular name from *Babianer*, by which the Dutch colonists call these plants, because their round subterranean stems are greedily eaten by baboons. It differs from *Gladiolus* in its round, leather-coated seeds, and in the flowers having the tube of *Ixia;* and from Ixia in their having the irregular limb, of Gladiolus. Fourteen or fifteen species are known, among which are some of the handsomest of the Cape bulbous plants, as they are commonly, though incorrectly, called.

Bab'illard, *n.* (*Zoöl.*) The French name of the *Babbler*.—See TIMALINÆ.

Babille'ment, *n.* [From *ba-ba*, the earliest infantile attempt at talking.—babbling.] Loquacity.

Bab'ine Republic, or RESPUBLICA BINEPSIS. (*Hist.*) The name of a so-called society established in Poland in the 14th century. It was founded by a noble named Psomka, belonging to the court of Sigismund, in concert with Peter Cassovius, bailiff of Lublin. Its characteristics extended to Germany, where it was denominated *The Order* or *Society of Fools*.

Bab'ington, ANTHONY, an English gentleman who was distinguished by his attachment to the cause of the unfortunate Mary, Queen of Scots. He was a wealthy landed proprietor in Derbyshire, and a zealous Roman Catholic. Having in conjunction with others entered into a conspiracy for the liberation of Mary, and the assassination of Queen Elizabeth, he was arrested, tried, found guilty, and finally executed, on the 20th Sept., 1586.

Bab'ingtonite, *n.* (*Min.*) A triclinic mineral; lustre vitreous; color dark, greenish-black; faintly translucent; fracture imperfectly conchoidal; sp. gr. 3·35–3·37; *comp.* Silica 50·1, sesquioxide of iron 11·1, protoxide of iron 10·0, protoxide of manganese 7·4, lime 21·4 = 100. B.B. it fuses at 2·7 to a black magnetic globule. In the U. States it is said to coat crystals of felspar, at Gouverneur, St. Lawrence co., N. Y.

Bâb'ism, *n.* Under this name a new religion, first arising in Persia during the year 1843, has made immense strides among the peoples of Eastern Asia, as well as penetrated into India and Turkey; founded on elevated principles of morality, it offers a direct contrast to the Mohammedan doctrines. The founder of this modern faith, named Mirza-Ali-Mohammed, was a youth of eighteen, born at Shiraz, of parents in the middle class of society. Possessed of some education, Mirza in early youth made a pilgrimage to Mecca, where it is supposed his mind received such new impressions as to cause him to conceive the idea of substituting for Islamism another and more progressive form of religion. Accordingly he, about the year 1843, on his return from the holy city, composed and publicly read a first commentary on the "Sourat" of the Koran, called *Joseph*, which made a deep impression upon his auditory. His discourses did not directly impeach Mohammedan doctrines, although he vaguely and adroitly sapped their very foundations by contrasting their teachings with the lamentably irreligious and immoral state of humanity at large. The new religious system thus outlined made numberless proselytes, and the fame of Ali-Mohammed penetrated all Persia. His eloquence was both brilliant and convincing — so much so, indeed, as to arrest the attention, and excite the admiration even of Mussulmen the most bigoted. Assuming a title of apostolic import, Ali next declared himself to be the *Bâb*, i. e. the "door," by which alone it was possible to enter the presence of God. The orthodox Moslems, incited by the priesthood, strove to summarily extinguish the new doctrine, but their designs were arrested by the Shah, who adopted a temporizing policy, either through a fear of popular tumults or because he himself secretly favored Bâbism. His converts daily increasing, and in large numbers, Ali-Mohammed soon declared himself to be, not the *Bâb*, as he had before believed, but the *Point*, that is, the generator of truth, a divine presence, an embodied manifestation of omnipotence. He now dispatched missionaries far and wide to extend the propaganda of the new faith. One of these was a young and beautiful female, who quitted her home and family to publicly preach the tenets she had espoused, denounce polygamy, and taboo the use of the veil by her sex. The death of the Persian Shah, Mohammed, was an inauspicious event for the Bâbists. His successor, Nasr-ed-Deen, discountenanced their doctrines, so that they rose in insurrection against his government. That revolt was suppressed, not without taxing, however, the utmost powers of the executive. Still Bâbism flourished; it was therefore deemed necessary to strike at the root of the so-called heresy in the person of the *Bâb* himself. The latter thereupon was arrested, and, heavily ironed, was, with two of his disciples, taken to Tabreez, where they were brought up for trial before a tribunal of state. When before his judges, the *Bâb* sustained a severe examination at their hands, refuted the arguments urged against him, and also exposed the falsity of the cardinal principles of the Islamitic creed. Refusing to return to the orthodox faith, the Bâb was, with his companions, then condemned to death, and they suffered martyrdom accordingly, in 1850.—Bâbism, however, was not uprooted by the death of its prophet, inasmuch as the devotees of the religion elected a successor to him, one Mirza-Yahara, a youth of sixteen, who assumed the title of *Hezret-i-Ezel*, or "Eternal Highness." In 1852, an attempt made by the *Bâbists* to assassinate the Shah, was the cause of fresh arrests and the infliction of further death-penalties among these religionists. Among the sufferers on this occasion was the young female apostle before mentioned; she died with fortitude, and maintained to the last the infallibility of the faith she had so enthusiastically embraced. Since that period Bâbism has made further progress, but its adherents maintain their faith in secret, fearing to incur now persecution by overt profession of it. At the present day, therefore, it is believed that *Bâbism* obtains among all classes of society in Persia, and among all religious sects, excepting the Nossayrii and the Christians. Its professors write much, and their works — which are widely but secretly disseminated — are eagerly read and esteemed as fresh polemical evidences against the old Mohammedan orthodoxy. — The rapid expansion of Bâbism is certainly an extraordinary fact, and it appears the more so if we consider, that, in the first Bâb's lifetime, very many of the professors of the new religion, even among its most convinced and devoted sectaries, never personally knew their prophet, and do not seem to have conceived it of vital importance to receive his instructions orally. The success of Bâbism must therefore be looked for in a study of its doctrines, and their comparative superiority over Mohammedanism. — In 1848, Ali Mohammed, *the Bâb*, digested his tenets in a book to which he gave the name of Bayan (*the Exposition*), that is to say, an elucidation of all that it is important to know. It is from this work that we shall endeavor to give a succinct idea, or *rationale*, of the theory of Bâbism, setting aside all its mystical forms, adapted to Oriental taste, but which possess no interest for us. — "There is but one God, immutable, eternal; He is without a fellow." This is the Mussulman formula, but with a different meaning. By it the Moslems understand that Christ is not God, and that the divine essence, concentrated in itself, is an absolute unity; whereas, Bâbism means only that there are not two distinct Gods; and it is easy to see that it conceives divine unity as a thing very different from a self-concentrated individuality. God is essentially Creator because He is the Life, because He expands it, and that the only method of expanding life is to create. All the attributes of excellence that we may imagine belong to God; but, in the act of creating, He makes use of only seven of them, viz., strength, power, volition, action, condescension, glory, and revelation. God may, at His will, either partially or wholly communicate His attributes without diminution of His divinity, but that which emanates from Him cannot convey the smallest portion of the divine emanation; and this is the difference between God and His creature. But the creature, who is not God, from not possessing the plenitude of His attributes, and, above all, that of expansion, is not, nevertheless, entirely separate from God, from whom he came, because—"there is nothing out of Him,"—and God says Himself, "In truth, O my creature, thou art Myself!" and further, "all that which has the name of a thing is a part of the creation, and there is nothing intermediate between that thing and Me;" so that all which exists, all possessing a shape, all that bears a name, is in God, emanated from Him, but inferior to Him, less powerful and less complete, a mere accidental being that has position only in time and space. "At the day of the last judgment everything will be annihilated, save the divine nature." That is to say, all the imperfections resulting from the fact of emanation, or separation, although but temporary, from the pure essence, — and it is in this that we must look for the causes of wrong-doing in this world,— shall disappear in the day of the last judgment, and God will draw unto Him all that which is from Him. — From this brief analysis, it results that the God of Bâbism is not a new personification of the Almighty, but rather the God of the Chaldæan and Alexandrian schools of philosophy, of the Mystics, and, in short, of all the varieties of Oriental religious speculation. He is not the God of the Pentateuch, but He is veritably the God of the Gemara and the Talmud; not Him that Islamism has endeavored to define from its deductions from Moses and Christ; but, undoubtedly, He is the God of all the philosophers, and critics produced by the Islamitic schools. Bâbism has done nothing more than draw this God out of past obscurity, and restore and present Him. But this has been performed in a manner not wanting in amplitude and strength. The Bâb did not assert that he was introducing a new conception of the Divinity, as the only *true* one, nor that he was able to give a full and entire definition of the Creator. He said that he, himself, was a new step to the knowledge of the divine nature; that all prophets have said more than their predecessors were entitled to do; that his mission was to be more complete and extended than that of Mohammed, who had been more realistic in his apostleship than Jesus, who, in his time, had surpassed all his predecessors. But the Bâb adds, that we ought not to flatter ourselves with the idea of a possible advancement into the knowledge of God; for He will remain unknown till the day of the last judgment. Consequently, to devote one's life to this chimera, is not the aim that man ought to propose to himself. To obey God, to love Him, to aspire to Him: these things are those which he ought to do, instead of trying to penetrate into mysteries inconsistent with his human state. God will never ask for an account of our endeavors at knowledge in that matter; therefore, it behoves man to direct his mind and moral strength to other and more fruitful subjects. That which is unveiled of futurity is enough for the want of every period. Now—and this is one of the most original features of the new creed—the Bâb, while being the prophet for this time, and all-powerful as he may be, is, in reality, only a part, and not the whole of the actual prophetizing entity. The cabalistic number of Bâbism is 19; and the unity of the prophecy requires 19 personal manifestations, of which the Bâb is the *Point*. These 18 manifestations, which, with the Bâb, will constitute the prophetic number, are not inferior to him, because no relations of superiority and inferiority exist in the nature of God; but they have other and lesser things to accomplish; wherefore *he* is the *Point*, i. e. the centre, apex, or light of the new prophecy. Now, what is the effect produced by death among the members possessing in common the prophetic *afflatus?* It is this: The Bâb suffers martyrdom, whereupon

the essence of prophecy departing from him is transfused into the spirit of one of the remaining prophets, who therefore, in *his* turn, becomes the "Point," and so preserves the unity intact. After the death of the first Bâb the power of the *Point*, in the unity of 19, was transmitted to the *Eternal Highness*.— We now come to the last important feature of Bâbism, which is, that the Bâb, and the unity of which he is the Point, do not, in themselves, constituto a definite revelation; and the founder of Bâbism has been very anxious to make this clearly known. The *Bayan*, being the Holy Book *par excellence*, ought necessarily to be constituted in the divine number; or, in other words, in the number 19. Therefore, on this principle, it is divided into 19 distinct unities or chapters, which are again snb-divided, each into 19 paragraphs. Of these 19 unities, 11 only have been written by the Bâb, the 8 remaining being left for the true and great revelator, who will complete the doctrine, and to whom the Bâb *is*, what John the Baptist *was* to Christ. The Bâb's own doctrine is merely transitional, serving to prepare men for what will come later; it opens the way, it is tentative, but it is not conclusive. For instance, the Bâb abolishes the *Kiblah*, or mode of turning to a certain point of the horizon, adopted by both Moslems and Jews, when praying; and it can be surmised that neither Mecca nor Jerusalem have any particular devotional attraction for the Bâbists. But he does not substituto a new Kiblah in place of the one he has abolished, and declares that in this matter he has nothing to command, it being a question which the future revelator will himself decide upon.— Marriage is considered by Ali Mohammed as a thing of the highest importance, not from the Mohammedan point of view, which considers it merely with regard to the propagation of descendants, but taking a loftier sight, the reformer's aim is to constitute family ties, the great *desideratum* of Asiatic society, where they exist only in exceptional cases. Upon a man being first married, the Bâb will tolerate his taking a second wife, but he does not urge or command the so doing; on the contrary, such is his manifest repugnance to polygamy, that Bâbists hesitate to use the toleration permitted them concerning a duality of wives. Concubinage is absolutely forbiddon. The Bâb has taken another step toward civilizing the East, by forbidding divorce, which is the greatest social disease of the Persian people. The facility for discarding a wife at any moment, and under the most trifling pretext, has done even more than polygamy for degrading women, and has so depraved society as to make a true and lasting union almost an impossibility. It is, indeed, in Persia, a rare occurrence to find a woman of 22 to 24 years of age, who has not already had two or three husbands.— To conclude, what is little less important is, that the Bâb has forbidden the use of the veil, which isolates women from the amenities of social life, and covers an existence of intrigue, indecorum, and disorder.

Bâb'ist, *n.* A follower of the doctrines of the "Bâb." A devotee of BÂBISM, *q. v.*

Bab'lah, *n.* (*Chem.*) The brown fruit or seed of the *Mimosa Arabica*, or *M. cinerea*, from India and Senegal. It contains gallic and tannic acids, and is used in calico printing to give different shades of brown with an alum mordant.

Baboon', *n.* [Fr. *babouin*; It. *babuino*.] (*Zoöl.*) The common name of the *Cynocephalus*, a genus of quadrumana which forms the last link that unites the *Simiadæ* with quadrupeds; comprising a large, fierce, and formidable race of animals, who, though they in a slight degree partake of the human conformation, as seen in the orang-outang, &c., are in their habits, propensities, and dispositions the very reverse of gentleness and docility. In Apes and other quadrumana which have the head and face round, the nose is flat, and the nostrils are situated about half-way between the mouth and the eyes; but in the *B.* this organ is prolonged uniformly with the jaws, and the nostrils open at the end of it, exactly as in the dog. In short, the most distinctive peculiarity of the genus is the marked resemblance which the head and face of these animals bear to a large dog. They have, moreover, long and truncate muzzles, cheek pouches, tails, and sharp claws. Yet, notwithstanding this close approximation to the shape of the dog's head, the form and position of the eyes, combined with the similarity of the arms and hands, give to these creatures a resemblance to humanity as striking as it is humbling and disgusting.— Possessing strength, furnished with dangerous natural weapons, and being wild, restless, and impetuous, this animal, in its native haunts, proves itself to be one of the most formidable of the savage race; nor can it be restrained, even when in confinement, any longer than coercion is continued; allowed to have its own will, its savage nature gains the ascendency, and its actions are gratuitously cruel, mischievous, and destructive. But there is nothing so revolting as their lascivious habits, which they indulge to such a degree that it is unsafe and highly improper for females to visit exhibitions of animals where these beasts form a part of the number. In their native haunts they subsist on roots and berries, and partly on eggs, insects, and scorpions; but in cultivated districts they make incursions into the fields and gardens, where they commit the greatest depredations on the fruit and grain. They congregate in troops, and are bold and skilful in their predatory excursions, maintaining their ground even against large parties of men; and it is remarked that "a troop of them will sometimes form a long chain, extending from the vicinity of their ordinary habitation to the garden or field which they happen to be engaged in plundering, and that the produce of their theft is pitched from hand to hand, till it reaches its destination in the mountains." The *B.* can never be said to be thoroughly tamed, how long soever his confinement may have endured. As he advances in age, all his worst qualities become more strongly developed, and the expression of his physiognomy bears ample testimony to the fierceness and brutality of his disposition. The common Baboon, *C. papio*, is a native of the coast of Guinea, and is the one most commonly exhibited by itinerant showmen. Its appearance is at once grotesque and formidable; its nervous limbs and compressed form indicate great force and agility; the anterior parts especially being extremely strong and muscular. It is of a uniform yellowish-brown color, with a shade of light red upon the head, shoulders, and extremities; the face, ears, and hands naked, and entirely black. The cheeks are considerably swollen below the eyes; after which the face contracts suddenly, which gives the nose the appearance of having been broken by a violent blow. It is furnished with whiskers, which have a backward direction, but do not conceal the ears. While young, this Baboon is gentle and familiar; but as it approaches adult age, it displays all the repulsive manner, and the ferocity and intractability common to the rest of its kind. The Mandrill, or variegated Baboon, *C. maimon*, is the most remarkable of the whole genus for brilliancy and variety of color, while for size it is unequalled by any other baboon, its height when standing upright being upwards of five feet. The limbs are large and muscular, the body thick and robust; the head large, face long, scarcely any forehead, and the snout ending abruptly; the eyes small and deeply sunk in the head; the cheek-bones enormously swollen, and marked

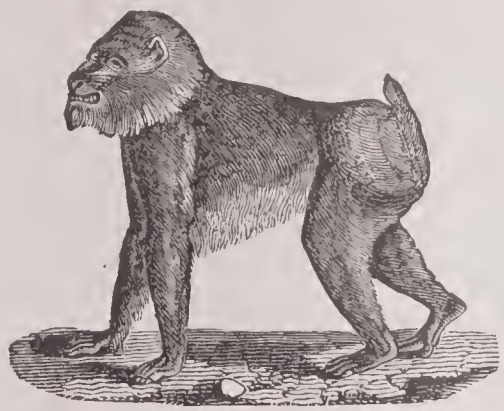


Fig. 257.— MANDRILL, (*Cynocephalus maimon.*)

with several deep furrows of violet-blue, purple, and scarlet; and the muzzle and lips large and protuberant. The hair of the forehead and temples rises in a remarkable manner into a pointed form, which gives the head a triangular appearance; and a small pointed orange-yellow beard adorns the chin. Round the back of the neck the hair is long, and inclines forward, somewhat in the manner of a wreath. On the loins the skin is almost bare and of a violet-blue color, gradually altering into a bright blood-red, which is more conspicuous on the hinder parts, where it surrounds the tail, which is very short, and generally carried erect. In most of its habits the Mandrill resembles the other Baboons, especially in its growing more morose as it advances in age, and in becoming offensively libidinous.— The Derrias, *C. hamadryas*, inhabits the mountains of Arabia and Abyssinia, and was probably the species known to the ancients, and sculptured on Egyptian monuments. It measures upward of 4 feet when standing erect. The face is extremely long, and of a dirty flesh-color, with a lighter ring surrounding the eyes. The general color of the hair is a mixture of light green and cinereous. While young, it is gentle and playful, but as soon as it has arrived at a mature age, it becomes sulky and malicious.— The Chacma, or Pig-faced baboon, *C. porcarius*, nearly equal in size, and much superior in strength, to a common mastiff, inhabits the mountains in the neighborhood of the Cape of Good Hope, associates in families more or less numerous, and occasionally levies contributions on the gardens of Cape Town, which it performs in a very adroit and regular manner.— There are several other species which our limits forbid us to more than merely mention; as, the *Drill*, the *Wood-baboon*, the *Pigtail*, the *Crested*, the *Yellow*, the *Cinereous*, &c.

Babuyanes, (*ba-boo'ya-nes*,) or MADJICOSIMA ISLANDS, a number of islands lying about 30 m. N. of Luzon, and generally considered the most northern of the Philippines. They are subject to the Loo-Choo islands; aggregate *pop.* about 12,000. Lat. 18° 58′ to 19° 42′ N.; Lon. 121° 15′ to 122° 5′ E.

Ba'by, *n.* A little babe: an infant or young child of either sex;— synonymous with BABE, *q. v.*

> "The *baby* beats the nurse, and quite athwart
> Goes all decorum."—*Shaks.*

—A doll; a small image or effigy of an infant, for girls to play with.

"And it was the part of children to fall out about *babies*."—*Bacon.*

—*a.* Like a baby, or young child; pertaining to an infant.

—*v. a.* To treat or caress like a young child.

Ba'byhood, *n.* State of being a baby.

Ba'by-house, *n.* A place for children's dolls and dolls' furniture.

Ba'byish, *a.* Like a baby; childish.

Ba'byishness, *n.* The characteristic quality of a baby: childishness.

Ba'byism, *n.* State of being babyish; babyhood. (R.)

Ba'by-jumper, *n.* A frame and seat suspended from the ceiling by some elastic medium, and so disposed that a baby may be secured in it, and allowed to jump up and down. It is so constructed as to render the child's falling an impossibility.

Bab'ylon, (*Anc. Geog.*) The chief city of Babylonia (*q. v.*), on the Euphrates, and on the site of which the modern town of Hillah occupies a small part. It was for many centuries the most important city of Western Asia. Regarding its earliest history, we are ignorant, the traditions concerning it being fabulous. Many cities probably preceded it in ancient Babylonia, and its rise to the chief position seems to have been about 2300 B. C. Of its history for many centuries we know little. Herodotus, who visited *B.*, says it was the most celebrated city of Assyria. The kings of the country made it their residence after the destruction of Nineveh. The city, situated in a great plain, was of a square form, each side 120 stadia in length, which makes the circuit 480 stadia. It was so magnificent that none could be compared with it. It was, moreover, encompassed with a wide ditch, deep, and full of water. Besides this there was a wall, 50 royal cubits thick, and 200 high. As soon as the earth was dug out to form the ditch, it was made into bricks, which were burnt in furnaces. Hot bitumen was used to cement them together, and at every thirty layers of bricks a layer of reeds was placed. The sides of the ditch were first built in this manner, and then the walls above them; and upon the edges of the wall they erected buildings, with only one chamber, each opposite the other, between which there was space enough left for a chariot with four horses. In the wall there were a hundred gates made of brass, as well as the jambs and lintels. The Euphrates ran through the city, and divided it into two parts. Each wall formed an elbow, or angle on the river, at which point a wall of baked bricks commenced, and the two sides of the river were lined with them. The houses were built of three and four stories. The streets were straight, and intersected by others which opened on the river. Opposite the end of the streets small gates of brass were formed in the walls which lined the river. By these gates there was a descent to the river, and there were as many gates as there were transverse streets. The external wall served for defence; there was also an internal wall which was not less strong, but narrower. *B.* was taken by Tiglath-Pileser I., of Assyria, about B. C. 1110, and by Cyrus, about B. C. 550 (538, according to the best authorities). During the present century, many enterprising travellers, among whom may be mentioned Rich, Ker, Porter, Layard, Fraser, Chesney, Botta, Loftus, and Rawlinson, have, by their explorations among the ruins of the ancient city, thrown considerable light upon the history of *B.*— See BABYLONIA, and BABYLONIAN ARCHITECTURE. See also HANGING GARDENS.

Bab'ylon, in *New York*, a seaport village of Suffolk co., near South Bay, 35 m. from New York city. It has two churches and two schools. It is a summer resort of some popularity. *Pop.* about 3,500.

Babylo'nia, the name given to a very ancient kingdom which occupied the territory traversed by the lower Tigris and Euphrates, extending from about the situation of Bagdad to the Persian Gulf, bounded on the E. by the mountains of Elam and on the W. by the desert of Arabia. Much of this region has been won from the sea by the long-continued deposits of the rivers, which seem, at present, to produce about a mile of new territory every 70 years, and may have acted still more rapidly in the past. Rawlinson believes that within 4,000 years these rivers have won from the gulf a tract of land 130 miles long by 60 or 70 broad. The plain is low and flat, the gulf shallow, the rivers swift and well charged with alluvium, so that the process of silting up has been undoubtedly very rapid. In former time the Tigris and Euphrates discharged by separate mouths into the gulf, but they have long since joined their waters, the united stream, under the name of the Shat-el-Arab, being 90 miles in length. Formerly, the region surrounding was traversed by an extensive system of irrigating canals, which made the country highly productive, and enabled it to sustain a dense population. Some of these canals were utilized for commercial purposes, and large cities stood on their banks. All this has long passed away. During centuries of misrule, the canals have been neglected, the desert has encroached upon the former fertile land, and the broad region, once marvellous for its productiveness, is now a thinly peopled waste, covered during part of the year with marshes and lakes, whose exhalations make it a fever-ridden land, while during the rest of the year it is a desert, whose sands are driven in clouds before the winds. The country on the Tigris, north of the junction of the rivers, was the seat of the kingdom of Assyria, while the much older Babylonia occupied the Euphrates region and the country bordering on the Persian Gulf. The region between the rivers gained, in later historical times, the name of Mesopotamia. The great antiquity of the Babylonian civilization was formerly but little appreciated, but late research has shown its very remote extension into past time. Once supposed to be considerably later than Egypt in origin, it was shown to be probably of equal antiquity, and the latest results seem to indicate that it may have been the first seat of human civilization, its origin dating back to more than 10,000 years ago. The reasons for this conclusion will be considered under BABYLONIAN EXPLORATION (*q. v.*). This antique civilization seems to have arisen among dwellers on the shores of the Persian Gulf, when these shores were possibly several hundred miles further inland than at present, the Babylonians following the gradually receding waters of the gulf. Whence these people came we do not know. What we know of their language and physiognomy goes to indicate that they did not belong to the Semitic race, their affinities being rather with the Turanian peoples of northern Asia. They possessed, apparently, a system of

hieroglyphic writing, which very early developed into the method known as cuneiform, or wedge-shaped, which existed at the remotest date to which research has gone, and of which a vast store of examples have been found. These consist of sun-dried or burnt clay tablets, the books of the Babylonians, on which the characters were impressed while soft and moist. The wedge-shaped instrument used to impress these characters in the clay gave the peculiar character to the writing, which persisted until a somewhat late date. Semitic people occupied Babylonia as early as 4000 B. C., or perhaps earlier, subduing the former inhabitants and accepting their civilization, which later became impressed on the Assyrians, who were an outgrowth from the Babylonians. From the cuneiform tablets, much concerning the history of this ancient civilization has been learned, though much still remains obscure. Previous to the supremacy of the city of Babylon (about 2300 B. C.) other cities, of which scant ruins remain, preceded it, each perhaps the capital of a small kingdom, though occasionally combined into larger kingdoms. These cities bore the names of Ur, Nisin, Nippur (Niffer), Urnk (Erech, Warka), Larsa, &c., some of which rose to dominion at a period extremely remote. Something is now known of monarchs whose period, in the opinion of explorers, may have been 7000 or 8000 B. C. About 3800 B. C. two conquering kings arose, Sargon, and his son, Naram-Sin. Their date is founded on an inscription made by Nabu-Na'id, a king who reigned 555–538 B. C., and who states that while restoring the temple of the sun-god at Sippara, he found a record deposited by Naram-Sin 3,200 years before. As the Babylonians kept a strict record of their kings, this date is believed to be authentic. Sargon and his son were conquerors, who widely extended the dominion of Babylonia. He is called the

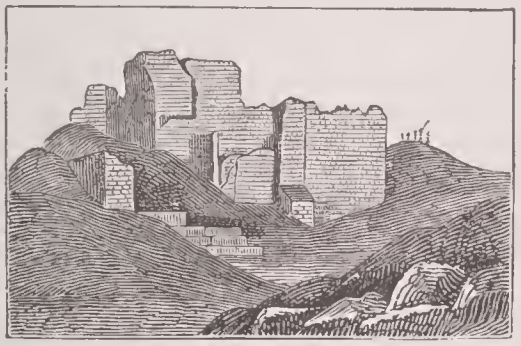


Fig. 258.

NORTH FACE OF THE KASR OR PALACE OF NEBUCHADNEZZAR.

King of Agade, at that time the ruling city and state. At a later date Ur (the Biblical "Ur of the Chaldees") became supreme, its most prominent king being Dungi. Subsequently the seat of power shifted to other cities, after which Ur again become the ruling city, its dynasty being finally overthrown by an invasion from Elam. Soon after Khammurabi, King of Babylon, repulsed Rim-Sin, the invader, and united all Babylonia under his dominion. From that time forward Babylon continued the seat of government, gradually expanding into a great and splendid city, and coming into warlike contact with the Assyrians, and later with the Persians, by whom the Babylonian kingdom was at length overthrown. Of the ancient kings of Babylonia, the names, and some facts of the reigns, of a large number are known, but as yet it is impossible to give a consecutive list of reigns, though research is steadily adding to our knowledge concerning this interesting seat of ancient culture. Perhaps the most remarkable fact in the history of *B.* is great slowness of development, and the political stagnation, which is only paralleled in the history of China, and is certainly extraordinary when contrasted with the rapidity of western progress. During a career of possibly 7,000 years in duration, the conditions and methods of government remained practically unchanged. There may have been more change in religion, literature, social relations, &c., but these also varied very slowly, and if we compare this stagnation with the rapid progress of Europe within the past thousand years, the difference seems phenomenal, and almost as if the men of Europe and Asia were beings of a different order.

Babylon'ic, Babylon'ical, *a.* Pertaining to Babylon; or after the fashion of Babylonia.

—Tumultuous; disorderly.

Babylo'nish, *a.* Relating to Babylon.

B. CAPTIVITY. This captivity, foretold by Isaiah (xxxix. 6), and Jeremiah (xxv. 9–11), lasted from B. C. 604 to B. C. 536. It commenced under Jehoiakim (2 *Chron.* xxxvi. 9, 10), and terminated with the decree issued by Cyrus, granting permission to the Israelites to return to their country. The Jews were not in a state of intolerable servitude during this period, but many of them rose to offices of high standing and honor in the court of Babylon, as may be learned from the histories of Daniel, Esther, Mordecai, and others.—See BABYLONIA, JERUSALEM.

Bab'ylonite, *n.* The arrow-headed or cuneiform Babylonish characters of inscription.

Babyrou'ssa, *n.* (*Zoöl.*) The *Sus babyroussa* is a species of wild hog which inhabits the woods of Java, Celebes, &c. It is sometimes called the *Horned hog*, from the great length and curved form of its upper tusks, which pierce through the upper lip and grow upward and backward like the horns of the Ruminantia. It has been likewise called the *Stag-boar*, from its more slender proportions and longer limbs compared with other species of the same genus. Its food is vegetable, and its flesh, according to travellers, is superior to dairy-fed pork.

Fig. 259.—BABYROUSSA, (*Horned Hog of Java.*)

Ba'byship, *n.* The state or condition of a baby.

Bac, BACK, *n.* [Fr. *bac*, a ferry-boat: Du. *bak*, tray, bowl.] A large tub or vessel into which the wort, &c. is drawn for the purpose of cooling, straining, mixing, &c. It has different names, according to its position and use; as, *under-back*, *jack-back*, *spirit-back*, *wash-back*.

—A broad, flat-bottomed boat, or barge, employed for conveying horses, cattle, carriages, &c. over a ferry; it is hauled from one side to the other by means of a rope stretched across.

Ba'ca, *n.* [Heb., weeping, lamentation.] (*Scrip.*) A valley somewhere in Palestine, through which the exiled Psalmist sees in a vision the pilgrims passing in their march toward the sanctuary of Jehovah at Zion. (*Ps.* lxxxiv. 6.)

Bac'alar, a town of Yucatan, Central America, 80 m. from Belize; *pop.* about 5,000, chiefly Indians.

Bac'alhão, an island off the S.E. coast of Newfoundland; Lat. 48° 9′ N.; Lon. 52° 52′ W. It is high, about 4 m. long, and 1½ broad, and about 1 m. from the mainland.

Bac'ca, *n.* [Lat.] (*Bot.*) The technical name by which botanists distinguish the fruit, commonly called a berry. The term, nevertheless, is restricted to those fruits only which have a thin skin, are pulpy internally, and have several seeds finally lying loose in the pulpy mass: such are the gooseberry, currant, grape, potato-fruit, &c. When a fruit has only a fleshy rind, without any internal pulpiness, as in the Capsicum, it is not called a berry, but a berried capsule.

Baccalau'reate, *n.* [Fr. *baccalaureat*; N. Lat. *baccalaureatus*, from *baccalaureus*, a bachelor of arts, from Lat. *bacca lauri*, bay-berry, from the custom of a bachelor being crowned with a garland of bay-berries.] The degree of B. A. or Bachelor of Arts, the first or lowest academical degree conferred by universities in the United States, England, and France.

—*a.* Pertaining or relating to a Bachelor of Arts.

Baccara, (*ba'ka-ra,*) *n.* [Fr.] (*Games.*) A French game of cards which somewhat resembles lansquenet. It offers no intricacies, and its only interest depends on the money at stake. At the head of a long table, divided into 2 parts by a line drawn lengthwise, a person, who is called the banker, sits with several packs of cards in his hands. The players, or, more properly speaking, the bettors, stand around. The banker draws cards, putting one for the bettors on the right, another for himself on the left; and the party wins whose card or cards bring 9 points, or the nearest number to it; each party having, of course, the privilege of calling for supplementary cards to improve his number. Also spelled BACCARAT.

Bac'carat, a town of France, dep. of Meurthe, 15 m. from Luneville; *pop* 4,216.

Bac'cate, *a.* [Lat. *baccatus*, from Lat. *bacca*, berry.] (*Bot.*) Having a pulpy nature like a berry.

Bac'cated, *a.* Having many berries.

Bac'chanal, Bacchana'lian, *n.* [Lat. *Bacchus*; Gr. *Bacchos*, the god of wine.] One who indulges in drunken revels; a drunkard; a bacchant.

—*a.* Revelling in intemperate drinking; riotous; noisy.

Bacchana'lianly, *adv.* In the manner of bacchanals.

Bac'chanals, Bacchana'lia, *n. pl.* (*Myth.*) Feasts held in honor of Bacchus, and said by Herodotus to have been of Egyptian origin, (see DIONYSIA;) these, as practised at Rome and in other parts of Italy, led to such abuses, that they were suppressed by a decree of the senate, B. C. 186. This decree, engraved upon a brazen table, was discovered at Bari in 1640, and is preserved in the imperial collection at Vienna.

Bacchant', *n.* [Lat. *bacchans*, p.pr. of *bacchari*, to celebrate the festival of Bacchus.] A priest of Bacchus.

—A bacchanal; a reveller; a drunkard.

Bacchante', *n.* [Fr.] A priestess of Bacchus.—A female bacchanal.

Bacchantes, (*bāk-ān'tes,*) *n. pl.* [Lat.] (*Myth.*) Priestesses of Bacchus, represented at the celebration of their orgies as almost naked, with garlands of ivy, a thyrsus, and dishevelled hair. Their looks are wild, and, uttering frantic cries, they clash various musical instruments together. They are also called *Thyades* and *Mænads*.

Bacchiglione, (*ba'kvel-ye'o-nai,*) a navigable river of Upper Italy, rising in Vicenza, and, after a course of 55 m., falling into the lagoons of Venice.

Bac'chius, and **Bi'thus,** two celebrated gladiators of equal age and strength; whence the proverb to express equality, *Bithus contra Bacchium*.

Bacchius, *n.*; *pl.* BACCHII. [Lat.; Gr. *baccheios*.] (*Pros.*) A foot composed of a short syllable and two long ones; as in *dvāri*.

Baccha'ris, *n.* [From *Bacchus*; its fragrance resembling that of wine.] A genus of the ord. *Asteraceæ*. They are shrubby plants with alternate leaves and white flowers. The Groundsel-tree, *B. halimifolia*, (*Fig.* 260,) is a large rambling shrub, found from Maryland to Florida, on the sea-coast; height 8 to 10 feet. Its white flowers, which blossom in Sept., have a tint of purple, and resemble those of the groundsel, but are larger. It grows in any common soil that is tolerably dry, and forms a large, loose-headed, robust-looking bush.

Fig. 260.—B. HALIMIFOLIA. (Groundsel-tree.)

Bac'chic, Bac'chical, *a.* [Lat. *bacchicus*.] Relating to Bacchus; used generally to denote jovial intoxication; drunken revelry.

Bacchi'des, a general of Demetrius Soter, and governor of Mesopotamia, who lived in the 2d half of the second century B. C. He invaded Judæa, for the purpose of reinstating Alcimeus in the priesthood; and Judas Maccabeus having attacked him with inferior forces, perished in the contest; *B.*, however, was forced by Jonathan to quit Judæa.

Bacchus, (*bāk'kus.*) [Lat.; Gr. *Dionysos.*] (*Myth.*) The god of wine, born of a mortal mother, yet one of the immortal gods. The common story of the birth of Bacchus, his mother Semele's fatal wish, his imprisonment in the thigh of his father Jupiter, and the various adventures attributed to him, are too well known to need description; and it would take up more space than the nature of this work allows, to discuss the inferences drawn from the old traditions by modern mythologists. These deductions, and especially the description of the mystical character of *B.* as distinguished from his worship as the god of wine, may be seen fully developed by Creuzer (*Symbolik*, Theil III., pp. 83, 266; pp. 319–366,) whose theory, however, of the Indian origin of the Bacchic rites, though abundantly ingenious, does not appear to be established by sufficient external evidence. The southern coast of Thrace seems to have been the original seat of this religion, and it was thence introduced into Greece shortly after the colonization by the Æolians of the Asiatic coast of the Hellespont. The admission of the identity of Osiris and Dionysus by Plutarch and other mythological theorists, as well as Herodotus's simple statement of the assertions of the Egyptian priests to that effect, is no proof of the common origin of the worship of this divinity in Egypt and Greece; but there is no doubt that certain modifications of the Dionysiac rites took place after the commencement of the intercourse of the Ionians with the Egyptians.—The worship of Bacchus is intimately connected with that of Demeter; under the name of Iacchus he was worshipped along with that goddess at Eleusis, (see DEMETER.) Virgil invokes them together (*Georgics*, i. 5) as the lights of the universe. According to the Egyptians, they were the joint rulers of the world below, (*Herod.* ii. 123.) Pindar calls Dionysus "the companion of Demeter," and in a cameo he is represented sitting by the goddess in a chariot drawn by male and female centaurs.—On the form and dress of Bacchus almost all the ancient testimonies have been collected by F. G. Schön in an ingenious dissertation on the costume of the characters in the *Bacchæ* of Euripides. From these it appears that he was represented as a young man with an effeminate face, long blonde hair, a fillet or an ivy crown on his head, a long purple robe, and a nebris, (deer-skin,) and with a thyrsus in his hand. Many of his numerous appellations may be seen in the *Index to Wachsmuth*, p. 570, and in *Ovid Met.* lib. iv. init. His attendants were the Bacchantes, the Lennæ, the Naiades and Nymphs, the Thyades, the Mimallones, the Tityri, Pan, Silenus, the Fauns, and the Satyrs.

Bacchy'lides, a Greek lyric poet, a native of Julis, a town on the island of Cos. He was a cousin of the still more famous lyric poet Simonides, with whom he remained for some time at the court of Hiero in Sicily. He travelled also in the Peloponnesus. He is said to have been a rival of Pindar. He flourished about 470 B. C. His fragments are given by Schneidwein and Bergh in their collection.

Baccif'erous, *a.* [Lat. *baccifer*—*bacca*, a berry, and *fero*, to produce.] That produces berries; berry-bearing.

Bac'cio Del'la Por'ta, or FRA BARTOLOMMEO DE SAN MARCO, called also simply IL FRATE, ("the Friar,") one of the greatest of the *Cinque Cento* school of painting, in Italy, was B. at Sevignano, in Tuscany, in 1469. Early showing a tendency to art, he studied the works of Leonardo di Vinci, and in conjunction with his friend Mariotto Albertinelli, he executed his celebrated fresco, *The Last Judgment*. Afterwards he became the friend of Savonarola, (*q. v.*,) whose fate he narrowly escaped sharing. He then entered upon a monastic life, and became a Dominican friar at Prato, where he assumed the name of *Frà Bartolommeo*. While here he formed a close and lasting friendship with the great painter Rafaelle. In 1513 *B.* visited Rome, and on his return, resuming his brush, he produced some of his greatest works, among

which we may mention the *St. Mark*, (now in the gallery at Florence,) and the *Madonna della Misericordia*, (at Lucca.) D. 1517.

Bacchio'chi, or BACIOCCHI, FELIX PASCAL, *Prince of Piombino and Lucca*. B. in Corsica in 1762. He was of noble blood, but poor, and entered the army at an early age. In 1797, he married Marie Elise Bonaparte, sister of the great Napoleon, the latter being at the time general-in-chief of the army in Italy. Napoleon, though displeased at the alliance, nevertheless allowed *B.* to share the rising fortunes of the family. After obtaining the highest military rank, he was given the principalities of Piombino and Lucca, and was crowned with his wife on 10th July, 1805. Shortly afterwards, they separated. *B.* remained a general, and Elise, as sister of the emperor, assumed the state of a princess, and was made Grand Duchess of Tuscany. *B.* afterwards retired to Germany, and in 1831 was allotted a revenue of 100,000 crowns, with the title of a prince of the Holy Roman empire. D. at Bologna, 28th April, 1841. His wife died in 1820.

Baccivorous, *a.* [Lat. *bacca*, a berry, and *voro*, to eat.] Eating or subsisting on berries.

Bach, and **Pach.** [Ger., brook, rivulet.] An affix used in many German geographical names, as Auer*bach* ("brook of the meadow"), An*spach* ("situated at the stream").

Bach, JOHN SEBASTIAN, an eminent German musical composer, B. at Eisenach, 21st March, 1685. In 1708, he became *chef d'orchestre* to the Duke of Saxe-Weimar. He is said to have been equal to Handel in his execution on the organ, and his compositions are works of the highest excellence. D. at Leipzig, 13th July, 1750.—His sons, Charles and John, were also celebrated as performers and composers; and so fertile in musical talent was the *B.* family, that 59 members of it have been mentioned as distinguished musicians.

Bach'arach, a walled town of Prussia, prov. of the Rhine, on the left bank of that river, 25 m. S.S.E. of Coblentz, on the railway from Cologne to Mayence. The best wine produced here is known as "*Muskateller*." *Pop.* about 2,000.

Bachan'mont, FRANÇOIS LE COIGNEUX DE, a French literateur, B. in 1624; was clerk of the council to the parliament of Paris. He was one of the most brilliant epigrammatists of an age when epigrams were at their highest value, and served equally the purposes of statesmen and of wits. In the war of the *Fronde*, *B.* found frequent occasion to exercise his wit in epigrams against the court. After the troubles were past, he devoted himself to pleasure and to poetry. Similarity of taste and character produced an intimate friendship between him and La Chapelle, and they composed, in common, that charming account of a journey, which met with so much favor among the friends of light and sportive poetry. D. 1702.

Bache', ALEXANDER DALLAS, a distinguished American hydrographer, B. in Philadelphia, 19th July, 1806. He graduated at West Point in 1825, and in 1828 was appointed Professor of Natural Philosophy and Chemistry in the University of Philadelphia. In 1836, he was nominated the first President of Girard College, and made a trip through Europe in the interests of that institution. In 1843 he was appointed superintendent of the "United States Coast Survey," which may be considered as his creation. This important institution has sent forth many accurate maps, not only of the configurations of the coasts, but also of the soundings of every harbor and channel as yet utilized. When finished, the coast survey, with which the name of Bache is so intimately connected, will take its place as a model that should be imitated by every maritime nation. Nominated president of the National Academy of Sciences in 1863, Dr. Bache died in Newport, 17th February, 1867.

Bach'elor, *n.* [O. Fr. *bachelier*, a young man; *bachelette*, a young woman; probably from W. *bachgen*, a boy, a child, from *bach*, little.] In its primitive sense, it means a man who has not been married; and in all its various senses, it seems to include the idea of youth or immaturity, except when it has the word *old* prefixed.

—One who has taken, at a college or university, the first degree in the liberal arts and sciences, or the first degree in the particular study to which he devotes himself. This degree or honor is called the *baccalaureate*, q. v. At Oxford and at Cambridge, to attain the degree of *B.* of Arts, a person must have studied there four years; after three more, he may become Master of Arts; and at the end of another series of seven, *B.* of Divinity. In the U. States, *B. of Arts* is a degree commonly conferred on students who have completed the course of study established in the several colleges of this country.

(*Knighthood.*) An ancient denomination given to such as had not a sufficient number of vassals to carry their banner; or to such knights-bannerets as were not of age to display their own banner; or, to young cavaliers, little more than initiated to arms; or, in a very honorable sense, to him who had overcome his antagonist in a tournament. — *Knights-Bachelors.* The lowest rank of knights, whose title was not hereditary. These are the *knights* of modern days.

—Among the Livery companies of the city of London, a term applied to a person not yet admitted a member of the Livery, but who is an aspirant for that position.

Bach'elorhood, Bach'elorism, *n.* The state of a bachelor; bachelorship.

Bachelors' Button, *n.* (*Bot.*) See *Ranunculus.*

Bach'elor's Hall, *n.* House kept by a bachelor.

Bach'elor's Hall, in *Va.*, a P.O. of Pittsylvania co.

Bach'elorship, *n.* State or condition of being a bachelor, or one who has taken his first degree in a college or university.

"Her mother, living yet, can testify.
She was the first-fruit of my *bachelorship*."—*Shaks.*

Bach'elor's Retreat, in *South Carolina*, a post-office of Pickens district.

Bach'grove, in *Iowa*, a post-office of Wright co.

Bach'man, JOHN, D.D., LL.D., a distinguished American naturalist, B. in Duchess co., New York, in 1790. He was the assistant of Audubon in his great work on American Ornithology. Dr. Bachman was pastor of the German Lutheran Church in Charleston for many years, and published some works of great value on the denomination with which he was so long connected. Died in 1874.

Bach'man, in *Ohio*, a post-office of Montgomery co.

Bach'man's Mills, in *Maryland*, a post-office of Carroll co.

Bacilla'riæ, *n. pl.* [Lat. *bacillus*, a little staff.] (*Bot.*) See BACILLI.

Bacio'echi. See BACCIOCHI.

Back, *n.* [A. S. *bac*, *bæc*; Icel., Swed. and L. Ger. *bak*; Dan. *bag*; O. H. Ger. *bacho*, back, cheek.] The part of the human body which is behind: the hinder part of man; in animals, the upper part, which in quadrupeds is a ridge.

"Part following outer, part remain without,
And mount on others *backs*, in hopes to share."—*Dryden.*

—A broad high ridge; as, "(mountains) their broad, bare *backs* upheave."— *Milton.*

—The outward or upper part of a body or thing, as opposed to the inner or lower part; as, the *back* of the hand (opposed to the *palm*); the *back* of the body (opposed to the *stomach*); the *back* of a hand-rail, &c.

"Methought Love, pitying me, when he saw this,
Gave me your hands, the *backs* and palms to kiss."—*Donne.*

—The rear; the part opposed to the front; the hinder part of anything; as, the *back* of a house; the *back* of a book.

—The place behind; the part opposite to, or most remote from; that which fronts the actor or speaker, or the part out of sight; as, the *back* of a mountain.

—The thicker and stronger part of a cutting instrument or tool, opposed to the *edge*; as the *back* of a knife.—See BAC.

—*a.* In the rear; remote from; as, the *back* woods;—backward in movement; as, *back* action.

Back, *adv.* [A. S. *on bæc.*] To the place left, or from which one came.

"*Back* to thy native island mightst thou sail,
And leave half heard the melancholy tale."—*Pope.*

—To return to a former state, condition, or station; as, to go *back* to prison.

"I've been surprised in an unguarded hour,
But must not now go *back*."—*Addison.*

—Backward; by reverse movement; free from contact; as, to roll *back* a stone.—Behind; not coming forward; in a state of hinderance or restraint.

"Constrain the glebe, keep *back* the *hurtful* weed."—*Blackmore.*

—Towards things or times past; remote from the present.

"I had always a curiosity to look *back* into the sources of things."—*Bishop Burnet.*

—Again; in return; as, to give *back* the umbrella.

"Take and give *back*, and their dispatch,
With such a smooth, discreet, and stable bearing."—*Shaks.*

—In withdrawal; as, to draw *back* from an agreement.

Back, *v. a.* To get upon the back of; to mount.

"That roan shall be my throne;
Well, I will *back* him strait."—*Shaks.*

—To place upon the back. (R.)

"Great Jupiter, upon his eagle *back'd*, appear'd to me."—*Shaks.*

—To break a horse, or train him to bear a burden on his back. (R.)

"Direct us how to *back* the winged horse;
Favor his flight, and moderate his course."—*Lord Roscommon.*

—To maintain; to strengthen; to support; to defend.

"Call you that *backing* of your friends? a plague upon such *backing!* give me them that will face me."—*Shaks.*

—To put or force backward; to cause to recede or retreat; as, to *back* a team.

—To furnish with a back or binding; to make a back for; as, to *back* a book. — To *back out*, or *back down*, to withdraw from, or shirk a promise or engagement.

To back a wager, to second a person in a bet or wager; to take shares in a wager laid between other parties.

"Factions, and fav'ring this or t'other side,
Their wagers *back* their wishes."—*Dryden.*

To back up, to sustain, support, help, become responsible for; as, to *back up* a friend. Its American synonym is, to "*see him through*."

(*Naut.*) *To back an anchor*, to carry out a small anchor, ahead of the large one, in order to support the latter. *To back astern*, to reverse the action of the oars in rowing, contrary to moving ahead, so as to impel a boat stern foremost. — *To back and fill*, an operation generally performed in narrow rivers, by keeping the ship in the middle of the stream, and then advancing ahead from one shore and moving backwards from the opposite shore. *To back the oars*, to manage the oars in a direction contrary to the usual method, so that the boat shall move with her stern forward. — *To back the sails*, to arrange them in a situation that will occasion the vessel to retreat, or to move astern, in consequence of the tide or current being in her favor, and the wind contrary, but light.— *Back the main-topsail!* the command to brace that sail in such a manner, that the wind may exert its force against the fore-part of the sail, and, by thus laying it aback, materially retard the vessel's course.

(*Law.*) *To back a warrant*, signifies for a justice of the peace, or other magistrate, in the county in which a warrant is to be executed, to counter-sign or indorse such warrant, as issued in another county, to apprehend an offender.

(*Sport.*) *To back a horse*, or *the field*, in horse-racing, to lay the odds, in betting, upon a certain horse or *favorite*, against the *field*, or the other horses entered in a race, who are termed (in the language of the turf) *outsiders*; or, *vice versâ*, to bet upon the field against the favorite, or any one or more horses.

—*v. i.* To move or to back; as, "the horse refuses to *back*."

Back, SIR GEORGE, D.C.L., F.R.S., an English navigator, B. 1796. In 1818 he was selected to accompany Captains Beechey and Buchan, and Sir John Franklin, on the first modern voyage of discovery beyond Spitzbergen. In 1819, he again joined Franklin in the expedition from Hudson's Bay to the E. of the Coppermine River. In 1833, he commanded an expedition in search of Sir John Ross, and published an account of it. In 1836–7, he proceeded in H.M.S. "Terror" with a view of prosecuting discovery in the Arctic seas from Regent's Cape to Cape Turu-again, but was unsuccessful, and returned after suffering severe privations. Of this voyage he has written a clear, elegant, and interesting narrative, published in 1838. D. 1872.

Back'bite, *v. a.* and *n.* To bite at the back; to speak evil of a person behind his back; to calumniate, slander, or revile the absent.

"Use his men well, Davy, for they are arrant knaves, and will *backbite*."—*Shaks.*

Back'biter, *n.* A slanderer of persons behind their backs; a traducer; calumniator; detractor; defamer; maligner.

Back'bitingly, *adv.* With secret calumny; slanderous.

Back'board, *n.* [*Back* and *board.*] (*Naut.*) A board placed across the stern-sheets of a boat, as a support for the passengers' backs.—A board fixed to the edge of a water-wheel, to hinder the water from running off the floats or paddles into the cavity of the wheel. — A board used in ladies' seminaries, or boarding-schools, and attached to the back of a pupil, in order to ensure erectness to the figure. — A part of a lathe.

Back'-bond, *n.* (*Law.*) A bond of indemnification given to a surety. — *Bouvier.* — (*Scotch Law.*) A deed, which, in conjunction with an absolute disposition, constitutes a trust. It expresses the nature of the right actually held by a person to whom the disposition is made. It is equivalent to the English deed of Declaration of Trust.

Back'bone, *n.* The bone of the back, or the spine. — Figuratively, moral principle; steadfastness; stability of purpose or condition.

Back'-chain, *n.* A chain that passes over a cart saddle to support the shafts.

Back Creek, in *Indiana*, flowing into Guthrie's Creek in Lawrence co.

Back Creek, in *Virginia.* Taking rise in Frederick co., it runs N.E. and enters the Potomac, about 10 m. N. of Martinsburg.

Back Creek Valley, in *Virginia*, a post-office of Frederick co.

Back'-door, *n.* A door on the back part of a building; a private passage; an indirect way.

"——— is stealing in by the *back-door* of Atheism."—*Atterbury.*

Backed', *a.* Having a back; used in composition in a compound sense, as, *hump-backed.*

"Sharp-headed, barrel-bellied, *broadly-back'd*."—*Dryden.*

Back'er, *n.* One who backs or supports another in a contest or an undertaking.

(*Arch.*) A narrow slate laid on the back of a broad, square-headed slate, where they begin to diminish in width.

Backergunge, (*ba'ker-yoonj'*,) a district of Hindostan, pres. of Bengal, in the Dacca division, including part of the Sunderbunds and the mouths of the rivers Ganges and Brahmapootra. *Area*, 3,796 sq. m. Estimated *pop.* 734,000. It is mostly covered with jungle, and infested with royal tigers: grows a good deal of rice, and is frequently inundated.

Backgam'mon, *n.* [O. Eng. *baggamon*, from W. *bach*, little, and *cammawn*, *cammon*, combat, fight, from *camp*, a circle, feat, game, or, according to Strutt, A. S. *bac*, back, and *gamen*, a game.] (*Games.*) An ingenious game of chance, played by two persons, with 15 black and 15 white pieces or *men*, on a board or table divided into parts, whereon are 24 black and white spaces called *points*, by

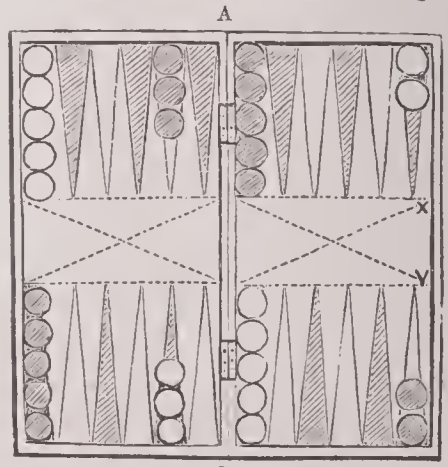


Fig. 261.— BACKGAMMON-BOARD.

casting dice alternately from little boxes, with one of which each player is provided. The arrangement of the board and pieces will be more readily understood by reference to the accompanying diagram, in which the men are set in readiness to commence the game: the player using

Francis Bacon

1561–1626

the black men being seated at the upper end of the board, at A, and the one using the white pieces, at B. It is the object of the player at A to get all his men into the section of the tables on his *left* hand, or "home," as it is technically called, and "bear" or remove them from the board in accordance with the numbers indicated by the successive castings of the dice, before his adversary can do the same, after getting his pieces into the section on his *right*. The dice are cubes, spotted on the sides from one to six; and, as they are thrown together, any combination of two numbers can be thrown, from two aces to two sixes. The terms for the numbers on the dice are as follows:—1, ace; 2, dence; 3, trê or tray; 4, quatre; 5, cinque; 6, seize. If doublets are thrown, or similar numbers on each die, double the number of points are reckoned. Thus, if two cinques be thrown, twenty points are counted. The points on the board are counted from one to six in each of the four sections respectively, each player commencing from the point in the table opposite to him, on which two men are seen to be placed in the right of the diagram. Thus the player using the white men counts from the point marked X, and his adversary using the black pieces from the point marked Y. Two men can be advanced at once, one for each number turned up on the dice; or one man may be moved forward as many points as the numbers on the dice amount to taken together. When any point is covered by two of an opponent's men, the player cannot put any of his upon that point; but if one only be there, which constitutes what is called a *blot*, that man may be removed and placed on the centre ledge of the board, and the point occupied. This man must be entered on any vacant point in the "home" section of the tables belonging to the opponent of the player whose man has been taken up, provided the number turned up on either die corresponds with that point, and must then be brought round from the commencement like the men on the ace-points in either table. To *win a hit* is to remove all your men from the table before your adversary has removed his: this counts one. To *win a gammon*, which counts two, is to remove all your men before your adversary has brought all of his home; and if your men are entirely removed while your antagonist has one remaining in your home section of the table, you win a backgammon, which counts three. —*Trick-track*, or French *trictrac*, is a game resembling backgammon.

Back'ground, *n.* Ground in the rear or behind; in contradistinction to the *front*.

(*Paint.*) The space behind a portrait, or group of figures.

—A place of obscurity or shade; a secluded situation.

Back'handed, *a.* With the hand turned backward; as, a *backhanded* blow.—Oblique; indirect; reversed; as, a *backhanded* suggestion.—Turned back, or inclining to the left; as, *backhanded* letters.

—*adv.* With the hand moved backward; as, to strike *backhanded*.

Back'house, *n.* A building or office behind the chief or front building; *specifically*, a privy or water-closet.

"Their *backhouses*, of more necessary than cleanly service." *Carew.*

Back'huysen, *n.* See BAKHUYSEN.

Back'ing, *n.* (*Manege.*) The operation of breaking-in a young horse for the saddle.

(*Bookbinding.*) The mode of preparing the back of a book with glue, &c., in order to receive and attach the cover.

Back'ing-up, *n.* See BACK-STOPPING.

Back'-lash, *n.* (*Mech.*) The term applied to the reaction produced by irregularity of velocity resulting from a want of uniformity in the moving power upon each other of a pair of wheels.

Back'-leaning, *a.* That inclines toward the hinder part.

Back'-light, *n.* A light which is reflected on the hinder part.

Back'-lining, *n.* (*Arch.*) See SASH-FRAME.

Back'nang, a town of S. Germany, in the kingdom of Würtemberg, 16 m. N.E. of Stuttgart. *Manf.* Woollens and leather. *Pop.* about 4,000.

Back'-painting, *n.* (*Paint.*) The method of painting mezzotinto prints, pasted on glass, with oil colors.

Back'-piece, or **Back'-plate,** *n.* (*Mil.*) The piece of armor which covers the back.

"The morning that he was to join battle, his armorer put on his *back-piece* before, and his breast-plate behind."—*Camden.*

Back'-pressure, *n.* (*Steam-Engineering.*) The resistance of the atmosphere or waste steam to the piston.—*Webster.*

Back'-rest, *n.* (*Mech.*) The name given to a guide, which, being affixed to the slide-rest of a lathe, is brought into contact with the work, to hold it firm in turning.

Back'-room, *n.* A room behind the front room, or in the back part of the house.

Back'-rope, *n.* (*Naut.*) A rope leading from the martingale inboard; a gob-line.

Back River, in *New Hampshire*, a small stream, which, rising in the N.E. part of the State, falls into the Piscataqua.

Backs, *n. pl.* Among currriers and leather dealers, a kind or quality of leather selected from the strongest and thickest ox-hides.

Back'set, *a.* Set upon in the rear.

"*Backset* with Pharaoh's whole power."—*Anderson.*

—*n.* A check to the progress of anything; a relapse. (*Scottish.*)

Back'shish, Back'sheesh, *n.* [Per. *bakhshish*, from *bakhshidan*, to give.] A term used in Turkey, Egypt, India, and the East generally, to signify a present, or gratuity of money; a donation of alms; a gift to servants, &c.

Back'side, *n.* The back or hinder part of a thing, or of an animal.—The rear of a house, as the yard or ground behind it.

Back'sight, *n.* (*Land Surveying.*) The first reading of the levelling staff, taken from any position of the levelling instrument, all other readings being called *foresights*.

Back's Land, in British North America, a region around the Arctic Circle, between Lon. 95° and 108° W., explored by Sir George Back, in 1831.

Backslide', *v. i.* To slide back or backwards; to fall away; to depart from; to apostatize; to relapse from one's faith.

Backslid'er, *n.* One who slides or shuffles back, especially from religious principles or professions. An apostate; renegade; recreant; abjurer.

Backslid'ingness, *n.* The state or condition of backsliding.

Back's River, in British N. America, rising in Sussex Lake, N. of Lake Aylmer, flows N. and N.E. through a sandy region, traverses Lakes Pelly and Garry, and empties into a bay supposed to be the S.W. part of Boothia Gulf, in Lat. 67° 7′ 31″ N., Lon. 94° 39′ 45″ W.

Back'-staff, *n.* (*Astron.*) An instrument used before the invention of the quadrant and sextant, for taking the sun's altitude at sea, and so called from the back of the observer being turned to the sun while making the observation. It was invented by Captain John Davis, a Welsh mariner, about the year 1690.

Back'stairs, *n. pl.* Stairs in the back part of a house; private stairs. *Adj.*, tortuous, not straight forward.

Backstays, (*bāk-stāz'.*) *n. pl.* (*Naut.*) Long ropes extending from the top mastheads to the starboard and port sides of the ship, their use being to second the efforts of the shrouds in supporting the masts. They are usually distinguished into breast-back stays and after-back stays, the intent of the first being to sustain the mast when the ship sails upon a wind; the second to enable her to carry sail when the wind is farther aft.

(*Printing.*) A leather strap serving to check the carriage of a printing-press.

Back'-stone, *n.* (*Prov. Eng.*) See GIRDLE.

Back'stop, Back'stopper, *n.* (*Sports.*) In cricket: one who stands at a short distance behind the wicket-keeper, and stops the ball when bowled over the wicket.

Back'stopping, *n.* (*Sports.*) The act or duty of a backstopper.

Back'-stream, *n.* A current flowing up-stream.

Backs'ville, in *Minnesota*, a post-office of Brown co.

Back'sword, *n.* A sword having a back; a sword with one sharp edge.

—In England, a term used to denote a fencing-stick with a basket-handle, used in rustic games of skill.

(*Fencing.*) A game or play with the backsword;—most commonly called *single-stick*.

Back'ward, Back'wards, *adv.* With the back forward or in advance; as, to walk *backward*.

—Towards the back: as, to throw the arms *backward*.

"In leaping with weights, the arms are first cast *backwards* and then forwards." — *Bacon.*

—With the back downward; on the back.

"Then darting fire from her malignant eyes,
She cast him *backward* as he strove to rise." — *Dryden.*

—Towards the past; in relation to time or events.

"There is no argument to that which looks *backwards*." — *South.*

—Reflexively; by way of reflection.

"For the mind can be *backward* cast upon herself." — *Davies.*

—From a better to a worse state.

"The work went *backward*, and the more he strove
T' advance the suit, the farther from her love." — *Dryden.*

—Perversely; in a contrary manner or order.

"I never yet saw man,
But she would spell him *backward*." — *Shaks.*

Back'ward, *a.* Averse; reluctant; unwilling; dilatory; hesitating.

"All things are ready if our minds be so:
Perish the man whose mind is *backward* now!" — *Shaks.*

—Dull; sluggish; slow of apprehension; inapt.

"It often falls out, that the *backward* learner makes amends another way." — *South.*

—That which loiters behind others; late; behindhand in time: as, *backward* in growth.

—Already past and gone.

"And flies unconscious o'er each *backward* year." — *Byron.*

Back'wardness, *n.* Tendency to hold back; specific or habitual slowness: shyness; reluctance; hesitation; unwillingness; repugnance.

Back'water, *n.* Water kept back, as in a stream or reservoir, by some obstacle or obstruction, as a dam or lock.

—Water flung back by the gyrations of a water-wheel.

(*Aquatics.*) An expression signifying water thrown back, when rowing, by the action of the oar.

(*Law.*) The water which is turned *back*, by a dam erected in a stream below, upon the wheel of a mill above, so as to retard its revolution. Every riparian proprietor is entitled to the benefit of the water in its natural state. Another such proprietor has no right to alter the level of the water, either where it *enters* or where it *leaves* his property. If he claims either to throw the water back above, or to diminish the quantity which is to descend below, he must, in order to maintain his claim, either prove an actual grant or license from the proprietors affected by his operation, or an uninterrupted enjoyment for twenty years. If he cannot maintain his claim in either of these ways, he is liable to an action on the case for damages in favor of the injured party, or to a suit in equity for an injunction to restrain his unlawful use of the water.—In Massachusetts, and some other of the States, Acts have been passed giving to the owners of mills the right to flood the adjoining lands, if necessary for the working of their mills, subject only to such damages as shall be ascertained by the particular process prescribed, which process is substituted for all other judicial remedies. These statutes, however, confer no authority to flow back upon existing mills.

Backwoods'man, *n.*; *pl.* BACKWOODSMEN. The name given in the U. States to an inhabitant of the *backwood* or *back settlements*, i. e., of a country newly settled.

Back'worm, *n.* A disease among hawks.—See FLANDER.

Back'-wound, *v. a.* To wound or pierce privately from behind one's back.

Back'yard, *n.* A yard behind a house.

Bacolor', a town of the island of Luzon, in the Philippines, about 38 m. N.W. of Manilla. It was the capital of the Philippines during the British invasion in 1762 *Pop.* about 10,000.

Ba'con, *n.* [A. S. *bacan*, to bake; O. Ger. *bachan*, to roast, to cook;—or Dut. *bake*, swine.] Salted and dried pork, made from the sides and belly of a pig; while bacon-hams are the hind-legs cured. A large quantity is exported from the U. States into Europe.—For the mode of curing, see HAMS. For its properties as an article of food and importance in trade, see PORK.

To save one's bacon. A vulgarism, implying the preserving one's self from hurt or harm; supposed to have originated from the care taken of this article of provision by the housewives of the olden time, to secure it from being plundered by the soldiers on the march.

"O father! my sorrow will scarce *save my bacon*:
For 'twas not that I murder'd, but that I was taken." — *Prior.*

Ba'con, FRANCIS, BARON VERULAM, and VISCOUNT ST. ALBAN'S, one of the grandest names in the annals of England, and one of the greatest men ever produced by any country or in any age. B. in London, 22d Jan., 1561, he was a son of Sir Nicholas Bacon, Lord Keeper of the Great Seal; and nephew of the great Cecil, Lord Burleigh. Nothing is known of his early education. Having, however, parents of a superior order,—a father distinguished both as a lawyer and a statesman, and a mother gifted with uncommon abilities, and eminent for her learning and piety,—*B.* was placed favorably, from the first, for the formation of a learned and a virtuous character. In his 13th year, he entered Trinity College, Cambridge, and was placed under the tuition of Dr. Whitgift, afterwards Archbishop of Canterbury. Here he studied with diligence and success. On leaving Cambridge, he entered Gray's Inn as a student of law. In compliance with a custom then prevailing among the higher classes of society, to go abroad to study the institutions and manners of other countries, *B.* went in the suite of Sir Amyas Paulet, the English ambassador to the court of France. In that country he busied himself in collecting information on the characters and resources of the different European powers. This research resulted in his work *Of the State of Europe*, written by him when only nineteen, and which is esteemed a masterpiece of inductive power. On his father's death, in 1579, he returned to England, to find himself, as the youngest son, unprovided for; upon which he determined to work his own way at the bar, and to which,

Fig. 262.

(From a bronze medal, British Museum.)

accordingly, he was called on the 27th June, 1582. His practice soon became considerable; in 1586, he was a bencher; and at 28, counsel-extraordinary to Queen Elizabeth. Although connected with the all-powerful family of the Cecils, they did little or nothing for his advancement, which was brought about partly by his own intrinsic energy and merits, and partly through the friendship of the Earl of Essex, the ill-fated favorite of Elizabeth. In 1592, *B.* entered Parliament, where he took the popular side. In 1596 appeared his *Essays or Counsels, Civil and Moral*, and shortly afterwards, his *Maxims of Law*. He was at this period in great pecuniary distress, and was twice arrested for debt. His *In felicem Memoriam Elizabethæ Angliæ Reginæ* was also written about this time, although it was not published until after his death. On the accession of James I., the prospects of *B.* brightened. He had paid assiduous court to some of the Scottish favorites of the monarch, and obtained his reward. On the 23d July, 1603, he was knighted. His public conduct in the House of Commons, at this time, commanded the admiration of both the court and the people. In 1605, he brought out *The Advancement of Learning*, and in 1607 was appointed

Solicitor-General. He now had his share of the professional "emoluments," and further augmented his increasing wealth by marrying a rich city heiress. His next work, The *Wisdom of the Ancients*, was published in 1619. In 1613, he became Attorney-General, and on the 7th of March, 1617, he was made Lord Keeper of the Great Seal. Notwithstanding frequent differences with the king and the court party, *B.* continued to advance, and on the 4th Jan., 1618, he achieved the summit of his ambition in being appointed Lord High Chancellor of England. On the 11th July, in the same year, he took his seat among the peers as Lord Bacon of Verulam, and was further created, in 1621, Viscount St. Alban's. In the year 1620 he produced the masterpiece of his matured genius, the *Novum Organum*, a remarkable work on which he had labored for many years. *B.*'s glory had now culminated; his career henceforward became tarnished with infamy. He was accused, before the House of Lords, of having received money for grants of offices and privileges under the seal of State. He was unable to justify himself, and desiring to avoid the mortification of a trial, confessed his misdemeanors, and threw himself on the mercy of the peers, beseeching them to limit his punishment to the loss of the high office which he had dishonored. After he had, by an explicit confession, acknowledged the truth of almost all the charges brought against him, notwithstanding the intercession of the king, and the interest which they themselves took in one of their most distinguished members, the Lords sentenced him to pay a fine of £40,000 (an enormous sum in those days), and to be imprisoned in the Tower of London during the royal pleasure. He was also declared forever incapable of place or employment, and forbidden to sit in Parliament or to appear within the verge of the court. This severe sentence was doubtless just; yet it must be allowed, that he was actuated neither by avarice nor corruption of heart, but that his errors are rather to be attributed to a weakness of character, which was abused by others. Traits of generosity and independence, which his life also displays, show clearly that he knew and valued virtue. He was unfaithful to it because he had not sufficient firmness to refuse the unjust demands of others. He was confined for a short time in the Tower, and then discharged. He afterwards received a partial commutation of his sentence, in so far as it related to his admittance to the court. He was summoned to attend Parliament before he died; but the remainder of his days were spent chiefly in scientific pursuits, and the society of the friends which adversity had left him. Such pursuits were his consolation, and at last caused his death. The father of experimental philosophy was the martyr of an experiment. Out driving, he purchased a fowl, stuffed it with snow to see if it would act as an antiseptic. This exposure produced bronchitis, and he died Apr. 9, 1626, in his 66th year. In his will were the words, "*For my name and memory, I leave it to men's charitable speeches, to foreign nations, and the next ages.*" The accomplishments of *B.* were unrivalled in his day, and his character displayed the phenomenon of great originality combined with a most extensive range of acquirements. He was a poet and an orator, a lawyer and a statesman. In the philosophy of experiment and of observation he was pre-eminent. The metaphysical and the physical were both congenial to his genius. His great merit undoubtedly consists in the systematic method which he laid down for prosecuting philosophical investigation; and his services in this department cannot easily be overrated. At the present day, those especially who busy themselves with physical pursuits would often do well to recur to the severe and rigorous principles of the *Organon*. The mind of *B.* was poetical; his works abound in imagery. It is true that small wits have ridiculed all his poetical pretensions, because in his version of the Psalms he says that "man's life hangs on brittle pins," and speaks of

> "The great Leviathan
> That makes the seas to seeth like boiling pan."

Still we find in *B.*'s verses many vigorous lines, and some passages of great beauty. The merits of *B.* as an orator, and the effects of his eloquence, were, in the opinion of Ben Jonson, — the most competent critic of his age, and confirmed by the testimony of Francis Osborne, — undoubtedly not equalled in his own time. Pope in one caustic line describes *B.* as —

> "The wisest, brightest, meanest, of mankind."

And Göthe says of him, — "He drew a sponge over the table of human knowledge." The greater part of *B.*'s works were written in English, but some were written in Latin, and others were translated into that language. The latest collection of the works of *B.* is that edited and published in London, 1865. — For an account of Bacon's philosophical system, see INDUCTIVE PHILOSOPHY.

Ba'con, SIR NICHOLAS, *Lord Keeper of the Great Seal of England*, B. at Chislehurst in 1510. After being educated at Corpus Christi College, Cambridge, he studied law at Gray's Inn, London, in which he became so eminent as to be appointed Attorney of the Court of Wards. On the accession of Queen Elizabeth, he was made a Privy-counsellor and Lord Keeper of the Great Seal. In every political crisis, his prudence appears to have preserved him from harm, while he made it his duty to hold himself aloof from any political party. When the queen visited him at his new mansion at Redgrave, in Suffolk, she observed, in allusion to his corpulence, that he had built his house too little for him. "Not so, madame," answered he; "but your Majesty has made me too big for my house." *B.* was a wise and learned, rather than a great man; he had, unquestionably, untiring diligence, lively genius, and ready wit, indulging in the latter very freely even on the bench. On one occasion, it is said, a culprit craved mercy of him on the plea of kindred, alleging, that, as the judge's name was *Bacon*, and his (the prisoner's) *Hog*, they were too closely allied to be separated; on which the judge retorted — "You and I cannot be kindred unless you be *hanged*, for *Hog* is not *Bacon* until it be well *hanged*." — By his second wife, *B.* was father of the famous Francis, Lord Bacon, *q. v.* D. Feb. 20, 1579.

Ba'con, ROGER, sometimes called FRIAR BACON, an eminent English monk, scholar, and philosopher, B. at Ilchester, 1214, and educated at Oxford, and Paris, where he obtained the degree of D. D. On his return to England he became a brother of the Franciscan Order, and devoted himself principally to chemistry, natural philosophy, and mathematics; and so ardently did he pursue these sciences, that he spent nearly the whole of his fortune in books and experiments. The discoveries he made, and his consequent fame, excited the envy and malice of his brethren of the order. They caused it to be circulated and believed that *B.* owed his profound learning and skill to magic, and commerce with evil spirits. He was, accordingly, forbidden to lecture in the university, imprisoned in a cell, denied to his friends, and even deprived of food. While undergoing this persecution, he received a request from the Pope's legate, then in England, for a copy of his works, which *B.* at first declined to accede to; but when the legate was subsequently called to the papal chair under the name of Clement IV., he collected his writings into a volume, entitled *Opus Majus*, or the "Greater Work," and sent it to his Holiness, who promised him his protection. On the death of that Pope, *B.* was subjected to renewed persecutions. His works were prohibited, and he was himself bodily incarcerated for a period of 10 years. On being released, he retired to Oxford, where he D. 1292. — Hallam says that the mind of *B.* was strangely compounded of almost prophetic gleams of the future course of science, and the best principles of the inductive philosophy, with a more than usual credulity in the superstition of his own times. However this may be, he was certainly possessed of one of the most comprehensive minds of any man of his time. Bishop Bale mentions about 80 treatises written by him; and Dr. Jebb, who edited his *Opus Majus*, classes his writings under the heads of grammar, metaphysics, mathematics, physics, optics, geography, astronomy, chronology, chemistry, magic, medicine, logic, ethics, theology, philology, &c. *B.* is by some considered as the inventor of the telescope, the air-pump, the diving-bell, the camera-obscura, and of gunpowder. He detected the errors in the calendar, afterwards adopted by Pope Gregory XIII.

Baco'nian, *a.* Pertaining to Lord Bacon, or to his philosophical system.

Bacter'ium, *n.* (*pl.*, BACTERIA). [From Gr. *baktron*, a rod or stick.] An extremely minute organism consisting of a single cell, spherical, rod-shaped, &c. The bacteria are widely distributed and enter into all putrefactive processes. A majority are entirely harmless and perform an important service in nature; others are highly dangerous to life. See BACTERIA, Sec. II.

Bac'tris, *n.* [Gr. *bactron*, a staff or cane.] (*Bot.*) A

Fig. 263. — BACTRIS ACANTHOCARPA.

genus of trees, order *Palmaceæ*, natives of the inter-tropical parts of S. America, growing in marshy places, and on the banks of rivers. They are rather small trees, never exceeding twenty feet in height, and the stems are slender, about the thickness of a man's thumb. They are of a very dense structure, and form very solid, hard, black canes, known in commerce as the canes of Tobago. The stems and leaf-stalks are covered with long, sharp, flat spines as black as ebony; and as these palms frequently grow in dense patches, they thus form impassable thickets. *B. acanthocarpa*, a native of the forests near Bahia, yields an extremely tough thread, from which the natives manufacture strong nets. The fruits of some species are made, by the inhabitants of the places where they grow, into a sweet sort of wine.

Bacs-Badrogher, (*baks-ba-dro'ger,*) a district of S. Hungary, in the circle beyond the Danube; *area*, 3,625 sq. m. *Desc.* At some seasons it is almost a morass: but fertile, and producing abundance of tobacco, wheat, and wine. *Pop.* 500,000.

Bactria'na, or **Bac'tria.** (*Anc. Geog.*) This ancient State, cap. Baetra, situated between Persia and India, and bounded on the N. by the Oxus, varied at different periods in extent. It was the seat of powerful and independent princes, until, being subdued by Ninus, it became a Persian satrapy. It was conquered by Alexander the Great, B. C. 329. *B.* is now a dependency of the Khanat of Bokhara, under the name of BALKH, *q. v.*

Bac'ule, *n.* [Fr. *bascule.*] (*Fortif.*) See BASCULE.

Bac'ulite, *n.* [Fr.; from Lat. *baculum*, *baculus*, a little staff.] (*Pal.*) A genus of fossil cephalopodous mollusca. The shells are straight, many-chambered, conical, and in their internal structure resemble the *Ammonites*, q. v. From their prevalence in the chalk of Normandy, that rock has been termed the "baculite limestone."

Baculom'etry, *n.* [Lat. *baculum*, *baculus*, staff, and Gr. *metron*, measure.] The act of measuring distance or altitude by a staff or staffs.

Bad, *a.* [Goth. *baodh*, *badh*; Pers. *bad*; Ar. *bud*, probably allied to Heb. *abad*, to perish, to cause to perish or destroy.] Ill; evil; depraved; not good; injurious; hurtful; vicious; vile; wicked; wanting good qualities, whether in man or things; unwholesome or corrupt, whether physically or morally; as, a *bad* heart, a *bad* intention, *bad* water, a *bad* road, *bad* of a fever, &c.

Bad, Bade, the past tense of BID, *q. v.*

Bad, *pl.* BAD'EN, the German name for *bath*, *baths*. It is found in many geographical names of German places, as Carls*bad* ("Charles's bath"), *Baden*hausen ("bath-house"), &c.

Bad'aca, or VADAKAT, the second city of Susiana, an ancient province of Persia, was stormed and taken by Sennacherib, king of Assyria, about B. C. 695. Antigonus retired thither after his defeat by Eumenes, B. C. 316.

Badagry, (*bă-dăg'ry.*) in Africa, a town on the Bight of Benin, 315 m. from Cape-Coast Castle, Lat. 6° 24′ 12″ N., Lon. 2° 53′ 15″ W.

Badajos, or **Badajoz,** (*bad'a-hōs.*) (anc. *Pax Augusta*,) a strongly fortified town of Spain, cap. prov. of same name, near the frontier of Portugal, at the confluence of the Rivillas and the Guadiana, 198 m. S.W. of Madrid, and 132 E. of Lisbon. It is a considerable place, with narrow and crooked, but well-paved and clean streets. *Manf.* Soap and coarse cloths; it has also tanneries and dye-works, and does an extensive (and mostly contraband) trade with Portugal. — *B.* is very ancient, having been a large city under the Romans. It has always been regarded as a military post of the highest importance. During the Peninsular War, it was taken by the French under Marshal Soult, on the 10th Jan., 1811. After the capture of Olivenza (April 16, 1811), Wellington caused *B.* to be invested; but, as Soult approached to its succor, he was obliged to raise the siege, May 14. After the battles of Fuentes d'Onor and Albufera, B. was besieged a second time, May 25; but, after several unsuccessful attacks, Wellington again raised the siege, June 16, 1811. After the capture of Ciudad-Rodrigo (Jan. 19, 1812), Wellington commenced the third siege, March 17, with 16,000 men, and, on the 6th of April, took the city by storm, after a sanguinary conflict. The garrison, together with the commander, General Philippon, were made prisoners. The besiegers lost nearly 5,000 men killed and wounded. At *B.*, 6th June, 1801, was concluded between Spain and Portugal a treaty of peace, by which Portugal agreed to shut its harbors against the English; and Spain restored all her conquests, excepting Olivenza. — *Pop.* 22,895.

Badakshan, or BUDUKSHAN. (*ba-dak'shan.*) a district of Central Asia, comprising a portion of the Koondooz dominions. It contains cliffs of lapis lazuli, which are peculiar to this region, and ruby mines. *Rivers.* The Oxus, the Badakshan, and several other streams. The inhabitants are Tadjihs and Mohammedans, and speak the Persian language. Lat. between 36° and 38° N.; Lon. between 69° and 73° E.

Badalocchio, SISTO-ROSA, (*ba'da-lok'e-o,*) an Italian painter and engraver, held in considerable estimation, especially as a draughtsman. His works are to be found in Bologna, Modena, and Parma. B. 1581; D. 1647.

Badalo'na, a town of Spain, in Catalonia, 6 m. N.E. of Barcelona: *pop.* about 10,000.

Ba'da'rayana-Acha'rya, a celebrated Hindoo philosopher and founder of the Vedántin school. He was the author of a series of aphorisms, entitled *Brahma-Sutras*, or *Spáririka-Mimánsá*, on which the celebrated Lhankara-Achárya wrote a commentary in the 8th century. *B.* is identified by Hindoo writers with Krishna-Devaipayána, called the "Vyása," or compiler, to whom are attributed the original compilation of the *Vedas*, and the authorship of the *Bhagavad-gitá*, and the greater part of the 18 *Puránas*. Of these, the Vedas cannot have been compiled later than the 7th century B. C., while the Bhagavad-gitá belongs to the 1st century of our æra, and the earliest of the Puránas to the 3d century. This

ascription, though clearly absurd, is sufficient to prove the antiquity of *B.*, and the high esteem in which he was held. The Vedáutin-Sutras are probably all that he has a claim to. They were written before the Mimánsá-Sutras of Zaimini, and therefore belong, probably, to the 3d or 4th century B. C., although Weber places *B.* in the 4th or 5th century.

Bad'aumy, a strongly fortified place of Hindostan, prov. of Beejapoor, in the British presidency of Bombay, 55 m. N.E. of Darwar; Lat. 15° 55′ N.; Lon. 75° 49′ E.

Bad Axe', in *Wisconsin*, the former name of the co. of VERNON, *q. v.*

—A post-village of Vernon co., 40 m. N.N.E. of Prairie du Chieu.

Bad Axe' River, in *Wisconsin*, enters the Mississippi in Vernon co.

Bad'dish, *a.* Not very good; comparatively bad. (R.)

"He wrote *baddish* verses."—*Jeffrey.*

Ba'den, (GRAND-DUCHY OF,) in S. Germany, is bounded on the S. by the Lake of Constance; on the W. by the Rhiue, on the N. by Hesse and Bavaria, and on the E. by Würtemberg and Prussia. It lies between Lat. 47° 32′ and 49° 52′ N. *Area*, 5,912 sq. m. Its length is about 150 m. from N. to S., and its breadth nearly 115.

DIVISIONS. The grand-duchy is divided into 4 circles, the area of which, and populatiou, is as follows: —

Circles.	*Area in Eng. sq. m.*	*Population 1890.*	*Chief Towns.*
Lake (Coustance)....	1,303	281,637	Constance.
Upper Rhine..	1,654	469,136	Freiburg.
Middle Rhiue	1,549	444,834	CARLSRUHE.
Lower Rhine.....	1,314	461,210	Mannheim.
Total	5,820	1,656,817	

DESC. In surface it is exceedingly varied; the E. half of the Lake Circle from the Rhiue to the Würtemberg frontier is entirely occupied by a mountainous tract extending from S. to N., under the denominations of the *Schwarzwald*, or "Black Forest," and *Odenwald;* while the western half, extending from the fall of these mountaius to the Rhine, is partly au undulating, but mostly a level country.—*Mountains.* The Schwarzwald—of gueiss and granite formation—whose highest summit is the Feldberg, 4,675 feet above sea-level, is a range extending from the Rhine through *B.* into Würtemberg, and presents a series of plateaux, covered with extensive forests, embosomed in which are fouud villages at an elevation of 4000 feet. The Odenwald is a granitic mass whose main elevation is the Katzenbuckel, 2,180 feet in height, and lies in *B.*; but the greater part of the chain belongs to the Grand-Duchy of Hesse. Like the Schwarzwald, these heights fall steeply towards the Rhine, and along the foot of the range the *Bergstrasse*, from Heidelberg to Frankfort, a road celebrated for picturesque scenery, has been carried. The other mountain-ranges, of lesser extent and elevation, are the Kaiserstuhl, the Randen, and the Heiligenberg.—*Rivers.* The principal are the Rhine, with its tributaries the Wiebach, the Wiesen, the Elz, the Kinzig, the Murg, and its chief affluent, the Neckar. The Maine and the Danube have their sources in this country.—*Lakes.* Constance, the Ilmen See, the Tittisee, the Mummelsee, &c.—*Clim.* The climate in the mountainous districts is very severe, the snow lyiug in some situations for the greater part of the year; but in the valleys of the Rhine, the Maine, and the Neckar, the temperature is mild and genial, permitting the culture of vines, chestnuts, and even almonds. The country is everywhere healthy.—*Soil and Prod.* The soil is generally highly fertile; corn is cultivated with great success, and also tobacco, hemp, flax, and potatoes; vineyards abound, and between the vines, the choicest fruits, as the peach, apricot, walnut, plum, and cherry, are produced. The forests send annually large quantities of excellent fir and oak timber down the Rhine.—*Min.* Mining is carried on with partial success. Silver, copper, iron, mangauese, salt, coal, alum, vitriol, and sulphur are the principal mineral productions. Upwards of 60 mineral springs are found in this Duchy. The thermal waters of Baden are those which are the best known and the most used for medicinal purposes.—*Religion.* Two-thirds of the population of Baden are Roman Catholics, and one-third Protestants composed of several denominations. The ecclesiastical affairs of the Roman Catholic Church are under the supreme control of the Archbishop of Freiburg, who is appointed by the Pope, and quite independent of the Grand-Ducal government. Frequent disputes and conflicts between Rome and the Badish ministry have been the result of this anomalous position. The management of the Lutheran Church is under a council of 7 persous, called the *Oberkirchenrath*, which is nominated by the Grand-Duke. Education is compulsory, and parents are constrained by strictly enforced penalties to send their children to school. It is prohibited also to employ children in factories, until they have completed their 11th year. The former has a library of 1[illegible]0,00[illegible] vol., the latter one of 100,000. The University Heidelberg has a faculty for Lutheran, and Freiburg one for Roman Catholic theological students.—*Agric.* As the chief wealth of the State springs from agriculture, barley, maize, wheat, potatoes, flax, hemp, and tobacco are cultivated to a considerable extent, and vast numbers of sheep and cattle are reared. The wines of *Kingenberger* and *Wertheimer* are much admired.—*Manf.* Ribbon-weaving, straw-plait, wooden ornaments, paper, clocks, watches, organs, and musical boxes.—*Gov.* The constitution of *B.* vests the executive power in the Grand-Duke, and the legislative authority in a House of Parliament, consisting of two Chambers, which have to be called together at least once every two years. The ministers are responsible for their actions, to the legislature and to every citizen who may lodge complaints against them before the *Oberhofgericht*, or Superior Tribunal.—*Educa. interests.* Numerous and flourishing, and public instruction is largely subsidized. There are two universities—the Protestant one at Heidelberg, founded in 1386, and the Catholic one at Freiburg, founded in 1457. The library at Heidelberg numbers 150,000 vols., that at Freiburg 100,000, while there is another of almost equal size at Carlsruhe. Lyceums exist at Carlsruhe, Constauce, Freiburg, Heidelberg, Manheim, Rastadt, and Wertheim; several gymnasiums; normal schools at Carlsruhe, Ettlingeu, and Meersburg, besides upward of 2,000 common schools established throughout the country. There is an institution iu Pfozrheim for the deaf and dumb, and one in Freiburg for the blind. The Polytechnic School at Carlsruhe is among the most efficient institutions of the kind in Germany.—*History. B.* was made a margraviate in 1130, by Hermann II., grandson of Berthold, Landgrave of Brisgau; his father, Hermanu I., having previously acquired it by marriage. In 1288, it was divided among the 4 sons of Rodolph I., but in 1353 was reunited into a single state. Iu 1526, it was again divided; this time, into Baden-Baden, and Baden-Durlach. In 1533, Protestantism was established. In 1771, Baden-Baden and Baden-Durlach were reunited; and in 1806, the title of Grand-Duke was given to the Margrave Charles Frederick by Napoleon I. In 1815, it joined the allies against Napoleon. Aug. 22d, 1818, a representative constitution was granted. With the Grand-Duke Ludwig, who D. in 1830, the "legitimate" lines of the ancient princes came to an end, and the reigning family of Bavaria, the next of kin, were on the point of taking the country, when Leopold I., offspring of a morganatic marriage of Karl Friedrich, the preceding Grand-Duke, with a Madame von Geyersberg, came forward, and proclaimed himself Grand-Duke. On the 5th of September, 1856, Friedrich I., the present Grand-Duke, succeeded. In the German war of 1866 *B.* sided against Prussia; but iu 1870 it joined in the formation of the new German empire.

Ba'den, or, as it is commonly called, BADEN-BADEN, to distinguish it from the watering-place of the same name near Vienna, a town of the above Grand-duchy, and famous for its hot baths, is romantically situated in the Middle Rhine Circle, 18 m. S.S.W. of Carlsruhe. It was formerly the constant residence of the sovereigns of Baden, and the Grand-duke still usually passes the summer in a villa here. The mineral springs were well-known to the Romans, who planted a colony here, and gave it the name of *Civitas Aurelia Aquensis.* The springs, 20 in number, burst out of the rocks at the foot of the castle terrace. The hottest temperature of them is 54° Reaumur; the coldest, 37°. A handsome building, in the form of a temple, is erected over the *Ursprung*, as the principal spring is called. The water is conveyed by pipes to the various hotels, in which there are numerous baths, very luxuriously appointed. *B. B.* is one of the most beautifully situated of the German "spas," surpassing even, in this respect, the *Brunnens* of Nassau. The surrounding country is distinguished by a pleasing and romantic wildness, and is, as it were, a prelude to the Alps. July and Aug. are the season when the baths are most frequented; but visitors, to the annual number of from 12,000 to 20,000, come and go from May to Oct. Amoug the handsome buildiugs here, the *Conversations-Haus* is conspicuous. Formerly, this place had great notoriety as being a focus for gambling ou the largest scale, but since 1872, the public gaming-tables have been suppressed by legal enactment. *Pop.* (1895), 13,884.

Ba'den, often called BADEN BEI WIEN (*Baden near Vienna*), a town and celebrated "spa" of Lower Austria, on an affluent of the Danube, 15 m. S.S.W. of Vienna. In the summer it is usually frequented by thousands of visitors, among whom are generally the emperor and other members of the imperial family. The baths were kuown to the Romans as *Aquæ Cotiæ.* The waters, according to the analysis of Volta, contain sulphate and muriate of soda, sulphate and carbonate of lime and magnesia, sulphate of alumina, and considerable quantities of carbonic and hydrosulphuric acid gases. Their temperature varies from 92° to 97° Fahr. — *B.* possesses many fine buildiugs, and is generally a beautiful and attractive spot.

Ba'den, a walled town of Switzerland, cant. Aargau, on the left bank of the Limmat, 15 m. N.E. of Aarau. It is celebrated for its hot baths, known to the Romans under the name of *Thermæ Helveticæ.* The water in the hottest of them has a temperature of 37° Reaumur. *Pop.* 3,476.

Ba'den, in *Iowa*, a post-office of Keokuk co.

Ba'den, in *Missouri*, a post-office of St. Louis co.

Ba'den, in *Pennsylvania*, a post-village of Beaver co., on the Ohio river, 21 m. N.W. of Pittsburg.

Ba'den-Ba'den, in *Illinois*, a post-office of Bond co.

Badge, (*badj*,) *n.* [A. S. *beag*, a garland, a necklace; Fr. *bague*, a ring.] (*Her.*) A cognizance or mark of distinction, assumed or conferred by a state or sovereign. To the latter class belong the various insignia of the orders of knighthood of European countries, conferred by their respective monarchs, and all emblems of honorable distinction, such as medals, ribbons, and crosses, given by a state for military prowess, or services rendered to the state by a person eminent in a civil capacity. Under the former class may be reckoned the different crests and distinctive bearings assumed by nations, tribes, and families, in early and mediæval history. ("Sweet mercy is nobility's true *badge*."—*Shaks.*) — The earliest mention of heraldic badges is to be found in the Bible, in which each of the twelve tribes of the children of Israel are spoken of uuder their respective cognizances; such as the *lion* of Judah, the *wolf* of Benjamin, and the *serpent* of Dan. The eagle was the badge of the empire of Rome, and in modern times the regal bird has been adopted by imperial dynasties, and also by our republic, as their distinctive emblem. —The *white horse*, now borne in the royal arms of Hanover, was the badge of the Saxons; the *raven*, that of the Northmen and Danes. The *white rose* was the badge of the House of York; the *red rose*, that of the rival House of Lancaster. The badge of England is a *red* and *white rose*, with the *royal crown;* that of Scotland, a *thistle* and *crown;* that of Ireland, a *harp* and *shamrock*, along with the *crown.* The serving-men belonging to noble houses usually wore their master's crest or badge embroidered on the left arm of the blue jerkin or body-coat, that was commonly worn in former days instead of the particolored liveries of modern times.

(*Law.*) A mark or sign, worn on the dress of some persons, or placed upon certain things, for the purpose of designation. Some public officers, as watchmen, policemen, and the like, are required to wear *badges*, that they may be readily known. It is used figuratively when we say, possession of personal property by the seller is a *badge* of fraud.

Badge, *v. a.* To distinguish or mark, as with a badge.

"Their hands and faces were all *badg'd* with blood."—*Shaks.*

Badge'less, *a.* Having no badge.

Badg'er, *n.* [Probably from W. *baedd*, a boar, and *daiar*, the earth; —earth-hog.] (*Zoöl.*) A quadruped, of which there are several species, composing the genus *Taxidea*, family *Mustelidæ.* It is generally regarded as a solitary, stupid animal, that seeks refuge in the most sequestered places, and shuns the light of day. It has very short legs and a broad flat body; the head is long and pointed, the eyes small, and the tail remarkably short. Its prevailing color is a kind of mottled gray; the face is white, and along each side of the head runs a long pyramidal band of black, including the eyes and ears. With its powerful claws, it constructs a deep and commodious burrow; and as it continues to bury itself, it throws the earth behiud it to a great distance, and thus forms for itself a long winding hole ending in a round apartment at the bottom, which is well lined with dry grass aud hay. This retreat it seldom quits till night, when it steals from its subterraneous abode for the purpose of procuring food. It lives

Fig. 264. — AMERICAN BADGER.

chiefly on roots, fruits, insects, and frogs. It is about 2½ feet long. The female produces 3 or 4 young at a time. The flesh of the *B.* is reckoned a delicacy, and may be cured into hams and bacon. The skin, when dressed with the hair on, is impervious to rain, aud consequently makes excellent covers for travelling-trunks, &c., while the hairs or bristles are made into brushes for painters. The American species is a slow and timid animal; it takes to the first earth it meets with, when pursued, and, burrowing in the sand, is soon out of the reach of danger. While the ground is covered with snow, it seldom ventures from its hole, but passes the severe winter months in a semi-torpid state.

(*Eng. Law.*) [From Fr. *baggage;* or A. S. *bygon*, to buy; or L. Lat. *bajulus*, a carrier.] A person who buys corn or victuals in one place, and carries them to another to sell and make a profit by them.

Bad'ger, *v. a.* To follow up or pursue with great eagerness, as the badger is hunted; to pester or worry; to tease; to persecute.

Bad'ger, in *Wisconsin*, a post-village of Portage co., 15 m. S.E. of Stanton.

Bad'ger-legged, *a.* Having legs of an unequal length, as the badger has been popularly supposed to have.

"His body crooked all over, big-bellied, *badger legged*, and his complexion swarthy."—*L'Estrange.*

Bad'ger State, *n.* A title popularly given to the State of Wisconsin.

Badia, (*ba'de-a,*) a town of Italy, prov. of Polesina, on the Adige, 16 m. W. by N. of Rovigo; *pop.* 5,467.

Badia'ga, *n.* [Russ. *bodyaga.*] A kind of sponge, common in the N. of Europe, the powder of which is applied to the marks of bruises to remove their livid appearauce. Its nature is not understood.

Ba'dian, Badianifera, *n.* (*Bot.*) See ILLICIUM.

Badig'eon, *n.* [Fr.] (*Arch.*) A mixture of plaster and free-stone, well sifted, and ground together; it is used by statuaries to fill up the small holes, and repair the defects in stones of which their work is made. The term is also used by joiners, for a composition of saw-dust and strong glue, with which the chasms of their work are filled. Joiners likewise use for this purpose a mixture of whiting and glue. When this is used, the filling-in should remain till quite hard, otherwise, when it is planed or smoothed off, it will shrink below the surface

Badinage, (*bä'di-nazh,*) *n.* [Fr. from *badin,* a jester.] Light or playful discourse; trifling talk; inoffensive raillery; banter.

"When you find your antagonist beginning to grow warm, put an end to the dispute by some genteel *badinage.*"—*Chesterfield.*

Bad'ito, in *Colorado,* a post-village of Huerfano co.

Bad'ly, *adv.* In a bad manner; not well; unskilfully; grievously; imperfectly.

Bad'ness, *n.* The state of being bad; evil; want of good qualities, either natural or moral; depravity.

"I did not see how the *badness* of the weather could be the king's fault."—*Addison.*

Badola'to, a town of S. Italy, prov. of Calabria Ultra, 24 m. S. of Catanzaro, on a hill near the sea; *pop.* 4,457.

Bad River, in *Michigan,* a stream of Saginaw co., which falls into the Shiawassee.

Bae'ca, a town of Spain. See BAEZA.

Bæhr, JOHANN CHRISTIAN FELIX, a distinguished German historian and philologist. B. at Darmstadt, 13th June, 1798. He was Professor of Classic Literature in the University of Heidelberg, and in 1845 was appointed Director of the Philological Seminary. His principal works are his edition of *Herodotus,* published in 1832–3 at Leipzig; a *History of Roman Literature,* of which the 3d edition was published at Carlsruhe in 1844, and a work on *Romano-Christian Theology* published in 1837.

Bael'-fire, *n.* See BALE-FIRE.

Bae'na, (anc. *Castra Viniana,*) a town of Spain, prov. of Cordova, 23 m. S.E. of Cordova, on the Marbella. Large salt mines are in the neighborhood. *Pop.* of town and district, 12,767.

Baependi, (*ba'ai-pain'de,*) a town and district of Brazil, 180 m. W.N.W. of Rio Janeiro; *pop.* of district abt. 9,000.

Ba'er, KARL ERNST VON, a distinguished Russian naturalist, B. in Esthonia, on 17th Feb., 1792. Educated at Dorpat, and in Germany. His chief works are *Epistola de Ovi Mammalium et Hominis Genesi,* (Leipzig, 1827); *Ueber die Entwickelungsgeschichte der Thiere,* ("On the Developmental History of Animals," 1828;) and, *Untersuchungen über die Entwickelungsgeschichte der Fische,* ("On the Development of Fishes,") published in 1835. He has since made valuable scientific investigations in Nova Zembla. D. 1876.

Baeza, or **Baeca,** (*ba-ai'tha.*) (anc. *Beatia,*) a city of Spain, prov. of Jaen, 20 m. N.E. of Jaen. It is a town of great antiquity, and was the residence of several Moorish kings, from whom it was wrested A. D. 1237. It was the birthplace of the 11,000 virgins who, with St. Ursula, were, according to the legend, slaughtered by the Huns at Cologne. — Near this town, the younger Scipio vanquished Hasdrubal, B. C. 208. *Pop.* 12,817.

Bae'za, a town of S. America, in Ecuador, on the Coca river, 90 m. E.S.E. of Quito.

Baffetas, Baf'tas, *n.* [Per. *baft,* woven, wrought.] (*Com.*) An India cotton cloth, or plain muslin.

Baffin, WILLIAM, an English navigator, B. 1584. His early life is enveloped in obscurity. In 1612, he made a voyage to attempt to discover the N.W. passage to China and India; of this voyage he wrote an account, and in the course of it adopted a method of determining the longitude at sea, by observations made on the heavenly bodies. In 1613, he made a voyage to Greenland, and in 1615, in company with Bylot, made another. The next year he acted as pilot to the latter, and, July 6th, discovered the large inland sea that has since borne his name. In 1621, he joined the English expedition, which, acting in concert with the Persians, was intended to eject the Portuguese from the Persian Gulf, where, at the siege of Kismis, a small fort near Ormuz, he was killed, 1622.

Baffin's Bay, or **Sea,** a large expanse of ocean lying between Greenland and the lands or islands on the N. of Hudson's Bay. On the N. it is entered by Smith Sound from the Polar Sea; on the S. by Davis' Strait from the Atlantic ocean; and on the W. by Jones' and Lancaster sounds from the Arctic ocean. It was discovered in 1615, by Baffin, *q.v.*; Lat. extending from 68° to 78° N., Lon. from 55° to 80° E.

Baf'fle, *v. a.* [O. Fr. *beffer;* It. *beffare,* to jeer, to banter. Etymol. unsettled.] To play the fool with; to frustrate. It has a frequentative force, that, namely, of repeated skilful counteraction. It follows, from the nature of skill, to be versatile, which demands versatility of counteraction. It is applied both to persons and their efforts or designs. To mock; to defeat; to perplex; to estop; to mar; to counteract; to foil; to balk; to neutralize.

"The art that *baffles* Time's tyrannic claim."—*Cowper.*

(*Naut.*) *A baffling wind* signifies a wind that is constantly changing about from one point to another.

—*n.* A defeat by artifice, shifts, or turns. (R.)

"It is the skill of the disputant that keeps off a *baffle.*"—*South.*

Baf'fler, *n.* One who baffles.

"Experience, that great *baffler* of speculation."—*Govt. of the Tongue.*

Baf'flingly, *adv.* In a baffling manner.

Baf'flingness, *n.* Quality or state of baffling.

Bag, *n.* [A.S. *bælg,* a bulge, a bag, the belly: Gael. *balg,* a bag, the womb, the belly.] That which bellies or bulges out; a sack; a pouch; a purse, to hold or convey anything; as, a *bag* of meal, or of gold.

"Once, we confess, beneath the patriot's cloak,
From the crack'd *bag* the dropping guinea spoke."—*Pope.*

—An udder or sac in animals, containing a fluid or other substance; as, the *bag* of poison attached to the mouth of some serpents.

"Sing on, sing on, for I can ne'er be cloy'd;
So may thy cows their hardened *bags* distend."—*Dryden.*

—*Specifically,* an ornamental silken purse tied to men's hair behind, or to a wig.

"We saw a young fellow riding toward us full gallop, with a hob-wig and black silken *bag* tied to it."—*Addison.*

(*Com.*) A certain quantity of a commodity put into a sack, such as it is customary to take to market; as, a *bag* of hops, or corn.

(*Scrip.*) (*Deut.* xxv. 13; *Luke* xii. 33; 2 *Kings* xii. 10.) Eastern money was often sealed up in bags containing a certain sum, for which they passed current while the seal remained unbroken.

(*Mil.*) Bags filled with sand or earth are used in field-fortification or other defensive works. — See SAND-BAGS.

Bag, *v. a.* To put into a bag; as, to *bag* game. — To capture, seize, or entrap; as, to *bag* an army. — To load with bags.

"Like a bee *bagg'd* with his honeyed venom,
He brings it to your hive."—*Dryden.*

—*v. i.* To belly out, or swell like a full bag.

"They drain two *bagging* udders every day."—*Dryden.*

Bagasse, (*ba-gäs',*) *n.* [Sp. *bagazo.*] The refuse of the sugar-cane left after the expression of the saccharine juice. It is used as fuel in heating the boilers and pans in the sugar-manufactory.

Bagatelle', *n.* [Fr., from *bague,* a trifle; from Lat. *bacca,* a berry.] A trifle; a thing of little or no importance.

"Heaps of hair, rings and cypher'd seals;
Rich trifles, serious *bagatelles.*"—*Prior.*

(*Games.*) A game somewhat resembling billiards. A bagatelle-table is usually about 7 feet long and 21 inches broad; it is lined with cloth, and a game is performed on it with balls and a cue or mace. The balls are small ivory spheres, and the sport consists in striking one or more into holes at one end of the board. To perform this and other feats, some skill and experience are required, and the sport is far from unamusing in a cheerful parlor circle.

Bagandæ, *n. pl.* (*Hist.*) An appellation given to the peasants of Gaul who rebelled against the Romans, A. D. 286. Their work was executed with fire and sword. "They asserted," says Gibbon, "the natural rights of man, but they asserted those rights with the most savage cruelty." For some time they obtained the ascendency, but were eventually subdued by Maximian. The term was subsequently applied to other rebels. — See PEASANT WAR.

Bag'dad, an important province, pashalic, or *eyalet* of Turkey in Asia, of triangular form, stretching N.W. from the bottom of the Persian Gulf in about 30° to 38° N. Lat., and lying between 40° and 48° E. Lon., having W. and S. the Euphrates and the Arabian desert; E., Kuzistan, Mount Zagros, and the Persian prov. of Azerbijan; N.W., the pashalic of Diarbekr; and on the N., Armenia and the territories of the Kurdish chief of Julamerik. This immense tract extends over an area of about 100,000 sq. m., and comprises the whole of the ancient *Babylonia* and *Chaldæa,* and the greater part of *Assyria Proper* and *Susiana.* Except where it is bounded on the W. by the Euphrates, the province is traversed in its whole extent by this great river and its rival the Tigris, and some smaller rivers. It is naturally divided into 3 portions, viz.: 1st. The country between the Arabian desert and the Euphrates; 2d, that between the latter and the Tigris, the *Mesopotamia* of the Ancients; and, 3d, the country to the E of the Tigris. That portion of Mesopotamia S. of the city of Bagdad is now called *Irak Arabi,* and that to the N. of Bagdad, *Algezirah,* or the island. The soil and aspect of the country differ widely in different parts. The tract lying between the two great rivers, one of the richest, best cultivated, and most populous countries of the ancient world, is now, in most parts, an absolute desert. The banks of the Euphrates and Tigris, once so prolific, are now for the greater part covered with impenetrable brushwood, while the interior, once irrigated by innumerable canals, is now destitute of either inhabitants or vegetation. The climate is hot, but cool in winter, and the *simoom* is prevalent. It would be easy, were the government less proverbial for imbecility and ignorance, to restore to this country some portion of its ancient prosperity. Few regions are blest with a finer soil, or are capable of being cultivated with less labor. Excellent crops of cereals are raised; and tobacco, cotton, hemp, and flax are also cultivated; dates, especially, are an object of much attention, their excellence approaching the quality of the Arabian fruit. The mountains in the E. and N. are covered with vast forests of oaks which produce the best gall-nuts brought from the East. Wild animals are common, and game and poultry abound. The present population consists of Turks, Arabs, Kurds, Turcomans, Armenians, and Jews, and probably number in the aggregate about 1,300,000. *B.* is only nominally subject to the Porte; the interior being governed by semi-independent Arab and Kurdish sheiks who frequently wage internecine war. They, however, pay a certain tribute to the Sultan, and are bound to furnish the pasha with a contingent of troops when needed.

BAG'DAD, a famous city of Turkey in Asia, long the cap. of the Caliphate, and now of the above prov., is seated on the Tigris; Lat. 33° 19′ 40″ N.; Lon. 44° 24′ 45″ E. It stands on both banks of the river, which is here about 620 ft. across. It is walled round and flanked at regular distances by towers, which were built by the earlier caliphs. The city is meanly built, with streets so narrow that where two horsemen meet they can barely pass each other. Few of the ancient buildings remain, but these few are far superior in elegance and solidity to the more modern structures. Of the former, the most worthy of notice are, the gate of the Talisman, a lofty minaret built in 785; the tomb of Zobeide, the most beloved of the wives of the great Haroun-al-Raschid. The famous *Madressa Mostomseroi,* or college founded in 1233 by the caliph Mostanser, and long tho most celebrated seminary in the East, still exists; but *quantum mutatus!* It is converted into a khan or caravansera, and its old kitchen into the custom-house! (*Niebuhr.*) Nothing remains of the old palace of the caliphs. *B.* was, until recently, a great emporium of trade, and was the resort of merchants from all parts of the East. Of late years, however, the trade of the city has declined, owing, principally, to the inability of the government to repress the attacks and exactions of the Arabs. The natives rank among the ugliest people in the Turkish empire. — *B.* was founded by Almanzor (*q. v.*) A. D. 763, out of the ruins of ancient *Ctesiphon.* It was greatly enlarged and adorned by Haroun-al-Raschid. It continued to flourish and to be the metropolis of learning and the arts until Feb. 20, 1258, when it was captured, after a siege of two months, by the Mongols, and Mostasem, the last of the Abassides caliphs, was put to death. Timour the Great sacked the city July 23, 1401, erecting on its ruins a pyramid of 90,000 human heads. Its Tartar rulers returned, but were expelled in 1417, by Kara Zoussouf. His descendants were, in 1477, replaced by Usnm Cassim, who was followed by the Suffite dynasty, of Persian origin, in 1516. The possession of *B.* was long contested by the Persians and the Turks, and among the numerous sieges it sustained may be mentioned those of 1534, when it was captured by Solyman the Magnificent; of 1596, when taken by Abbas the Great; of 1638, when it was taken by Amurath IV., 30,000 people being then ruthlessly massacred; and of 1740, when Nadir Shah was repulsed by Achmet, who rendered the pashalic independent of the Porte. *Pop.* about 40,000, principally Arabs and Turks.

Bag'dad, in *Kentucky,* a post-village of Shelby co., 13 m. W.N.W. of Frankfort.

Bag'dad, in *Tennessee,* a post-village of Smith co.

Bag'dad, in *Texas,* a post-village of Williamson co.

Bag'gage, *n.* [Fr. *bagage,* from O. Fr. *bagues,* jewels, goods, stuff.] Luggage, as the trunks, valises, carpet-bags, boxes, &c., containing the clothing and personal effects of a traveller. In England, these articles are usually termed *luggage;* in the U. States, *baggage.*

(*Mil.*) The whole furniture belonging to an army; that is, the camp-equipage, tents, clothing, and other necessaries. The soldier of ancient times was always heavily laden; and, in this respect, the ancient and modern systems present a striking contrast to each other. The modern soldier is freed from every unnecessary encumbrance: wagons are attached to each battalion for conveying the baggage, and no private soldier is allowed to carry anything except what his knapsack and other accoutrements can hold.

(*Law.*) Such articles of apparel, ornament, &c., as are of daily use for travellers, for convenience, comfort, or recreation. It is obvious that the term *B.* must comprehend an almost infinite number and variety of articles; but it has been held not to include specie beyond what the traveller might fairly expect to require for his expenses and necessary purchases for himself and family. It is well established that merchandise which one carries in a trunk without the knowledge of the carrier is not protected as *B.*, and if lost without any express fault of the carrier, he is not liable. But if a carrier knows that merchandise is included among *B.*, and does not object, he is liable to the same extent as for other goods taken in the due course of his business. See CARRIER.

—[From Provençal *bagasse;* Per. *baga,* a strumpet.] A strumpet; a low worthless woman; a camp-follower. — A playful, saucy woman.

Bag'gage-master, *n.* A person employed to take care of baggage upon a railway train.

Bag'gala, *n.* (*Naut.*) A two-masted Arab boat used for both commercial and piratical purposes about the Malabar coast and in the Red Sea. It is generally a fast-sailing craft of from 200 to 250 tons burden.

Bag'gesen, JENS, distinguished both as a Danish and a German poet; B. at Corsör, in Zealand, Feb. 15, 1764. He left his native country in 1789, and travelled over the greater part of Europe. At Paris, he witnessed the outbreak of the revolution; at Berne, he married a granddaughter of the great Albrecht von Haller. In 1811, he was appointed Professor of Danish literature at Kiel university, which he resigned in 1814. D. at Hamburg, 3d Oct., 1826. His chief German works are, *Parthenais, oder die Alpenreise,* an idyllic epos in hexameters; *Adam und Eva, oder die Geschichte des Sündenfalls,* a humorous epic, (1826.) Among his Danish writings, his lyrics and mock-heroic poems rank highest; his *Comiske Fortaellinger* ("Comic Tales") are, however, much admired. His complete Danish works were published at Copenhagen, in 12 vols., 1827–1832; his German, at Leipzig, in 5 vols., 1836.

Bag'ging, *n.* The cloth or materials for bags. The act of putting into bags.

(*Agric.*) A process in husbandry by which wheat, &c. is reaped with a sickle, or sharp-hooked instrument.

Bag'gy, *a.* Resembling a bag; loose like a bag; as, a *baggy* pair of pants or trousers.

Bag'man, *n.* A commercial traveller who is employed to solicit orders for manufactures, goods, &c. — Equivalent to *drummer,* as used in the U. States.

Bagna Caval'lo, a town of Central Italy, prov. of Ravenna, on the Sino, 12 m. W. of Ravenna. Large quantities of hemp are raised in the vicinity. *Pop.* 14,879.

Bagna Lon'ka, or BANGALUKA, a town of European Turkey, in Bosnia, cap. of a sandjak, 30 m. S. of Gradiska. Splendid horses are bred in the town and neighborhood. *Pop.* about 7,700.

Bagna'ra, a town and sea-port of S. Italy, prov. of Reggio, and 16 m. N.E. of that city. It has a large trade

in Muscat wine produced in its vicinity. *B.* is supposed to be the *Portus Orestis* of the ancients. *Pop.* 9,390.

Bagnères de Bigorre, (*ban'yair de be-gor'*,) a town of France, dep. of Hautes Pyrenees, at the foot of the Pyrenees Mountains, 13 m. S.S.E. of Tarbes, 465 m. S S.W. of Paris; Lat. 43° 3′ N.; Lon. 0° 8′ E. This town, situated near the beginning of the valley of Campan, on the river Adour, is the resort of those who seek for health and pleasure. It owes its attractions to the beauty of its situation and the celebrity of its medicinal waters. There are about 70 baths, the temperature of which varies from 72° to 124° Fahr. The waters are clear, without any particular taste, and aperient and tonic. The annual visitors are estimated at 15,000. *Pop.* 9,086.

Bagnères de Luçon, (*loo-zong'*,) a town of France, dep. of Haute-Garonne, in a valley of the Pyrenees Mountains, 75 m. S.S.W. of Toulouse, and 513 S. by W. of Paris. There are here celebrated sulphurous thermal springs and a splendid bathing establishment. The waters are diuretic, and of great efficacy in cutaneous diseases. Their smell is like that of rotten eggs, and they appear to have been used by the Romans. The view of the summit of Maladetta, in the Spanish territory, and the cascades formed by the mountain torrents, give great interest to the surrounding country. *Pop.* 3,582.

Bagnes, *n. pl.* [Fr., probably from BAGNIO, *q. v.*] The name applied in France to those prisons in which are lodged and enforced to hard labor persons who commit offences amounting to specific crimes, and who are condemned to the *Travaux publies*, q. v., a penalty formerly called *Galères*, or "Galleys." There were three establishments of this class in France, viz., at Brest, Rochefort, and Toulon. That of Brest was the first to be abolished, succeeded by the others. The Bagnes superseded the old punishment of the galleys in 1748, and in 1852, they were themselves abolished, and transportation to Guiana substituted, the choice being left to those in prison at the time, to remain, or be transported. After the fall of the Commune in Paris, in 1870, many of the communists were transported to Cayenne.

Bagnes-le-Chable, (*ban'le(r)shabl*,) a parish and village of Switzerland, canton of Valais, 7 m. from Martigny. They are situate in the valley of Bagne, 2,706 feet above the sea. In 1818, the river Drause being blocked up with ice, a lake was formed; and when it burst, the torrent swept away 400 cottages, and 34 lives were lost.

Bag'-net, *n.* (*Sport.*) A net shaped like a bag, used in fishing.

Bagnio, (*băn'yo.*) *n.* [It., from Lat. *balneum*, a bath or bathing-place.] This word was applied by the Europeans trading with the Levant, to the prisons in which were shut up for the night the slaves or convicts who were made to work in the docks, and at other public works, in Constantinople, Algiers, and other cities of Turkey or Barbary. — From it the French have taken their word *Bagne*, applied to a convict prison. — In England, the term was formerly used for a bathing-establishment, and also for a house of ill-fame.

"I have known two instances of malignant fevers produced by the hot air of a *bagnio*."—*Arbuthnot.*

Bagnolen'sians, or **Baiolen'sians,** *n. pl.* (*Eccl. Hist.*) A Manichæan sect, so called from Bagnols, in Langnedoc, where they arose in the 8th century. — Another sect, bearing the same name, a branch of the Cathari, arose in Provence during the 12th century.

Bagnoli, (*ban'yo-le*,) a town of S. Italy, prov. of Sannio, 9 m. S.W. of Trivento. *Pop.* about 5,000.

Bagn'olo, a town of S. Italy, prov. Principato Ultra, on the declivity of Monte Cabello, 3 m. S.W. of San Angelo de Lombardi. *Pop.* about 5,200.

Bagnols, (*ban'yols*,) a town of France, dep. Gard, cap. of a canton, 25 m. N.N.E. of Nismes; *pop.* 5,561.

Bagolino, (*ba'yo-le'no*,) a town of N. Italy, prov. of Brescia, on the Caffaro, 24 m. N.N.E. of Brescia. It has manufactures of iron and steel. *Pop.* 4,345.

Bagot, a central co. of Quebec; *pop.* 19,491.

Bag'pipe, *n.* (*Music.*) A wind instrument of high antiquity among the northern nations, and which has so long been a favorite with the natives of Scotland, that it may be considered as their national instrument. It consists of two principal parts: the first comprises a leather bag which receives and holds the wind conveyed to it by a small tube, furnished with a valve, to prevent the wind from returning. The second part of the instrument consists of three pipes: the great pipe or *drone;* a smaller pipe, which emits the wind at the bottom; and a third with a reed, through which it is blown. The wind is forced into the pipes by compressing the bag under the arm, while the notes are regulated, as in a flute or hautboy, by stopping and opening the holes, which are eight in number, with the ends of the fingers. It is not known when the bagpipe first found its way into Scotland, but it is probable that the Norwegians and Danes first introduced it into the Hebrides, which islands they long possessed. In Rome, at the time of Advent, the peasants of the mountains play on the bagpipe before the images of the Virgin. In France, where it is called *musette*, it is the favorite instrument of the Auvergnats. The music is very simple, and yet sweet; and every traveller remembers it with delight. The earliest representation of this instrument occurs in a terra-cotta discovered at Tarsus, and supposed to date from B. C. 200. It was known to the Romans, and probably to the Greeks, and appears in a bas-relief of a Persian concert of the 6th century, A. D.

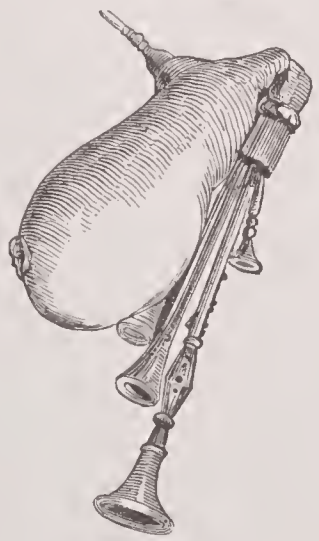


Fig. 265. — ITALIAN BAGPIPE.

Bag'piper, *n.* One who plays on a bagpipe. — The Queen of Great Britain, and the heads of the principal Scottish families of rank, have a piper in their respective households.

Bagra'tion, PETER, PRINCE, a Russian general, B. 1762. He served as colonel in Italy and Switzerland under the celebrated Suwarrow, by whom he was held in high estimation. On April 10, 1799, he captured Brescia. On his return to Russia, both *B.* and Suwarrow fell into disgrace with the Czar Paul I.; but under that monarch's successor, he was reinstated in his rank, and commanded the advance-guard of the Austro-Russian army led by Kutusoff, under whom he performed prodigies of valor. As lieutenant-general, *B.* commanded the advance-guard at Austerlitz under the Prince of Lichtenstein, and in the subsequent campaigns fully sustained his high reputation. He took part in the campaign of 1812, but was mortally wounded at the battle of Moskwa (Borodino), and died the same year.

Bag'reef, *n.* (*Naut.*) In the English navy, a fourth or lower reef.

Bag'shot Sand, *n.* (*Geol.*) A series of lower tertiary beds consisting chiefly of light yellow sands reposing on the London clay. It corresponds to the BRACKLESHAM BED, *q. v.*

Bagnette, (*ba-gĕt'*,) *n.* [Fr., a little road.] (*Arch.*) A small astragal moulding, sometimes carved and enriched with pearls, ribbons, laurels, &c. When the *B.* is thus enriched, it is called *chaplet*, and when unornamented, *bead.*

Bagulcot', a subdivision of the district of Darwar, in Hindostan, prov. Beejapore, and presidency of Bombay, comprising the *pergunnahs* Bagulcot, and Badamy. *B.* is 54 m. long by 44 broad, with an area of about 1,230 sq. m. It is a fertile country, but badly watered, and formerly belonged to the Mahrattas, who transferred it to the English in 1818. *Pop.* about 100,000.

BAGULCOT, a town, and cap. of the above district, and of a *pergunnah.* It is the residence of the principal merchants and bankers. *Pop.* about 9,000.

Ba'gur, an inland division of Hindostan, lying between the prov. of Malwa and Gujerat, in about 24° N. Lat., and 74° E. Lon. It is a hilly country, and mostly covered with thick low jungles of teak, black-wood, &c. It is badly watered, and generally unhealthy. The population consists of Bheels and Meenas, under various petty chiefs. *Prin. towns.* Doongurpooz and Banswarra.

Bah, *interj.* Pah! — An exclamation expressing disgust, contempt, or ironical surprise implying disbelief.

Baha'la Creek, in *Mississippi*, enters Pearl River in Laurence co.

Baha'la, in *Mississippi*, a village of Copiah co., 50 m. S. of Jackson.

Baha'ma, or **Lucay'o Islands,** in the W. Indies, a chain of islands stretching in a N.W. direction from the N. side of San Domingo to the coast of E. Florida, and belonging to the British. Lat. from 21° 23′ to 27° 50′ N.; Lon. 70° 30′ to 79° 5′ W. It is composed of innumerable rocks, islets (called *keys*), and islands, of which not more than 12 or 14 are inhabited: these are New Providence, Turk's Island, Eleuthera, Exuma, Harbor Island, Crooked Island, Long Island, St. Salvador, Caicos, Watling's Island, Rum Key, and Great Inagua. Great Bahama and Lucayo, now called Abaco. *Area* 3,021 sq. m. St. Salvador, called by the Indians Guanhami, was the first land seen by Columbus on his first voyage in 1492. — When the Bahamas were discovered, they were found to be peopled by a numerous, mild, and happy race of Indians. However, as the islands produced no gold, the Spaniards did not form any settlements on them, but carried the natives over to Hispañiola to work the mines, or act as divers in the pearl-fisheries of Cumana, and thus, in about 14 years, the whole race became entirely extinct. — The Bahamas remained uninhabited till the year 1629, when New Providence was settled by the English, who held it till 1641, and were then expelled by the Spaniards, who destroyed the colony. It was again colonized by the English in 1666, and continued in their hands till 1703, when a combined force of French and Spaniards destroyed Nassau, and obliged the inhabitants to seek refuge by flight. Some, however, who remained, were rendered desperate by their recent sufferings, and the place became a rendezvous for pirates, who became so notorious, and committed such depredations in the adjacent seas, that the British determined to suppress them, and re-settle the colony. This took place in 1718, and shortly afterwards settlements were formed on some of the other islands; Nassau itself (the town of New Providence) was fortified in 1740. Providence was taken by the Americans in 1776, who abandoned it shortly afterwards. In 1781, all the *B.* were reduced by the Spaniards, and were formally ceded in 1783 to the English, in whose possession, along with the other islands, they have since remained.—Nassau is the capital, and the residence of the governor. — The principal islands are situated on those remarkable flats called the Bahama Banks, of which the Great Bank (lying at the western extremity of the archipelago) occupies an extent of 300 miles in length N.W. and S.E., and 80 in breadth; the deepest water on any part of this bank is thirty feet, but the patches of coral rock and dry sand are innumerable. These banks rise almost perpendicularly from an unfathomable depth of water, and are formed of coral, with an accumulation of shells and calcareous sand. The character of the islands is generally long and narrow, low, and covered with a light sandy soil, their figure and surface throughout being nearly the same. At the greatest depth yet reached by digging, nothing has been found but calcareous rock, with an intermixture of shells.—The soil is mostly light or sandy, but is here and there spotted with patches of good land, producing cotton, Indian corn, pine-apples, and vegetables. In general, the *B.* are ill supplied with fresh water; but this is found, however, by digging wells in the rocks to the depth of the sea-level. — *Climate.* Salubrious. The more northern islands, during the winter months, are rendered cool and agreeable by the N.W. breeze that blows from off the continent of America; the more southern are hotter throughout the year, being low, barren, and rocky. — The *area* of the whole is 3,021 sq. m. — The velocity of the Gulf Stream is at its maximum between the *B.* and the Florida shore, running at the rate of 5 or 6 m. an hour.—*Com.* The chief exports are arrow-root, cabinet-woods, cascarilla bark, fruit, salt, shell, sponges, &c. The *population*, which was 43,521 in 1881, had increased to 47,565 in 1891.

BAHAMA CHANNEL, the name sometimes given to the *Gulf of Florida*, the narrow sea between the coast of America and the *B.* Islands, 135 m. long, and 46 broad.

Ba'har, or **Be'har,** a western and large territory of British India, under the rule of the lieutenant-governor of Bengal. It lies chiefly between 22° and 27° Lat. N. and 83° and 87° Lon. E.; having on the N. Nepaul, W. Oude, Allahabad, and part of Gundwana; S. the latter prov., and on the E. Bengal. *Area*, 53,744 sq. m. The Ganges runs a course of 200 m. through the prov. from W. to E., dividing it into two nearly equal parts. The climate is temperate, and frosts are rare, but during the cold seasons the thermometer often ranges from 35° to 70° Fahr. in the course of the day, among the hills; and the winds are very bracing to European constitutions. Agriculture, commerce, and manufactures have always been in a comparatively flourishing state in this prov.; partly from its central position, and easy internal communications, and through being a thoroughfare for the trade of Bengal with the Upper Provinces; and partly from its fruitfulness and natural fitness for tillage. Here, however, as well as in Bengal, only about one-third part is supposed to be under cultivation. Opium, a staple commodity of the prov., is perhaps the best produced in India. Indigo, sugar-cane, betel, tobacco, and grain of all kinds are largely cultivated.—Bahar now comprises the two divisions of Patna and Bhangulpore (Bhagalpur or Boglipoor) with their several subdivisions. The chief city is Patna. The city of Gaya was the birthplace of Buddha, but no Buddhists now remain in the prov. The natives have a fine physical appearance, but are inferior to their Bengal neighbors in cleanliness and domestic economy. In the S. parts, agriculture is wholly carried on by slaves; and many of these consist of individuals who, by a practice peculiar to this prov., mortgage their labor until able to redeem a debt; a smaller part of the pop. are Mohammedans. This prov. is supposed to have anciently formed two independent sovereignties—that of Mathila in the N., and Magadha in the S.; and distinct languages continue to be spoken in them. It was acquired by the English, from Cossim Ali, in 1765. *Pop.* ab. 24,300,000.

Ba'har, a district, or zillah, occupying the central part of the above prov.; *area*, 5,235 sq. m.; *prin. towns*, Bahar and Gaya: *pop.* about 3,000,000.

Bahar', or **Barre',** *n.* [Ar. *bahâr*, from *bahara*, to charge with a load.] (*Com.*) An East Indian weight, ranging from 223 to 625 lbs., it varying considerably according to the locality in which it is used.

Ba'har, [Skr. *vihar*, a monastery of Buddhists,] a decaying town of Hindostan, in the district of the same name; Lat. 25° 13′ N.; Lon. 85° 35′ E.; 35 m. S.E. of Patna. *Pop.* about 30,000.

Bah'arites, *n. pl.* (*Hist.*) The first Mameluke dynasty that reigned in Egypt, were descended from Turks sold to slavery by the Tartars. They began to reign in 1244, and the last Sultan of the race was expelled by the *Borgites* or Circassians, the 2d Mameluke dynasty of Egypt, in 1381, after having reigned 137 years. — See BORGITES.

Bahawulpoor, or DOADPOOTRA, (*bawl'poor*,) a territory of Hindostan, between Lat. 28° and 30° N., and Lon. 70° and 74° E.; having N. Punjaub; E. the Bicanere territory (*Rajpootana*); S. and S.W. Jaysulmere and Scinde. Its N.W boundary is for the most part formed by the Sutlej river. The banks of this river are everywhere fertile, but the rest of the territory toward the E is a mere desert. The inhabitants are chiefly Juts and Beloochees, who profess Mohammedanism. They are fair and handsome races, and apparently in a better condition than some of their neighbors. *Prin. towns.* Bahawulpoor, Ahmedpoor (residence of the chief), Julalpoor, Seedpoor, and Ooch. *B.* was taken from the Moguls by the Persians, and after the death of Nadir Shah, belonged to Cabul, to which kingdom he was tributary as long as the monarchy lasted. The three last rulers have been nearly independent; but the political power of the country has been broken by the Sikhs, and the rajah of the Punjaub only spared it on condition of receiving an annual pecuniary tribute.

BAHAWULPOOR, the anc. cap. of the above territory, near the Sutlej river, 320 m. W.S.W. of Delhi, Lat. 29° 31′ N., Lon. 72° 10′ E., at the junction of the road leading from Bombay and Calcutta to Cabul.

Bahia, (*ba-ne'a.*) [Pg. and Sp., "Bay."] A maritime prov. of Brazil, on the E. coast, extending from about 9° to 15° 45′ S. Lat. It derives its name from *Bahia de Todos os Santos*, or All Saints' Bay, *q. v.*, and is bounded N. by the provinces of Sergipe and Pernambuco (from the latter of which it is divided by the Rio Sau Francisco); on the S. by Porto Seguro and Minas Graes; on the W. by Pernambuco, — though still separated by the Rio Sau Francisco, — and on the E. by the ocean. Its estimated length is about 480 m., and its breadth from 150 to 200. *Area*, 127,911 sq. m. The province is divided into three comarcas; viz., Bahia, Jacobina, and Ilhoes.—*Desc.* Three mountain ranges traverse this prov. from S.W. to N.E.; viz., the Serras Cincora, Giboya, and Itabayana. The Serra de Montequevia forms the chief ridge in the interior. Bays and inlets abound along the coast, among which the most noticeable is All Saints' Bay. The Rio San Francisco is the principal river.— *Soil and Prod.* *B.* possesses a soil admirably adapted to the culture of the sugar-cane, and also of tobacco. The sugar it produces bears a high character for its excellent quality, which is sufficiently evidenced by the fact that *B.* exports more of this article of consumption than the rest of Brazil all put together. In cotton, *B.* has already become a formidable rival to Pernambuco. It also produces superior rice; coffee (excelled, however, by that of Rio de Janeiro); and Brazil-wood, equal to that of Pernambuco. *Pop.* about 1,400,000.

Bahia, or San Salvador, cap. of above prov., within Cape San Antonio, which forms the right or E. side of All Saints' Bay, 880 m. N.E. of Rio. Lat. 13° 0′ 7″ S.; Lon. 38° 31′ 7″ W. It was founded about 1549, by Tomas de Souza, the first captain-general of Brazil, and was, until 1763, the capital of the colony. But though now inferior to Rio de Janeiro (the present capital), in population and commercial importance, *B.* is still one of the largest and most important cities of S. America, and as respects the number and beauty of its public buildings, it ranks first among the cities of the empire. *Pop.* about 180,000.

Bahi'a Blan'ca, an inlet of the Atlantic, on the E. coast of S. America, 360 m. S.W. of Buenos Ayres

Bahi'a Hon'da, a large and well-sheltered seaport of the island of Cuba, on its N. coast, 60 m. W.S.W. of Havana.

Bahr, (*bär.*) the Arabic word for the sea, a lake, or a large river, appears as a component part of many proper names in Eastern geography: *Bahr-al-Kolzum*, "the Sea of Kolzum," *i. e.* the Arabian Gulf, or Red Sea, especially its north-western extremity (the Sinus Heroopolites); *Bahr Lût*, "the Lake of Lot," *i. e.* the Lacus Asphaltites, or Dead Sea, in Syria; *Bahr-el-Abiad*, "the White River," and *Bahr-el-Azrak*, "the Blue River." The diminutive of *Bahr* is *Boheirah*, or *Boheirat*, "a small lake," which is likewise found occasionally in maps or books of travels relating to the geography of the East; as *Boheirat Tabariyah*, "the Lake of Tiberias." It has passed into the Portuguese language under the form *Albufeira*, "a reservoir, a tank, a lagoon;" and into the Spanish under the two forms *Albufera* and *Albuhera*, in the same sense. The prefixed *el* in these words is the Arabic definite article; and it is a general remark that the letter *h* of many Arabic words that have been received into the Spanish and Portuguese languages, has been changed into *f*.

Bahr-el-Abiad, (*bar'-el-a'be-ăd,*) [Ar., "White River,"] more commonly called Abiad Bahrel, *q. v.*— See also Nile.

Bahr'-el-As'rek. [Ar., "Blue River."] See Nile.

Bah'reiu, (anc. *Tylos,*) a group consisting of one large and several smaller islands, in the Persian Gulf, since 1861, under British protection, in a bay near the Arabian shore, between Lat. 25° 45′ and 26° 16′ N., and Lon. 50° 15′ and 50° 20′ W.—The principal are named Bahreiu or Aval, Arad, Maharag (residence of the Bey), and Tamahoy. — The first is considerably larger than the others, being 27 m. long and 10 broad; it lies about 15 m. from the coast, 90 miles from Bushire, and has the town of Manama for its capital. It produces wheat and dates, and other fruits. Its pearl fishery is the most productive in the world, its annual value being from $500,000 to $1,000,000. — *Pop.* of the whole group about 60,000, composed of a mixed breed between the Persians and Arabs, but possessing more of the indolence and cunning of the former than of the bold frankness of the latter.

Baiæ, (*bai'i-e,*) a famous marine watering-place of ancient Italy, was seated on the W. shore of the Bay of Naples, 8 m. W. of that city, and 2½ m. N. of Cape Misenum. It was indebted for its rise and celebrity to a variety of circumstances, to the softness of its climate, the beauty of its situation,—

"Nullus in orbe sinus Baiis prælucet amœnis," —

the abundance of its hot springs, which gave to the Romans, who were passionately fond of the bath, the opportunity of indulging in that luxury in every form desirable. *B.* seems to have come into fashion previously to, or about the æra of Lucullus, who had a splendid villa here, as had, also, Cæsar, Pompey, and Augustus; and it continued to increase in popularity, and to be a favorite resort of the emperors and of the affluent voluptuaries of Rome till the eruption of the barbarians under Theodoric the Goth. The town was built origiually on the narrow strip of ground between the hills and the sea; but as this space was of very limited dimensions, after *B.* became a fashionable resort, the foundations of its streets and palaces were projected into the bay itself. This is alluded to by Horace. No sooner, however, had opulence been withdrawn from it, than the sea gradually resumed its old domain: moles and buttresses were torn asunder, washed away or tumbled headlong into the deep, where, several feet below the surface, pavements of streets, foundations of houses, and masses of walls may still be descried. Earthquakes and other natural convulsions have also largely contributed to the destruction of *B.*, of which only a small portion of the ruins now remains.

Bai'bout, or **Baibur'di,** (anc. *Varullia,*) a town of Asiatic Turkey, in the pashalic of Erzeroum, on the Tchorokhi, 62 m. W. by N. of Erzeroum; *pop.* abt. 4,000.

Bai'ersbronn, a village of Würtemberg, in the Black Forest, 40 m. W.N.W. of Stuttgart; *pop.* 4,626.

Bai'kal, (Lake,) sometimes called the *Sviatore More* ("Holy Sea,") a lake of Siberia, in the govt. of Irkutsk, between 51° and 56° N. Lat., and 103° and 110° E. Lon. Its greatest length in a N.N.E. and S.S.W. direction is nearly 400 m., and its extreme breadth about 60. It is of very unequal depth. It is situated in a mountainous country, and receives several considerable rivers, while its surplus water is carried off by the Angara, an affluent of the Yenesei. The fisheries are very valuable; great

Fig. 266.— A VIEW ON LAKE BAIKAL, (*Eastern Siberia.*)

numbers of seals are taken, also sturgeon and salmon; but the grand object of the fishery is the *omul*, a sort of herring (*Salmo autumnalis, vel migratorius*) taken in vast numbers (about 3,600,000 pounds annually) in Aug. and Sept., when it ascends the rivers. The most singular fish belonging to the *B.* is the *golomynka* (*Callyonimus Baicalensis*) from 4 to 6 inches in length, and so very fat that it melts before the fire like butter. The surface of the lake is frozen over from Nov. to the end of April or the beginning of May.

Bail, *n.* [O. Fr. *bailler*, from Fr. *bail*, a giving over or granting; It. *balia*, power, authority: Lat. *bajulus*, a bearer, one who bears authority.] (*Law.*) The delivery of a person to another for keeping, used in reference to one arrested, or committed to prison, upon either a civil or criminal process; and he is said to be *bailed*, when he is delivered to another, who becomes his surety in bonds, (to a greater or less amount, according to the amount of the demand for which he is sued, or the heinousness of the crime with which he is charged,) for his appearance at court to take his trial. Bail is either *common* or *special*; the former being merely fictitious, whereby nominal sureties, as John Doe and Richard Roe, are feigned to be answerable for the defendant's appearance at the court to which he is cited. Special bail is that of an actual surety. The laws of the U. States, and of the several States, allow of bail to be given in all civil processes, whatever may be the amount of damages which the defendant may be called upon to answer in the suit; and the jealousy of personal liberty, so congenial to the American institutions, has introduced a provision into some of the constitutions, that excessive bail shall not, in any case, be demanded; and when the defendant, or party charged with a crime, for which he is arrested, considers the bail demanded to be excessive, he may, by habeas corpus, or other process or application, according to the provisions of the laws under which he is arrested, have the bond reduced to a reasonable amount. In respect to bail, the act of Congress, 1789, c. 20, s. 33, provides, that, "upon all arrests, in criminal cases, bail shall be admitted, except where the punishment may be death, in which case it shall not be admitted, except by the supreme or circuit court, or by a justice of the supreme court, or a judge of the district court, who shall exercise their discretion therein." The laws of the several States are generally equivalent, or substantially so, to this Act of Congress, on the subject of bail. The party hailed is considered to be in the custody of his bail or sureties, who may seize and deliver him up to the court, and thus discharge themselves from their responsibility.

(*Games.*) The top-piece which crosses the wicket, in the game of cricket.

—The handle of a kettle or similar utensil.— A division between the stalls of a stable; as, "a swinging *bail*."— In England, a certain boundary within a forest.

—*v. a.* To deliver over to the control of a surety; to set free or liberate from custody, as an offender, on security for his reappearance. — To deliver goods in charge. (*Naut.*) To free from water; as, to *bail* a boat.

Bail'able, *a.* That may be bailed; that may be set at liberty by bail or sureties; — used of persons.

"He 's *bailable*, I 'm sure."—*Ford.*

—That admits of bail; as, a *bailable* offence.

Bail'-bond, *n.* (*Law.*) A boud given by a prisoner and his surety for his reappearance when called upon.

Bailee', *n.* [O. Fr. *baillé.*] (*Law.*) One to whom goods are bailed; the party to whom personal property is delivered under a contract of bailment. — See Bailment.

Bail'er. The same as Bailor, *q. v.*

Bai'ley, *n.* [L. Lat. *ballium.*] In England, originally, a court within a fortress; now, sometimes applied to a prison or court of justice; as, the *Old Bailey* in London; the *New Bailey* in Manchester.

Bailey, Philip James, (*bai'le,*) an English poet, b. at Nottingham, 1816. His "*Festus*," published in 1839, was highly successful. He has since published the *Angel World*, the *Mystic*, the *Age*, &c., but *Festus*, notwithstanding the peculiarity of many of the sentiments with which it is disfigured, remains his best work.

Bai'ley Hol'low, in *Pennsylvania*, a post-office of Lackawanua co.

Bai'leysburg, in *Pennsylvania*, a village of Perry co., on the Juniata river, 23 m. N.N.W. of Harrisburg.

Bai'leysburg, in *Virginia*, a village of Surry co., about 50 m. S.S.E. of Richmond.

Bai'ley's Creek, in *Missouri*, a P. O. of Osage co.

Bai'ley's Harbor, in *Wisconsin*, a post-township of Door co., on Lake Michigan.

Bai'ley's Mill, in *Florida*, a post-office of Leon co.

Bai'ley's Mills, in *Ohio*, a post-office of Belmont co.

Bai'leytown, in *Indiana*, a village of Porter co., 14 m. N. by W. of Valparaiso.

Bai'leyville, in *Illinois*, a post-office of Ogle co.

Bai'leyville, in *Maine*, a post-township of Washington county, 80 m. E.N.E. of Bangor, on the St. Croix river.

Bai'lie, *n.* [Scottish.] A municipal officer in Scotland, corresponding to an *alderman* in England; as "*Bailie* Nicol Jarvie." — *Sir Walter Scott.*

Bailieborough, (*bai'le-bur'o,*) a market-town and parish of Ireland, standing at the head of the Blackwater river, co. Cavan.

Bail'iff, *n.* [Fr. *bailli*, formerly an inferior judge; from Lat. *ballivas*, *bagalus*, a governor, tutor, or superintendent.] In England, a subordinate officer, or deputy, to whom authority or jurisdiction is delegated or delivered by the sheriff of a city or county, to make arrests, collect fines, summon juries, &c.; a deputy sheriff. — An under-steward or overseer, who has charge of an estate, superintends all husbandry operations, and who sometimes collects the rents due to the land-owner. — There are also *B.* of forests, and those to whom the Queen's castles are committed; as, the *B.*, or Constable of Dover Castle.

Bail'iwick, *n.* [*Bailiff*, and A.S. *wic;* Fr. *bailliage.*] The extent or limit of a bailiff's jurisdiction, or authority.

Bailleul, (*bai'yu(r)l.*) a town of France, dep. Nord, 16 m. W.N.W. of Lille, on the railway to Dunkerque. — *Manf.* Cotton cloth, lace, paper, &c. *Pop.* about 11,000.

Bail'lie, Joanna, a distinguished English poetess, b. 1762. In 1798, she published her first work, called *A Series of Plays.* Others followed in rapid succession. In 1810, her romantic play, the *Family Legend*, was acted in Edinburgh, Mrs. Siddons taking the principal female part. In 1836 appeared her series of *Plays on the Passions.* In addition, she produced many poems of much excellence. D. at Hampstead, near London, 23d Feb., 1851.

Bail'lie, Matthew, m. d., brother of the preceding, and one of the most distinguished anatomists and pathologists of his time; b. 1761. In 1810, he was appointed physician to George III., and in 1820, President of the Royal College of Physicians. D. 23d Sept., 1823, and was buried in Westminster Abbey, where a fine monument has been erected to his memory. *B.*'s greatest work, *The Morbid Anatomy of the Human Body*, appeared in 1795.

Bai'llon, *n.* [Fr.] (*Sur.*) An instrument used for keeping the mouth of a patient open, during an operation.

Bail'lot, Pierre, the most celebrated of modern French violinists, was b. at Passy, in 1771. In 1833 he published his *Art du Violin*, which conveys the whole principles of the French school of violin-playing, and has amalgamated into a complete style its various excellences. D. at Paris, 1842.

Bailly, Jean Sylvain, (*bai'ye,*) a distinguished French astronomer, b. at Paris, 1736. In 1766, he published a work on the satellites of Jupiter. His historico-scientific works, especially his *History of Indian Astronomy*, are full of learning and ingenious disquisition, and written with great elegance. In 1777, he published his *Letters on the Origin of the Sciences;* and in 1799, his *Atlantis of Plato.* In 1784, he was elected a member of the Académie Française; and in the following year, of the Académie des Inscriptions. He entered eagerly into the political discussions of his country, and was chosen President of the first National Assembly. In June, 1789, he presided at that meeting of the deputies at the Tennis-court, when all took oath not to dissolve until they had prepared a new constitution for France. In the following month he was made mayor of Paris, but soon lost his popularity, owing to the liberal sentiments which he expressed towards the royal family, and his enforcing obedience to the laws. In consequence of this, he resigned his office in 1791, and sought that philosophical retirement for which he was so much more suited. In the sanguinary period which followed, he was apprehended, and after a summary process, condemned to be guillotined. He was, accordingly, executed Nov. 11,

1793.—When on the scaffold, the demeanor of this philosopher is said to have been perfectly tranquil. "You tremble, Bailly," said one of his enemies to him. "My friend, it is with cold," was the calm reply.

Bail'ment, *n.* [O. Fr. *bailler*, to deliver.] (*Law.*) The delivery of a thing to another to keep, either for the use of the bailor, or persou delivering, or for that of the bailee, or person to whom it is delivered. A bailment always supposes the subject to be delivered only for a limited time, at the expiration of which it must be redelivered to the bailor; and the material inquiries, in cases of bailment, relate to the degree of responsibility of the bailee in regard to the safe-keeping and re-delivery of the subject of the bailment. This responsibility will depend, in some degree, upon the contract on which the bailment is made. If a thing is delivered to the bailee to keep, without any advantage or use to himself, or any compensation, but merely for the benefit of the bailor, he is auswerable only for gross negligence; but if the bailment is for the mutual benefit of both parties, the thing must be kept with the ordinary and usual care which a prudent man takes of his own goods; but if it be delivered for the benefit of the bailee only, he must exercise strict care in keeping it, and will be auswerable for slight negligence. A special agreement is made in many cases of borrowing or hiring, specifyiug the risks assumed by the borrower or hirer; and, in such case, his obligations will be determined by his stipulations. Pledging and letting for hire are species of bailment.—See LIEN.

Bail'or, *n.* (*Law.*) He who bails a thiug to another. See BAILMENT.

Bail'-piece, *n.* (*Law.*) A certificate given by a judge, or the clerk of a court, or other person authorized to keep the record, in which it is certified that the bailor became bail for the defendant in a certain sum and in a particular case.

Bail'y, EDWARD HODGES, R. A., a celebrated English sculptor, B. at Bristol, 10th Mar., 1788. He studied under Flaxman, and early made himself a popular favorite. His finest works are, *Hercules casting Lycidas into the Sea; Apollo discharging his Arrows; The Three Graces; Psyche; Girl preparing for the Bath;* and *The Graces Seated.* D. May 22, 1867.

Bail'y, FRANCIS, a distinguished English astronomer, and mathematician, B. 28th April, 1774. He was the son of a London banker, and himself, up to his 51st year, pursued the business of a stock-broker, and accumulated a large fortune. From this time he devoted himself to the study of astronomy and physics, and produced able treatises on *The Determination of the Length of the Pendulum; The Determination of the Density of the Earth,* &c. The *Doctrine of Life Annuities and Assurances Analytically Investigated and Explained*, was also the production of his pen, and is esteemed a standard work on the subject of which it treats. D. in London, 1844.

Bain, (*bäng,*) a town of France, dep. Ille et Vilaine, 18 m. from Rennes; *pop.* 4,211.

Bain'bridge, WILLIAM, an American commander, B. in Princeton, N. J., 1774. He became a captain in 1800; served in the war against Tripoli; and, on Dec. 26, 1812, captured the British frigate Java, of 49 guns, after a severe action in which the English lost 174 and the Americans 33 men. D. 1833.

Bain'bridge, in England, a township in the parish of Aysgarth, North Riding of the co. of York, on the Ure. It is celebrated for its picturesque scenery.

Bain'bridge, in *Georgia*, a post-village, cap. of Decatur co., on the Flint river, 188 m. S.W. of the city of Milledgeville.

Bain'bridge, in *Illinois*, a township of Schuyler county.

—A post-village of Williamson co., about 170 m. S. by E. of Springfield.

Bain'bridge, in *Indiana*, a township of Du Bois county.

—A post-village of Putnam co., 36 m. W. of Indianapolis.

Bain'bridge, in *Kentucky*, a P.O. of Christian co.

Bain'bridge, in *Michigan*, a post-village and township of Berrien co., 15 m. N. by E. of Berrien.

Bain'bridge, in *Missouri*, a village in the E. part of Cape Girardeau co., 14 m. E. by N. of Jackson.

Bain'bridge, in *New York*, a flourishing post-village and township of Chenango county, on the Susquehanna river, 104 miles W.S.W. of the city of Albany.

Bain'bridge, in *Ohio*, a post-village of Paxton township, Ross co., on Paint Creek, 54 m. E. of Cincinnati, and 19 m. S.W. of Chillicothe.

—A township of Geauga co.

Bain'bridge, in *Pennsylvania*, a post-village of Lancaster co., on the Susquehanna river, 20 m. E.S.E. of Harrisburg.

Bain-Marie, (*bain(g)'-ma-re',*) *n.* A bath much used in culinary operations in France, and so called from the name of the inventor. It is also largely employed in

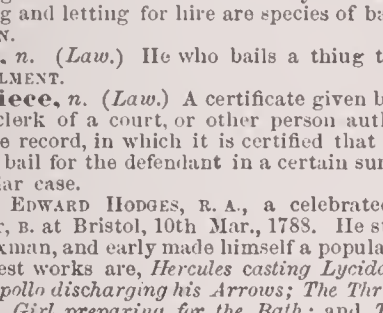


Fig. 267.—BAIN-MARIE.

chemistry, and for the most part consists of an outer vessel containing water, or some other fluid, in a state of ebullition: within this is another vessel, in which the substance to be operated upon is placed. The object of the bain-marie is to produce a gentle and regular heat, and it is principally used for evaporating or for distilling volatile and aromatic substances. When sand is substituted for boiling water, this apparatus is called a *sand-bath*, and when boiling water is employed, it is called a *vapor-bath*.

Bains. [Fr., The baths.] A small town of France, dep. Vosges, 13 m. S.W. of Epinal. There are mineral waters here which are much resorted to from the 15th of June to the 15th of September. They are said to be saline and thermal; others, however, deny them any medicinal properties whatever.

Bains-du-Mont-d'Or, a village of France, dep. Puy-de-Dôme, 20 m. W. of Issoire. It is celebrated for its mineral waters, and principally for the magnificent scenery of the surrounding mountains.

Bai'ram, *n.* [Turk. *baïrâm, beiram;* Pers. *bayrâm.*] The name of the only two festivals annually celebrated by the Turks and other Mohammedan nations. The first is also called *Id-al-Fitr*, i. e. "the festival of the interruption," alluding to the breaking of the universal fast which is rigorously observed during the month Ramadhan or Ramazan. It commences from the moment when the new moon of the month Shewal becomes visible, the appearance of which, as marking the termination of four weeks of abstinence and restraint, is looked for and watched with great eagerness. At Constantinople it is announced by the discharge of guns at the seraglio upon the sea-shore, and by the sounding of drums and trumpets in all public places of the city. This festival ought, properly, to last but one day; but the rejoicings are generally continued for two days more. The second festival, denominated *Id-al-Azhâ* or *Kurbân Baïrâm*, i. e. "the festival of the sacrifices," is instituted in commemoration of Abraham offering his son Isaac, and is celebrated 60 days after the former, on the 10th of Zulhijjah, the day appointed for slaying the victims by the pilgrims at Mecca. It lasts four days. At each of these festivals but one *khutba* is read, i. e. divine service is only once publicly performed, on the first day, about an hour after sunrise; and in the Turkish empire even this solitary act of public worship is now no longer announced by the muezzins, or public criers, from the tops of the minarets or turrets of the mosques. At Constantinople the two Bairâms are celebrated with much pomp. The sultan on this occasion receives the homage of the different orders of the empire, and proceeds in state, followed by all the higher officers, to the mosque. As the Mohammedans have a lunar year of 354 days, the two festivals run, once every 32 years, through all the seasons.

Bai'ram, or Bai'ram Kale'si, a small and miserable Turkish town in Natolia, 25 m. N.W. of Adramyti, opposite to the island of Lesbos, or Mitylene. *B.* is not otherwise remarkable than by standing close to the site of the ancient *Assos*, a strongly fortified and maritime town, the remains of which are still considerable. It was visited by St. Paul, on his return from Troas, (*Acts* xx. 13–15.)

Baird, SIR DAVID, BART., a distinguished British general, B. in Scotland, in 1757. Entering the army in 1778, he served in India, and while brigadier-general, he led the storming party that carried Seringapatam by assault, in 1799. For his gallantry on this occasion he was thanked by both Houses of Parliament. He subsequently served his country by the capture of Cape Town, and at the taking of Copenhagen, and shared the glory of Corunna under Sir John Moore, after whose death on that field he became commander-in-chief. His severe wounds, however, incapacitated him from acting in that capacity. At the close of the war, he was created a baronet, and received the Order of the Bath. D. 1829.

Baird, WILLIAM, M. D., an eminent English zoölogist, B. 1803. He was for many years chief of the zoölogical department of the British Museum. His principal works were the *Natural History of the British Entomostraca* (1850); and a popular *Cyclopedia of the Natural Sciences*, 8vo., published in 1858. Died Jan. 27, 1872.

Baird'ia, *n.* (*Zoöl.*) A genus of entomostracous crustacea, fam. *Cyprididæ*. They inhabit fresh-water ponds, and a considerable number are found in a fossil state in the chalk formation.

Bairds'town, in *Georgia*, a post-village of Oglethorpe co., 83 m. W. of Augusta, on the Athens branch of the Georgia railroad.

Bairds'town, in *Kentucky*. See BARDSTOWN.

Bairds'town, in *Missouri*, a village of Sullivan co.

Bairds'town, in *Pennsylvania*, a post-village of Westmoreland co., on the Conemaugh river, 44 m. E. of Pittsburg.

Baireuth, (*bi-reut',*) a town of Bavaria, the cap. of Upper Franconia, 126 m. from Munich. *Manf.* Cottons and woollens, &c. Here Jean Paul Richter died in 1825, and a monument was erected to his memory by the king of Bavaria. See BAYREUTH.

Bairn, (*bärn,*) *n.* [A. S. *bearn;* Scot. *bairn.*] A child; a youngster of either sex.—Used exclusively in Scotland, and the N. of England.

Bai'rout, a seaport of Syria. See BEYROUT.

Bait, (*bāt,*) *n.* [A. S. *batan*, to put meat upon a hook; Sw., Goth. *beta*, to feed.] A bit of food or other substance put on a hook to allure fish, fowls, &c.

> "The pleasant'st angling is to see the fish
> Cut with her golden oars the silver stream,
> And greedily devour the treacherous *bait*."—*Shaks.*

—Anything which allures; an enticement; temptation.

> "Sweet words, I grant, *baits* and allurements sweet,
> But greatest hopes with greatest crosses meet."—*Fairfax.*

—A hasty morsel or refreshment taken on a journey.

—*v. a.* [Goth. *beitan*, to bite, to prick, to incite; O. Fr. *abetter.*] To put meat on a hook or line to entice fish, &c.

> "Oh, cunning enemy, that, to catch a saint,
> With saints doth *bait* thy hook!"—*Shaks.*

—To give a portion of food and drink to a beast upon the road; as, to *bait* a horse.

—*v. i.* To stop and take a hasty refreshment during a journey.

> "In all our journey from London to his house, we did not so much as *bait* at a Whig inn."—*Addison.*

Bait, *v. a.* [Goth. *beitan*, to bite, to prick, to incite; O. Fr *abetter;* Fr. *battre*, to beat.] To provoke and harass by inciting dogs to attack; to harass; to attack with violence; as, to *bait* a bull with dogs.

> "Who seeming sorely chafed at his baud,
> As chained bear, whom cruel dogs do *bait*."—*Faërie Queene.*

—*v. i.* [Fr. *battre de l'aile*, or *des ailes*, to flap or flutter.] To clap the wings; to flutter, as if to fly; or to hover, as a hawk over her prey; to make an offer of flying.

> "All plum'd like ostridges, that with the wind
> *Baited* like eagles having lately hath'd."—*Shaks.*

Bait'ing, *n.* The act of furnishing a bait; a refreshment on a journey.

Bait'ing Hollow, in *New York*, a post-village of Suffolk co., 221 m. S.S.E. of Albany.

Bai'tool, a fortified town and district of British India, presid. of Bengal, 50 m. from Ellichpoor. *Area* of district, 4,000 sq. m. *Pop.* in 1897 (est.) 300,000.

Baize, (*bāz,*) *n.* [Sp. *bajèta*, probably from *Baiæ*, where it was first made.] A coarse woollen stuff, with a long nap. It is sometimes frizzed on one side. It is without wale and is wrought on a loom, like flannel.

Bajá, (*ba'zha,*) or BAS, a town of Hungary, co. Bacs, near the Danube, 20 m. N. by W. of Zambor; *pop.* 20,087.

Bajada-de-Santa-Fé, (*ba-ha'da-dai-san'ta-fa',*) a town of the Argentine Republic, on the E. bank of the Parana, opposite Santa Fé; *pop.* about 7,000.

Baj'adere, *n.* See BAYADERE.

Bajazet, or BAYAZEED I., (*bi-ah-zeed',*) an Ottoman Sultan, B. 1347, succeeded his father, Amurath I., in 1389. He was the first of his family who assumed the title of "Sultan." The Turkish empire at this time extended W. from the Euphrates to the shores of Europe, and Amurath had crossed the Bosphorus, subdued the greater part of Thrace, and fixed the seat of his power at Adrianople. *B.* wrested the N. parts of Asia Minor from the dominion of various Turkish emirs whose power had long been established there. In Europe he conquered Macedonia and Thessaly, and invaded Moldavia and Hungary. Sigismund, king of the latter country, met him at the head of 100,000 men, including the flower of the chivalry of France and Germany, but was totally defeated at Nicopoli, on the Danube, 28th Sept., 1396. *B.* is said to have boasted, on the occasion of this victory, that he would feed his horse on the altar of St. Peter at Rome. His progress, however, was arrested by a violent attack of the gout. *B.* was preparing for an attack on Constantinople, when he was interrupted by the approach of Timour the Great, by whom he was defeated at Angora, in Anatolia, 28th July, 1402. He was taken captive, and died about 9 months afterwards, at Antioch in Pisidia. He was succeeded by Mohammed I. Modern writers reject as a fiction the story of the iron cage in which *B.* was said to have been imprisoned. *B* was surnamed *Ilderim* or "The Lightning;" an epithet acquired from the fiery energy of his soul, and the rapidity of his destructive march. He was succeeded by his son Soliman I.

BAJAZET II., Sultan of the Turks. He succeeded his father, Mohammed II., in 1481. His brother Zizim contested the empire with him, assisted by Caith Bey, sultan of the Egyptian Mamelukes, but was compelled to retreat into Italy, where he died in 1495. *B.* undertook an expedition against Caith Bey, but was defeated, with great loss, near Mount Taurus in Cilicia, in 1489. He was more fortunate in Europe, where, in the same year, his generals conquered Croatia and Bosnia. *B* was engaged in long and bloody hostilities with the Moldavians, the Rhodians, and especially the Venetians, who frequently invaded the S. of Greece; and with Ismael, king of Persia. At home, he had to contend against his rebellious son Selim, to whom, at last, he resigned the empire. He died in 1512, on his way to the place which he had chosen for his retirement. It has been supposed that he was put to death by the order of his son. He was a man of uncommon talents, and did much for the improvement of his empire, and the promotion of the sciences.

Bajocco, (*ba-yōk'ko,*) *n.* [It., from *bajo*, brown, bay, from its color.] (*Com.*) A copper coin in the Papal States. It is the one hundredth part of a *scudo*, and its value is about 1½ cent. (*pl.* BAJOCCHI.)

Bajour, (*ba-joor'.*) a territory of N. Afghanistan. *Area*, estimated at 370 sq. m. *Desc.* Fertile, surrounded by mountains, clothed with forests of cedar and oak. Its chief town is called Bajour, and is supposed to be the Bazira of the historian of Alexander the Great. *Pop.* 120,000.

Bake, *v. a.* [A. S. *bacan;* Icel. *baka*, to warm; Scots. *beik.*] To heat, dry, and harden by fire or the sun's rays; as, to *bake* bricks; the sun *bakes* the clay. *Specifically*, to dress and prepare for food in an oven or heated place; as, to *bake* a loaf.

> "The sun with flaming arrows pierc'd the flood,
> And, darting to the bottom, *bak'd* the mud."—*Dryden.*

—To harden by cold.

> "The earth.... is *baked* with frost."—*Shaks.*

—*v. i.* To do the work of baking.

> "I keep his house, and I wash, wring, brew, *bake*."—*Shaks.*

—To be baked; to dry and harden in heat; as, the earth *bakes* in the burning sun.

Baked, (*bākt,*) *p. a.* Dried or hardened by heat; cooked by heat.

Bake'-house, *n.* [A. S. *bæchus.*] A house or building for baking; a place for baking bread.

Bake'-meat, Baked'-meats, *n. s.* and *pl.* Meat

prepared by baking; viands dressed by the oven; as, "the funeral *baked-meats*." — *Shaks.*

Ba'ker, *n.* [A. S. *bæcere;* Icel. *bakari;* Sw. *bagare;* Dan. *bagere;* Dut. *bakker;* Ger. *bäcker, becker.*] One whose occupation is to bake bread, biscuit, &c. — See BREAD.

—A small portable tin oven in which baking is performed. (*American.*)

Ba'ker, SIR RICHARD, an English historian, B. in 1568. He is best known as the author of a *Chronicle of the Kings of England from the Time of the Roman Government unto the Death of King James,* (London, 1641.) This was long held in repute as the most authentic history of his country. D. in the Fleet Prison, London, in 1644.

Ba'ker, SIR SAMUEL WHITE, F.R.S., a distinguished English author and explorer, B. 1821. He early showed a predilection for travel, and has spent a great portion of his life in Asia and Africa. With his brother, Col. Baker, in 1848, he undertook the organization of an extensive agricultural settlement in Ceylon, of which country he gives an interesting account in his *Eight Years' Wanderings,* first published in 1855. In 1861, he set out on an expedition into Africa in the hope of meeting Captains Grant and Speke at the sources of the Nile. Having explored the tributaries of the Atbara, a task which occupied some months, he proceeded to Khartoum in order to organize his expedition to the Great White Nile. In Dec., 1862, he started, and at Gondoroko was joined by Speke and Grant, by the former of whom *B.* was told that the natives asserted that a large lake existed in the west, which was believed to be a second source of the Nile. Capt. Speke had traced the river leading thereto, as far as 2° 20′ N., when it diverged to the W., and he very unwillingly relinquished his task, which was at once undertaken by *B.*, who was accompanied by his wife. He met with great difficulty to organize preparations for his expedition, the natives refusing to go with him south. *B.* and his wife, nothing daunted, started, and overtook the trading caravan, arriving in the Latooka country, 17th of March, 1863. They then directed their course through the Kamrasis country, and on the 14th of March, 1864, sighted the lake which was the object of his arduous travel, and which he named *Albert N'Yanza,* and drank of its water. The W. shore is distant 60 m., and is lined by mountains 7,000 ft. high. This lake and the "Victoria N'Yanza" constitute the two great reservoirs of the Nile. *B.* is the author of *The Rifle and Hound in Ceylon,* the *Albert N'Yanza,* and other works. In 1869–73 he conducted a successful expedition into the Upper Nile regions. Died Dec. 30, 1893.

Ba'ker, a S.W. county of *Georgia. Area,* about 400 sq. m. It is drained by Flint River, and Ichawaynochaway Creek. Surface, level; soil, fertile. *Cap.* Newton. This county was organized in 1825, and named in honor of Colonel John Baker, a distinguished officer in the war of Independence.

Ba'ker, in *Indiana,* a township of Martin county.

—A township of Morgan co.;

Ba'ker, in *Iowa,* a post-office of Jefferson co.

Ba'ker, in *Ohio,* a village of Champaign co., 56 m. W. of Columbus.

Ba'ker, a county of *Oregon,* situated E. of the Cascade Mountains, on the confines of Idaho. It is bounded partly on the E. by Snake river, and also watered by Powder river and some smaller streams. Its surface is hilly, but it contains large tracts of excellent agricultural land, together with numerous valuable claims which are annually being developed. *Pop.* in 1897, about 7,000. *Cap.* Baker City.

Baker City, in *Oregon,* a town, *cap.* of Baker co.

Ba'ker Island, in the Polar Sea, discovered by Capt. Parry; Lat. 74° 58′ N.; Lon. 97° 54′ W.

Ba'ker-legged, *a.* Having legs like a baker, i. e., bandy legs, or legs that curve inward at the knees. —

Ba'ker's Basin, in *New Jersey,* a P. O. of Mercer co.

Ba'ker's Bridge, in *New York,* a village of Alleghany co., 15 m. E. by S. of Angelica, on the New York and Erie Railroad.

Ba'ker's Corners, in *Wisconsin,* a village of Walworth co., 10 m. N. E. of Elkhorn.

Ba'ker's Cross Roads, in *North Carolina,* a post-office of Franklin co.

Ba'ker's Falls, in *New York,* and on the Hudson river, are situate in Sandy Hill township, Washington co. There is here a river-descent of 70 ft. in about 100 rods.

Ba'kersfield, in *Vermont,* a post-township of Franklin co., 40 m. N.N.W. of Montpelier.

Ba'ker's Gap, in *Tennessee,* a post-office of Johnson co.

Ba'ker's Grove, in *Missouri,* a P. O. of Barton co.

Ba'ker's Island, in *Massachusetts,* an island off Salem harbor, 5 m. from Salem. On its N. end is a lighthouse.

Ba'ker's Mills, in *Indiana,* a P. O. of Jackson co.

Ba'ker's River, in *New Hampshire,* a stream flowing through Grafton co., and falling into the Pemigewasset, a little above Plymouth.

Ba'ker's Run, in *West Virginia,* a P. O. of Hardy co.

Ba'kerstown, in *Pennsylvania,* a post-office of West Deer township, Alleghany co., 16 m. N. by E. of Pittsburg.

Ba'kersville, in *Connecticut,* a post-village of Litchfield co., 32 m. W. of Hartford.

Ba'kersville, in *Maryland,* a post-village of Washington co., 12 m. S. of Hagerstown.

Ba'kersville, in *North Carolina,* a village of Yancy co., 200 m. W. by N. of Raleigh.

—A post-village, cap. of Mitchell co. *Pop.* (1898) 690.

Ba'kersville, in *Ohio,* a post-office of Coshocton co.

Ba'kersville, in *Pennsylvania,* a P.O. of Somerset co.

Bak'ery, *n.* The trade or occupation of a baker. (R.)

—A place for baking; a bake-house.

Bake'well, a town and par. of England, in the county of Derby, 22 m. N.N.W. of Derby, beautifully situated on the Wye. Three m. N.E. of the town is Chatsworth, a seat of the Duke of Devonshire, and one of the most magnificent palaces in England. Its fountains and water-works (with the exception of those at Versailles) are considered the finest in Europe. The gardens, too, have a world-wide celebrity. Haddon Hall, the property of the Duke of Rutland, now the most perfect of the ancient English baronial mansions, is also situated near this town. *Pop.* 82,379

Bak'huysen, or **Back'huysen,** LUDOLF, a famous Dutch painter of marine subjects, B. at Emden, 1631. He became the best marine painter of his time, and especially delighted in the representation of storms at sea, to do which effectually, he used at the beginning of a tempest to put to sea in a small boat, often to his imminent peril. The peculiarity of his subjects, coupled with a certain buoyant originality of character, tended to make him highly renowned, and greatly sought after. When the Czar, Peter the Great, visited Holland, he desired *B.* to give him lessons in naval drawings. Louis XIV., who had been presented with one of *B.*'s best pictures, highly patronized him afterwards. *B.* was also a good engraver of sea-pieces, and a writer of spirited verses. D. 1709. *B.*'s pictures are held at the present day in the highest reputation, and command fancy prices. They possess, in the highest degree, the peculiar excellences of the Dutch school, — richness, transparency, delicate handling, and appropriate color. No artist ever excelled him in the art of giving depth without darkness: frequently, in his pictures of an approaching storm, the very atmosphere seems to labor with gloom, yet the clearness, and even vivacity of effect, are not in the least impaired.

Bak'ing, *n.* In a general sense, any process of drying or hardening by heat; but usually restricted to the mode or act of cooking food, principally bread, in a heated room in oven.—Applied also to the quantity cooked at once, as "a *baking* of bread." See BREAD.

Bako'ny Wald, ("Forest of Bakony,") a densely wooded mountain-range of Hungary, south of the Danube, dividing the great and little Hungarian plains. Immense herds of swine are annually driven hither to feed upon the mast of the forest. The keepers of these swine furnish those notorious robbers who play so important a part in the ballads of the Hungarian people, and in the imagination of travellers. The saintly King Stephen founded a cloister in the forest, 1030 A. D. Only in recent times has this dangerous territory been thoroughly explored. The hills have an average height of 2000 feet, with quarries of valuable marble, in which a considerable export trade is done.

Ba'kon, BA'KU, or BAD'KU, (*ba'ku,*) a fortified seaport of European Russia, in the prov. of Daghestan, on the S. shore of the peninsula of Apsheron, on the W. coast of the Caspian Sea, of which it is the principal port. Lat. 40° 22′ N.; Lon. 50° 10′ E. Its excellent harbor, and central and advanced position, give it great advantages. Since the discovery of petroleum near *B.* it has rapidly increased in population, and the production of oil has become enormous. *B.* has railroad connections with the port of Batoum, on the Black Sea, which forms its point of output to Europe.

(*Continued in Section II.*)

Baktchiserai, or BAKHTCHISSARAI, (*bak-she-sa'rai,*) ["Palace of the Gardens,"] a town of Russia, in Crimea, of which, while under Tartar rule, it was the cap. and the residence of the Khan, lies 7 m. S.W. of Simpheropol. It is seated in a spot of romantic beauty. It is entirely occupied by Tartars. The ancient palace of the Khans has been repaired and is preserved in all its former magnificence. *Pop.* estimated at 10,000.

Bak'tegan, or BAKTEGHIAN, a salt lake of Persia, in the province of Fars, about 50 m. from Shiraz; 60 m. long, with an average breadth of 8 m.

Ba'ku, a Russian seaport. See BAKOU.

Bal, Ballin, Bal'ly. [Ir.] A prefix attached to some 150 places in Ireland. It signifies a township or village, as *Bal*briggan, *Ballin*asloe, *Bally*bunnion.

Bal'a, a township of England in N. Wales, co Merioneth, 37 m. N.W. by W. of Shrewsbury, at the W. end of the largest of the Welsh lakes, in a wild and mountainous country; *pop.* 6,987. — In the neighborhood occur the *Bala Beds,* a local deposit, which form a group in the Lower Silurian of Murchison. They consist of a few beds, rarely more than 20 feet in thickness. The beds are chiefly composed of hard crystalline limestone, alternating with softer argillaceous bands, which decompose more freely, and leave the limestone like a cornice moulding, affording a characteristic by which, at a considerable distance, the Bala Beds can be distinguished from the rocks of hard gritty slate above and below. *Trilobites* and *Cystideæ* are the predominant fossils of the group.

Bal'a Lake, or LLYN TEGID, a lake of Merionethshire in N. Wales, situated amid magnificent scenery. It is about 4 m. long by 1 broad, and abounds with salmon.

Balaam, (*ba'lăm,*) was the son of Beor, and seems to have lived at Pethor, a city of Mesopotamia. *B.* is one of those instances, in Scripture, of persons dwelling among heathens, but possessing a certain knowledge of the one true God. He was a poet and a prophet, apparently celebrated for wisdom and sanctity. In his time the Israelites were encamped in the plains of Moab. Balak, the king of Moab, having witnessed the discomfiture of his neighbors, the Amorites, by this people, entered into a league with the Midianites against them, and dispatched messengers to Balaam with the rewards of *divination* in their hands. When the elders of Moab and Midian told him their message, he seems to have had some misgivings as to the lawfulness of their request, for he invited them to tarry the night with him that he might learn how the Lord would regard it. These misgivings were confirmed by God's express prohibition of his journey. *B* reported the answer, and the messengers of Balak returned. The king of Moab, however, not deterred by this failure, sent again more and more honorable princes to Balaam. The prophet again refused, but notwithstanding invited the embassy to tarry the night with him, that he might know what the Lord would say unto him further; and thus by his importunity he obtained from God the permission he desired, but was warned at the same time that his actions would be overruled according to the Divine will. *B* therefore proceeded on his journey with the messengers of Balak. But God's anger was kindled at this manifestation of determined self-will, and the angel of the Lord stood in the way for an adversary against him. "The dumb ass, speaking with man's voice, forbade the madness of the prophet," (2 *Pet.* ii. 16.) It is evident that Balaam, although acquainted with God, was desirous of throwing an air of mystery round his wisdom, from the instructions he gave Balak to offer a bullock and a ram on the seven altars he everywhere prepared for him. His religion, therefore, was probably the natural result of a general acquaintance with God not confirmed by any covenant. Balaam's love of the wages of unrighteousness and his licentious counsel are referred to in 2 *Pet.* ii. 15, and *Jude* 11. Though the utterance of Balaam was overruled so that he could not curse the children of Israel, he nevertheless suggested to the Moabites the expedient of seducing them to commit fornication. The effect of this is recorded in *Num.* xxv. A battle was afterwards fought against the Midianites, in which Balaam sided with them and was slain by the sword of the people whom he had endeavored to curse, (*Num.* xxxi. 8; *Josh.* xiii. 22.)

Balach'na, or BALAKHNA, (*ba-lak'na,*) a town of Russia in Europe, gov. of Nijni Novgorod, on the Volga, 120 m. from St. Petersburg; Lat. 56° 30′ N.; Lon. 45° 23′ E.; *pop.* about 4,000.

Bal'achong, *n.* [Malay, *bâlachân.*] A substance consisting of pounded or bruised fish, and used in the East as a condiment with rice.

Balæ'na, *n.* [From Phœnician *baalman,* king of fishes.] (*Zoöl.*) The Right-Whale, a genus of cetaceous animals, family *Balænidæ.* — See BALÆNIDÆ, and WHALE.

Balæ'nidæ, *n. pl.* (*Zoöl.*) A family of animals, order *Cetacea.* They are marine, viviparous, suckle their young like other mammalia, respire by lungs, and have distinct separate blow-holes; they have warm blood, and no teeth, but in their place are found plates of *baleen* or whalebone attached to the upper jaw. The genus *Balæna,* comprising the *Right Whale* proper, is minutely described under the word WHALE, *q. v.* — The genus *Balænoptera* comprises whales with a dorsal fin and short baleen, which are known under the names of Fin-backs, Razor-backs, and Rosquals. They equal, and in many cases much exceed, the Right Whale in length, — some have been seen 100 feet long, — but yield far less oil. They are exceedingly powerful and rapid in their movements, and are captured with the greatest difficulty and danger. One or two species are common on the N. Atlantic coast of America.

Balænop'tera, *n.* [From *Balæna,* and Gr. *pteron,* a wing.] See BALÆNIDÆ.

Balaghaut', an inland prov. of S. Hindostan, in the British pres. of Madras, between 13° 15′ and 16° 20′ N. Lat.; and 75° 40′ and 79° 20′ E. Lon., consisting of part of the region called Balaghaut, or "above the Ghauts," having N. Kurnool and the Nizam's territories; E. Guntoor, Nellore, and Arcot; S. Mysore; and W. Dharwar. Length about 200 m.; breadth, various. *Area,* 25,456 sq. m. Surface, irregular, and soil fertile. Plantations of indigo, betel, sugar-cane, red-pepper, tobacco, &c., are extensively scattered over the country. This prov. once formed part of the Hindoo kingdom of Bijyangur, and on its fall was divided into several independent states, until conquered in rapid succession by Hyder Ali, between 1766 and 1780. On the dismemberment of Tippoo Saib's empire in 1799, a considerable portion came into the possession of the East India Company, and the remainder was taken by the British in 1841. *Pop.* about 2,500,000. *B.* is almost equally divided into the districts of *Bellary* and *Cuddapah,* q. v.

Balagner, (*ba'la-goo'air.*) a town of Spain, in Catalonia, 14 m. N.E. of Lerida; *pop.* 5,532.

Ba'lak, an idolatrous king of Moab, during the time when the Israelites were drawing near the Promised Land. He was filled with terror lest they should attack and destroy him, and implored the soothsayer Balaam (*q. v.*) to come and curse them. His tears and his devices were alike in vain. (*Deut.* ii. 9.)

Balakla'va, or BALACLA'VA, a small seaport of European Russia, at the S.W. extremity of the Crimea; Lat. 44° 29′ N.; Lon. 33° 34′ 40″ E. It has a small but excellent harbor, land-locked, and with water sufficient to float the largest ships. *Pop.* about 3,000. — A great battle was fought here, Oct. 26, 1854, between the Russians and the allied Anglo-French troops.

Balambangan, (*ba'lam-ban'gan,*) an island of the E. Archipelago, lying off the N. extremity of Borneo; Lat. 7° 15′ N.; Lon. 117° 5′ E.; 15 m. long, and 3 broad. It has a rich soil, and two harbors abounding in fish, but it is uninhabited.

Balance, (*bal'ans,*) *n.* [Fr. and Du.; from Lat. *bis,* double, and *lanx, lancis,* a plate, platter, or dish, scale of a balance.] (*Phys.*) An instrument by means of which the relative weight of substances is determined. As an

instrument of common use, the term *scales* is more frequently applied, the term *B.* being commonly given only to a superior sort of scales, executed with all the precision necessary for the nicest operations of physics, and particularly of chemistry. In its greatest simplicity, a balance, or *pair of scales*, (*Fig.* 268,) consists of a lever of the first kind, A, C, B, called the *beam*, with its *fulcrum*

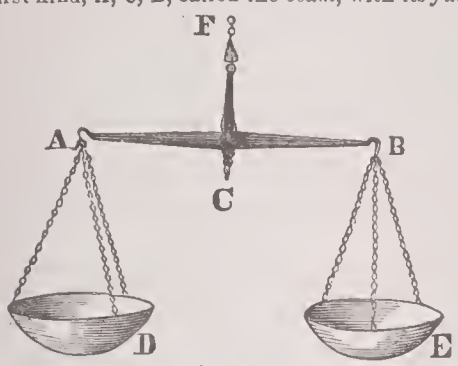


Fig. 268.—BALANCE.

C in the middle, and two scales, D, E, suspended, one from each extremity of the beam. The substance to be weighed is placed in one scale, and the counterpoise, usually consisting of metal weights, in the other, the instrument being suspended from a ring, F, immediately above the fulcrum. In the most delicate balances of this description, the fulcrum consists of a steel prism, which traverses the beam, and rests with its sharp edge upon two supports, formed of agate or polished steel; moreover, a needle or pointer is fixed to the beam, and oscillates with it in front of a graduated arc. If the two arms of a balance be not precisely of the same length, the scale appended to the longer arm will turn with a less weight than that hanging from the shorter arm; so, also, if one arm of the lever be heavier than the other, the scale on that side must preponderate. With such an imperfect pair of scales, however, the true weight of a substance may be ascertained, by weighing it first in one scale and then in the other, and deducting from the greatest weight half the difference of the weights indicated. The *chemical balance* is an instrument of extraordinary delicacy. It is merely a pair of scales made with the greatest possible precision and accuracy, and is used for weighing portions of substances separated by analysis. It is also used to weigh bodies to be united by synthesis. The whole theory of modern chemistry may be said to rest upon the perfection to which the chemical balance has been brought. It is as necessary to the chemist as the transit-instrument and telescope are to the astronomer. Being so important and delicate an instrument, it is one of the most difficult to use, the slightest carelessness being sufficient to nullify an observation made by its means. It consists essentially of the beam, the fulcrum, the points of suspension, and the pans. The beam is generally made of brass, in the form of a long rhomboid. At an exactly equal distance from each end is fixed the fulcrum, which is generally a steel knife-edge, supported by agate planes. A contrivance is used for raising the beam so as to keep the fulcrum from resting on the planes of support when not in use, in order to prevent the possibility of the knife-edge becoming worn. The object of having a sharp, hard knife-edge resting on hard planes is to decrease friction as much as possible, it being obvious that sensibility increases as friction diminishes. The fulcrum should be fixed just above the centre of gravity, yet not too much so, as, the greater the distance between it and the fulcrum, the greater will be the stability of the balance; or, in other words, the balance will be less sensible, from the greater difficulty with which the beam is moved. Most balances have a contrivance for raising or lowering the centre of gravity. The points of suspension are at each end, and are formed of hard steel knife-edges, working on agate planes, as in the case of the fulcrum. The points of suspension must be at absolutely equal distances from the fulcrum, otherwise, according to the properties of the lever, the weight indicated will be different in each pan. The pans are generally coated with platinum, to avoid corrosion, and are suspended by silver wires. To the centre of the beam is attached a needle index, which indicates the equality of weight in each pan by the equality of its vibrations on each side of the centre of a scale placed behind it. In some balances an index is fixed on the end of the beam, and viewed through a microscope in its passage upwards and downwards over a fine scale attached to a fixed arm at a little distance from it. The whole is enclosed in a glass case, to preserve it from the action of gases or dust. Caustic lime is always placed inside the case, to absorb any moisture that might settle on the working parts of the balance. Balances have been brought to marvellous perfection by Ramsden, Kater, Robinson, Œrtling, Sacré, and others. M. Stas, in his researches on the atomic weights of certain elements, employed a balance made by M. Sacré, which turned with the ten-millionth part of the weight in each pan. Another, used by the same philosopher, weighed true to the two-thousandth part of a grain. The weights used in such balances are made with the same precision: they will be described under WEIGHTS. A small piece of platinum wire, called a rider, slides along the beam, which is graduated, and indicates by its position a very small weight, on the principle of the steelyard, thus obviating the necessity of using weights that are almost invisible from their smallness. Warm substances should be allowed to cool before weighing, as the upward currents caused by their heat would vitiate the result.—For other varieties of the balance, see STEELYARD, SPRING-BALANCE, WEIGHING-MACHINE, &c.

—Metaphorically, the action of the mind employed in comparing one thing with another.

> "I have in equal *balance* justly weighed
> What wrong our arms may do, what wrongs we suffer:
> Griefs heavier than our offences."—*Shaks.*

—Equipoise; equality of weight, power, or advantage.

> "Love, hope, and joy, fair pleasure's smiling train;
> Hate, fear, and grief, the family of pain;
> These, mix'd with art, and to due bounds confin'd,
> Make and maintain the *balance* of the mind."—*Pope.*

(*Com.*) The amount which remains due by one or two persons, who have been dealing together, to the other, after the settlement of their accounts.—The term *general balance* is sometimes used to signify the difference which is due to a party claiming a lien on goods in his hands for work or labor done, or money expended in relation to those and other goods of the debtor.—See BALANCE-SHEET.

—In commercial language, what remains of anything; as, the *balance* of a stock, of an account, &c.

(*Astron.*) The sign LIBRA, *q. v.*

(*Horology.*) The wheel that governs the movements of a watch, and which answers the purpose of the pendulum to a clock. This wheel is impelled in one direction by the crown-wheel of the *escapement* (q. v.), and in the other by a fine spiral spring. The *balance-spring*, as this latter portion of the machine is called, consists of a coil of steel wire so delicately manufactured that 4,000 of them scarcely weigh more than an ounce. As the rate of vibration greatly depends on the diameter of the balance, marine chronometers and some of the finest watches are furnished with *compensation balances*, which do not increase in diameter with increase of temperature. In the compensation balance, the circumference of the wheel is made of two metals having different rates of expansion fast soldered together, the most expansible being on the outside. The compound ring is cut through in two or more places, and is weighted at opposite points. When exposed to a high temperature, the ring expands, but, owing to the unequal dilatation of the metals, each segment assumes a sharper curve, whereby its centre of gravity is thrown inwards, and the expansive effect completely compensated. Under Mr. Dent's patent, both balance and balance-spring are occasionally coated with gold by the electro-metallurgic process.

Bal'ance, *v. a.* [Fr. *balancer.*] To weigh in a balance; to bring to an equilibrium or equipoise.—To weigh reasons.—To regulate and adjust; to counterpoise; to make equal; to settle, as an account.

—*v. n.* To be in equilibrium or on a poise; to have equal weight, power, influence, &c.—To hesitate; to fluctuate.

(*Dancing.*) To move towards a person opposite, and then back.

Bal'ance-fish, *n.* (*Zoöl.*) A remarkable fish of the gen. *Zygæna*, native of the Mediterranean Sea. The shape of its monstrous head has been likened to a blacksmith's large hammer.

Bal'ancement, *n.* [Fr., compensation.] (*Physiol.*) A law of teratogeny, as maintained by Geoffroy St. Hilaire, by which exuberance of nutrition in one organ is supposed to involve, to a greater or less extent, the total or partial atrophy of some other, or conversely.

Bal'ance of Power. (*Polit.*) The first combined attempt to preserve the balance of power in European affairs was made during the invasion of Italy by Charles VIII. of France, 1494–1496. Incited by the Emperor Maximilian I., the Italian States and some other European powers held secret conferences by night at Venice, and the celebrated League was signed at that city, March 31, 1495, between Austria, Milan, Rome, Spain, and the Venetian republic. Its effect was to defeat the ambitious projects of the French king. Robertson remarks, that princes and statesmen "had discovered the method of preventing any monarch from rising to such a degree of power as was inconsistent with the general liberty; and had manifested the importance of attending to that great secret in modern policy, the preservation of a proper distribution of power among all the members of the system into which the States of Europe are formed." After showing that the attention of Italian statesmen was from that period directed to the maintenance of the principle, he adds: "Nor was the idea confined to them. Self-preservation taught other powers to adopt it. It grew to be fashionable and universal. From this æra we can trace the progress of that intercourse between nations which has linked the powers of Europe so closely together; and can discern the operation of that provident policy which, during peace, guards against remote and contingent dangers; and, in war, has prevented rapid and destructive conquests." The principle was first publicly acknowledged at the peace of Westphalia, Oct. 24, 1648. The attempt to maintain the balance of power among the different States of Europe has doubtless caused some wars, but it has unquestionably prevented more. It is this that has led to that great confederacy that exists among all the States of Europe, and keeps in awe the ambitious designs of any one of them that might desire to encroach upon the rights of its neighbors. At present the balance of power in Europe is principally maintained by the six great powers, France, England, Russia, Prussia, Austria, and Italy—the wise policy of America having been, till now, not to interfere in European contests. "The grand and distinguishing feature of the balancing system is the perpetual attention to foreign affairs which it inculcates; the constant watchfulness over every nation which it prescribes; the subjection in which it places all national passions and antipathies to the fine and delicate view of remote expediency; the unceasing care which it dictates of nations most remotely situated, and apparently unconnected with ourselves; the general union which it has effected of all the European powers, obeying certain laws, and actuated in general by a common principle; in fine, the right of mutual inspection universally recognized among civilized States in the rights of public envoys and residents."

Bal'ance of Trade. (*Polit. Econ.*) See COMMERCE, in SECTION II.

Bal'ancer, *n.* One who balances.

Bal'ance-reef, *n.* (*Naut.*) A reef-band that crosses a sail diagonally, used to contract it in a storm.

Bal'ancers, *n.* (*Zoöl.*) Two slender membraneous appendages, called also *halteres*, inserted on either side of the metathorax of insects belonging to the sub-order *Diptera*, (*Fig.* 269.) They are always small and movable, and vary much in size and form, according to the class of insects by which they are possessed. They usually consist, however, of an elongated style with a small rounded head.—Entomologists differ greatly as to the use of these organs. It is generally believed now, that they are the representatives of the posterior pair of wings, and are attached to the true metathorax. This, however, is disputed by some entomologists, who say that they are attached to the segment, which bears a pair of spiracles, and that they are connected with the function of respiration. The former is the opinion most generally held, and is probably correct. All dipterous insects possess *B.*; and as they keep them in constant motion, they are evidently of great importance to them.

Fig. 269.—HESSIAN FLY, (*Cecidomya destructor.*) (Magnified.)

Bal'ance-sheet, *n.* (*Com.*) A written statement made by a merchant or trader, or prepared by a professional accountant, to show exactly the financial condition, at any specified time, of any particular business or monetary enterprise. It should exhibit the balance of both debits and credits as they appear in the ledger accounts; the *nett*, or final balance showing either the gain or loss that has accrued. Balance-sheets are usually made up half-yearly.

Bal'ancing Wheel. See WATER-WHEELS.

Balani'nus, *n.* (*Zoöl.*) A genus of coleopterous insects belonging to the family *Curculionidæ*. The species of this genus are destructive to the kernels of some kinds of fruit. *B. nucum*, the nut-weevil, deposits its eggs in the filbert and common nut, having bored a hole for that purpose in the nut when it is young and tender. The larvæ feed upon the kernel, and at the proper time gnaw a hole in the nut and make their escape into the ground, where they burrow and remain till they assume the pupa state, from which in the following summer the perfect insect comes forth. *B. glandium*, another species, attacks the acorn in the same manner as the previously mentioned species does the nut. The perfect insects or beetles are small, and possess a long slender rostrum or snout, which is furnished at the tip with an apparatus fitted for boring the hole in the nut, into which it deposits its eggs. (*Fig.* 270.)

Fig. 270.—1. BALANINUS NUCUM.
2. The tips of the rostrum, magnified, showing the jaws, *a a*.
3. Branch of nut-tree, showing the nut bored.

Bal'anites, *n.* (*Pal.*) A genus of fossil cirripedia, closely allied to the genus *Balanus*. Many species are

described, chiefly from the upper beds of the crag formation.

Balanophoraceæ, (*bal'a-no-fo-rā'se-ē,*) Cynomoriums, *n. pl.* (*Bot.*) An order of plants, class *Rhizogens.* Diag. Stems amorphous, fungoid; peduncles scaly; flowers in spikes; ovules solitary, pendulous; fruit one-seeded. These plants are parasites, and are found growing on the roots of various woody plants, especially in the tropical and sub-tropical mountains of Asia and South America. They have no leaves; their stems are of various colors, but never green; their peduncles are naked or scaly, bearing spikes of flowers, usually white. *Species.* Many are remarkable for their astringent properties; others are edible, and a few secrete a kind of wax. Two plants of this order are worthy of note; namely, *Cynomorium coccineum* and *Langsdorffia hypogæa.* The first is the *fungus melitensis* of pharmacologists, formerly highly valued as a styptic; the second yields large quantities of wax, which is used for making candles by the inhabitants of Colombia. The order includes 37 species, divided into 14 genera.

Bal'anus, *n.* (*Zoöl.*) The Acorn-shells or Barnacles, a genus of multivalve cirripedia, usually found adhering to various submarine productions, whether fixed or movable; such as the harder sea-plants and all sorts of crustaceans as well as testaceous animals, rocks, ships, timber, &c. — See Acorn-shell.

Balarnc', a village of France, near Frontignan, dep. Herault, near the border of a large pool (*étang de Thau*). Lat. 43° 28′ N.; Lon. 3° 41′ E. It is celebrated for its saline and thermal waters. Their temperature is about 118° F.

Bal'as, or Balæ, a town of Syria, situate at the N.W. corner of the bay of Alexandretta or Scanderoon, supposed to be the ancient *Issus,* in Cilicia. Not far from it was fought the second battle in which Alexander the Great defeated Darius.

Balasore', a seaport-town of Hindostan, pres. Bengal, prov. Orissa, on the Boorabulung, Lat. 21° 32′ N., Lon. 86° 56′ E., 125 m. S.W. of Calcutta; *pop.* about 11,000.

Bal'as-Ru'by, *n.* [Fr. *balais;* Sp. *balax;* Ger. *ballas,* from *Balashan,* a place near Samarcand, where it is found.] A term used by lapidaries to designate the rose-red varieties of spinel. It should be carefully distinguished from the *Sapphire* or Oriental ruby, a gem of much greater rarity and value.

Balas'sa, Valentine de Gyarmath, Count, the first great lyrical poet of Hungary, was b. about the middle of the 16th century. He took part in the civil wars of his country, but, dissatisfied with the political condition of Hungary, he left it in 1589, returned in 1594, fought against the Turks, and fell at the siege of Gran, in the same year. *B.*'s songs are popular to this day in Hungary, breathing, as they do, of the fire of love, patriotism, and chivalry.

Ba'laton, Lake of, in Hungary. See Platten-See.

Balaus'ta, *n.* (*Bot.*) See Berry.

Balaus'tine, *n.* The flower of the wild pomegranate. See Punica granatum.

Bal'ban, (Gheyaz Ed-din-Balban Shah,) a celebrated king of Delhi. Flourished about 1260. His administration was wise and equitable. His court surpassed in magnificence that of all his predecessors, and excited the admiration of all the sovereigns of India. The liberal patronage bestowed on learning, both by him and his son, attracted to Delhi men of letters from all parts of Asia. The loss of his son Mohammed embittered his last days and shortened his life. D. 1286.

Balbas'tro, or **Barbas'tro,** a town of Spain, prov. of Aragon, 30 m. from Saragossa; *pop.* about 5,000.

Bal'bec, or Baalbec, (anc. *Heliopolis,* "City of the Sun,") formerly a large and splendid city of Syria; Lat. 34° 1′ 30″ N., Lon. 36° 11′ E.; 43 m. N.W. of Damascus, 41 S.E. of Tripoli, 58 N.E. of Sidon, and 130 W. by S. of Palmyra; *pop.* about 2,000. It is situated in a fertile well-watered valley, the *Cœle-Syria* ("Hollow Syria") of the ancients, and the *Bâtena* of the moderns, between the ridges of Libanus, and Anti-Libanus, at the foot of the lower ranges of the latter. The remains of ancient architectural grandeur are more extensive in *B.* than in any other city of Syria, Palmyra excepted; and Burckhardt regards them as superior in execution to those of the latter. Finely grouped together, on the W. side of the town, are three temples, the largest occupying a circuit of more than half a mile, and originally consisting of a portico, hexagonal court, and a quadrangle, besides the peristyles of the temple itself. Of this last, six gigantic and highly polished pillars, 71 ft. 6 in. in height, and 23 ft. in circumference, with their cornice and entablature, remain to attest the stupendous magnitude and beauty of the structure of which they made a part. Immediately to the S. of the great temple is a smaller but more perfect edifice, called the *Circular Temple* (*Fig.* 271), that may be considered unique. It is of the Corinthian order, with niches on the exterior of the cella, and decorated with twelve columns, eight of which form a dipteral portico, which has a flight of twenty-one steps in front. From the two lateral columns of the portico commences the circular peristyle of the building. The entablature of the dipteral portico is carried in a straight line, and that of the peristyle is curved on the perpendicular face, and sweeps in an elegant line from column to column, the centre of the curved architrave being bedded on the circular wall of the building. This edifice is decorated in the interior with an Ionic order of columns, above which is another decoration, consisting of niches with pediments, and between each there is a single column with a small portion of an entablature over it; the roof was a dome probably open at the top, like the Pantheon at Rome. This building has been converted into a Greek church called St. Barbe. Greek, Roman, and Saracenic ruins cover the country round *B.* for three or four leagues, all evidently connected with the former greatness and prosperity of this city. — *B.* was a flourishing city ages before the Christian æra, and the probability seems to be that the "Baal-Ath," built by Solomon, in Lebanon (2 *Chron.* viii. 6), was identical with *B.* This is, indeed, the received opinion of all classes in Syria;

Fig. 271. — View of the Circular Temple.
(From Wood and Dawkins' Ruins of Balbec.)

and though the remains of Corinthian architecture cannot be referred to a remoter period than that of the Roman emperors, a cyclopean wall, yet extant, is evidently of a far more ancient date, and answers to the description of the "House of the Forest of Lebanon," built for the daughter of Pharaoh. (1 *Kings* vii. 10.) The silence of all the most ancient authors respecting so populous and wealthy a city, is as profound as it is remarkable. It, of course, shared the fate of the rest of Syria, passing successively into the hands of the Persians, Greeks, and Romans. Julius Cæsar made it a colony of the latter, and Antoninus either enlarged its temple to Jupiter, or built a new one that became one of the wonders of the world. In 748, it was sacked in the wars of the Caliphs, and from this blow it never recovered. — The Syrian city must not be confounded with another Baalbec or *Heliopolis,* in Lower Egypt, one of the earliest cities of which any record remains. Smith (*Dict. of Greek and Roman Geog.*) remarks concerning the last-mentioned city: "Its obelisks were probably seen by Abraham when he first migrated from Syria to the Delta, 1600 years B. C.; and here the father-in-law of Joseph filled the office of high-priest."

Bal'bec, in *Indiana,* a post-office of Jay co.

Bal'bi, Adriano, a celebrated geographer, b. at Venice, in 1782. He was professor of physics and geography in his native city till 1820, when he made a journey to Portugal. *A Statistical Essay on the Kingdom of Portugal and Algarve, compared with the other States of Europe,* was the fruit of his short residence in that country. He removed to Paris shortly after its publication, and commenced to collect materials for his great work, *Atlas Ethnographique du Globe, ou Classification des Peuples anciens et modernes d'après leurs Langues.* The 1st vol. was published in folio, in 1826. He continued to reside in Paris till 1832, publishing in succession statistical accounts of various European countries, and elaborating his celebrated *Abregé de Geographie redigé sur un Plan Nouveau.* He removed after the completion of that work to Padua, where, besides an elementary treatise on geography, and several valuable contributions to political science, he published, in 1830, *The World compared with the British Empire.* D. 1848.

Balbi, Gaspar, (*bal'be,*) a dealer in precious stones, who left Aleppo in 1579, on a journey to the Indies, and did not return till 1588. On his return he published an account of his journey. He visited Ormuz, Goa, Cochin, and Pegu, and describes what he saw, with considerable spirit, and, it is believed, with accuracy.

Balbi'nus, Decimus Cælius, a Roman senator who, after the death of the two Gordiani, killed by the soldiers of Maximinus, was elected emperor by the senate, concurrently with Clodius Pupienus Maximus, in opposition to the usurper Maximinus. The two emperors reigned little more than one year, and were assassinated by their soldiers, A. D. 238.

Bal'bo, Count Cæsare, an Italian author, b. at Turin, 1789. He is chiefly remarkable from the fact that his first important work, *Le Speranze d'Italia,* published in 1844, may be regarded as having given the programme of the "Moderate" party of Italian politics, and as having, together with the writings of d'Azeglio, Durando, and others, created the liberal party, in opposition to the Republican party as represented by Mazzini. *B.* was an accomplished historian and translator. He D. in June, 1853.

Bal'boa, Vasco Nuñez de, a celebrated Spanish discoverer, b. at Xeres de los Caballeros, in 1475. He accompanied Rodrigo de Bastidas in his expedition to the New World, and first settled in Hayti (or, as it was then termed, Hispañiola). Though an adventurer in search of fortune, his great ambition seems to have been to extend the boundaries of geographical knowledge, and especially to be able to announce to Europe the existence of another great ocean. He accordingly proceeded to the American continent, and there founded a colony, made numerous expeditions into the auriferous regions of the interior, and accumulated a vast amount of treasure. He now turned his attention to the great object of discovery on which he had set his heart. On the 1st of Sept., 1513, he commenced his perilous enterprise. Accompanied by a small band of followers, he began to thread the almost impenetrable forests of the Isthmus of Darien, and, guided by an Indian chief named Ponca, clambered up the rugged gorges of the mountains. At length, after a toilsome and dangerous journey, *B.* and his companions approached, on the 25th Sept., the summit of the mountain range, when *B.*, leaving his followers at a little distance behind, and advancing alone to the W. declivity, was the first to behold the vast unknown ocean, which he afterwards took solemn possession of in the name of his sovereign, and named it the *Pacific Ocean,* from the apparent quietude of its waters. Surrounded by his followers, he walked into it, carrying in his right hand a naked sword, and in his left the banner of Castile, and declared the sea of the South, and all the regions whose shores it bathed, to belong to the crown of Castile and Leon. During his absence, however, a new governor had been appointed to supersede *B.* in Hayti: where on his return, jealousy and dissensions springing up between them, *B.*, accused of a design to rebel, was beheaded in 1517, in violation of all forms of justice.

Balbrig'gan, a seaport of Ireland, co. Dublin, and prov. of Leinster, 17 m. N. by E. of Dublin. — *Manf.* Knitted hosiery. There is here a good harbor, with a light-house. *B.* is a favorite watering-place. *Pop.* about 2,500.

Balbu'ties, *n.* [Fr. *balbutiement;* from Lat. *balbus,* stammering.] (*Med.*) A vicious and incomplete pronunciation, in which almost all the consonants are replaced by the letters *b* and *l.*

Balch, in *Texas,* a post-office of Parker co., 11 m. W.S.W. of Weatherford.

Bal'conied, *a.* Having balconies.

Balcony, (*bal'ko-ne,*) *n.* [Fr. *balcon;* It. *balcone;* A.S. *balc;* Ger. *balken,* a beam.] (*Arch.*) An open gallery projecting from the front of a building, surrounded with

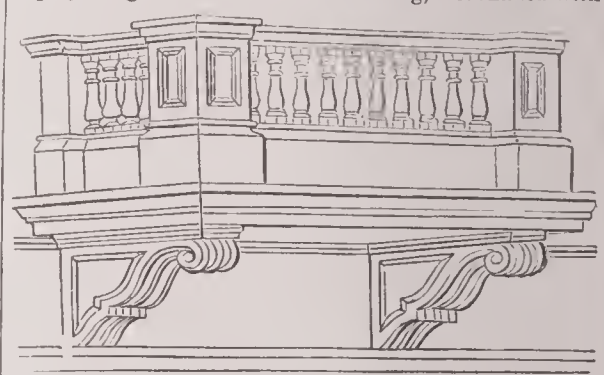


Fig. 272.

a rail or balustrade, of various devices, and supported by cantalevers, brackets, or columns. It is made of wood, stone, and sometimes of cast-iron or bar-iron fashioned into trail-work, or various fanciful figures. Balconies are generally made on a level with the sills of the windows of the first floor; sometimes every window in the range has a separate balcony, each of which is usually convex to the street.

(*Naut.*) See Gallery.

Bal'cony Falls, in *Virginia,* a post-office of Rockbridge co., on James River, 153 m. W. of Richmond.

Bald, *a.* [Sp. *peládo;* Finn. *paljas,* naked, bare.] Naked; bare; without hair on the head, or on the crown of the head; destitute of a natural covering; as, a *bald* pate.

"He should imitate Cæsar, who, because his head was *bald,* covered that defect with laurels." — *Addison.*

—Inelegant; unadorned; without appropriate ornament.

"And that, though labour'd, line must *bald* appear,
That brings ungrateful musick to the ear." — *Creech.*

(*Agric.*) Without an awn or beard; as, a *bald* ear of wheat.

Bald'-Buz'zard, *n.* (*Zoöl.*) The name given in England to the Fishing-hawk or Osprey, *q. v.*

Bald' Ea'gle, in *Pennsylvania,* a township of Clinton co., near the W. branch of the Susquehanna, and traversed by Bald Eagle Creek.

—A post-office of York co.

Bald Eagle Creek, in *Pennsylvania,* which rises near the centre of the State, and empties at Lock Haven into the W. branch of the Susquehanna.

Bald Eagle Mountain, in *Pennsylvania,* lying to the S.E. of Bald Eagle Creek, stretches from Huntingdon, through Centre and Clinton into Lycoming co.

Baldachin, (*bal'da-kin,*) *n.* [Fr. *baldaquin;* It. *baldacchino;* Sp. *baldaquino.*] (*Arch.*) A structure in form of a canopy, supported by columns, and often used as a covering for insulated altars. The form, for the most part, is square, and the top covered with cloth with a hanging fringe. The *B.* has been supposed to have been derived from the ancient *ciborium,* (a large cup or vase.) An isolated building, placed by the early Christians over tombs and altars, was called a ciborium. The modern *B.* is of the same form as the ciborium erected by Justinian in the church of Santa Sophia at Constantinople, which was made of silver, gold, and precious stones, and supported by four silver-gilt columns. The *B.* is, however, deprived of the curtains, which in the ciborium were intended to enclose whatever was deemed sacred within

The Mohammedans seem to have copied the ciborium in their tombs. The *B.* carried over the host in Catholic countries is not unfrequently of an umbrella-shape; a similar sort of umbrella may be seen on Etruscan vases. — The *B.* in St. Peter's at Rome, made by Bernini, is the most celebrated, and is the largest known work of the kind in bronze. The dais, or covering, is supported on four large twisted columns of the composite order, placed upon pedestals of black marble, the dies of which are ornamented with bronze escutcheons. The columns are fluted for one-third their height; the remaining part is ornamented with bays and leaves of laurel, combined something after the manner of the columns of the temple designed by Rafaelle in one of his cartoons. The whole work is beautifully executed and highly finished. Above the columns are four figures of angels standing upright; at the top of the covering there is a cross, and below the entablature the banner-like cloth fringe of the portable *B.* has been imitated. The plan is square, and the altar stands between the two pedestals of the foremost columns. The height is 126 ft. 3 in. from the floor of the church to the summit of the cross, of which the pedestal is 11 ft. 8 in., the columns 50 ft. 4 in.; the entablature 11 ft. 6 in., the covering 40 ft., and the cross is 12 ft. 9 in. There were 186,392 lbs. of bronze employed on this work.

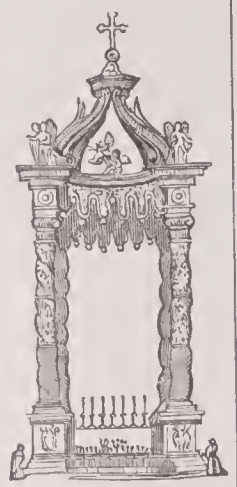


Fig. 273. — BALDACHIN IN ST. PETER'S, (Rome.)

Bal'derdash, *n.* [Probably from W. *baldorddas*, prattling, garrulity.] Badly mixed liquor. — Mean, senseless prate; jargon; ribaldry: anything jumbled together without judgment.

Bald'-head, *n.* A bald person; one who is bald on the head.

Bald' Head, a promontory of the U. States, in Maine; Lat. 43° 13′ N.; Lon. 70° 34′ 30″ W.

Bald' Head, a headland of S. Carolina, at the S.W. extremity of Smith's Island; Lat. 33° 51′ N.; Lon. 78° W.

Bald' Hill, in *Pennsylvania*, a P.O. of Greene co.

Bald' Knob, in *W. Virginia*, a P.O. of Boone co.

Bald'ly, *adv.* Nakedly; meanly; inelegantly.

Bald Mount, in *Pennsylvania*, a P.O. of Lacka. co.

Bald Mount'ain, in *Maine*, an isolated peak of Somerset co.

Bald Mount'ain, in *New York*, a post-office of Washington co.

Bald Mount'ain Ridge, in *Maine*, a hilly range in the N.W. of Somerset co.

Bald'ness, *n.* State of being bald; loss of hair; want of natural covering, as, the *baldness* of a hill.

> "And there, corrupting to a wound,
> Spread leprosy and *baldness* round." — *Swift.*

B. generally takes place in old age, but frequently also a loss of hair, on a part or over the whole head, occurs after febrile or other severe illness. It is caused by an atrophy of the follicles on which the hair depends for nutrition, and generally commences on the crown of the head. Many nostrums are recommended for the cure of baldness; but they are seldom attended with any good result, and frequently do harm. The means to be employed are such as tend to increase the circulation in the scalp to greater activity, as frequent rubbing with a hard towel or hair-brush, and the application of stimulants. Among the innumerable preparations calculated to prevent the falling off of hair, is the *Balm Nerval*, when obtained genuine.

—Meanness or inelegance of style; want of ornament.

Bal'do Mount, a mountain of Italy in Lombardy, E. of the Lago di Garda; height 7,100 feet.

Bald'pate, *n.* A head or pate that is without hair.

Bald'pate, Bald'pated, *a.* Shorn or destitute of hair.

Bal'dric, Bal'drick, *n.* [O. Fr. *baudrier;* L. Lat. *baldringas*, from O. Ger. *bald*, bold, strenuous: and L. Lat. *ringa*, a military belt, from Ger. *ring*, a circle.] A military belt or girdle, much worn by the warriors of feudal times. It encircled the waist, or was suspended from the right shoulder, and usually sustained a sword. It was often highly ornamented.

Bald'win, the name of a long line of sovereign Counts of Flanders, of whom the most celebrated was Baldwin IX., who became afterwards Emperor of Constantinople, under the name of

BALD'WIN I., the son of Baldwin VIII., Count of Flanders and Hainault, B. at Valeuciennes in 1170. In 1200, he joined the Crusaders with his brother Thierry, and in 1202 aided the Venetians in their attack upon Constantinople, of which city he was crowned emperor, 16th of May, 1204. In the next year, *B.* was taken prisoner by the king of Bulgaria, and it is said died in captivity, in 1206. He was much esteemed by the Greeks for his charity, temperance, and justice.

BALD'WIN II., the last Frank emperor of Constantinople, B. 1217. He was the son of Pierre de Courtenay, and succeeded his brother Robert in 1228. He was twice besieged in his imperial city, and being too weak to defend his dominions, repaired to Italy to seek aid from the Pope. At the court of France, *B.* was favorably received by the king, St. Louis, to whom he presented a crown of thorns, which was held by all Christendom to be the genuine relic. *B.*, in 1239, set out for Constantinople with a body of crusaders, who, however, soon quitted him, and took the route to Palestine. He succeeded, ultimately, in raising new forces in the West, and regained his capital: but, in 1261, Michael Paleologus invested it, and entered Constantinople on the 29th of July. *B.* fled to Sicily, where he D. in obscurity, in 1273.

Bald'win, I., king of Jerusalem, was the son of Eustace, Count of Bouillon, and accompanied his brother Godfrey of Bouillon into Palestine, where he gained the sovereignty of the State of Edessa. He succeeded his brother on the throne of Jerusalem in 1100, and for eighteen years waged war against the Turks, the Arabs, the Persians, and the Saracens. He took many towns, and secured for the Christians the coast of Syria, from the Gulf of Issus to the confines of Egypt. D. at Laris, in the desert, 1118, and was buried on Mount Calvary. — In the first canto of the *Gerusalemme*, of Tasso, the poet has depicted the character of this monarch as well as that of his brother Godfrey.

BALD'WIN II., son of Hugh, Count of Rethel, was crowned in 1118, after Eustace, brother of Baldwin I., had renounced all claim to the vacant throne. In 1120 he gained a great victory over the Saracens, but in 1124 he was taken prisoner by them, and was ransomed only by giving up the city of Tyre. In 1131 he abdicated in favor of his son-in-law, Foulques of Anjou, and retired to a monastery, where he died in the same year. — The military and religious order of the Templars, for the defence of the Holy Land, was instituted in the reign of this monarch.

BALD'WIN III., son of Foulques of Anjou, whom he succeeded in 1142, under the guardianship of his mother. He took Ascalon and other places; but under his reign the Christians lost Edessa. B. 1130; D. at Antioch, 1162. He was succeeded by his brother, Amaury I.

BALD'WIN IV., son of Amaury, succeeded to the throne of Jerusalem on the death of his father, in 1174; but being leprous, Raymond, Count of Tripoli, governed the kingdom for him. He afterwards resigned the throne to his nephew, Baldwin V., 1183, and D. 1185.

BALD'WIN V., son of Sibylla, sister of Baldwin IV., was called to the throne when 5 years old, 1183, and died of poison, supposed to have been administered by his mother, in order that her second husband, Guy de Lusignan, might enjoy the throne. The following year, 1187, the Christians lost Jerusalem, which was taken by Saladin.

Bald'win, in *Alabama*, a county lying in the S. part of the State, at the mouth of Mobile River. *Area*, about 1900 sq. m. It is bounded on the W. by Mobile river, on the N.W. by the Alabama, and on the E. by the Perdido. *Surface*, in some parts level, in others undulating; *soil*, sandy and poor. *Pop.* (1890) 8,941. *Cap.* Daphne.

Bald'win, in *Florida*, a post-village of Duval co., 20 m. W. of Jacksonville.

Bald'win, in *Georgia*, a central county, with an area of 257 sq. m. It is traversed by the Oconee, and also watered by Little River, and by Black Camp and Fishing Creeks. *Surface*, for the most part, hilly; *soil*, generally fertile. *Cap.* Milledgeville.

Bald'win, in *Maine*, a township of Cumberland co., about 25 m. W.N.W. of the city of Portland, on the Saco river.

Bald'win, in *Minnesota*, a township of Sherburne county.

Bald'win, in *Mississippi*, a village of Hinds co., on the Big Black River, 35 m. from Jackson.

Bald'win, in *Missouri*, a village of St. Louis co., 20 m. W. of St. Louis.

Bald'win, in *New York*, a post-township of Chemung co., 6 m. E. of Elmira.

Bald'win, in *Pennsylvania*, a township of Alleghany county.

—A post-village of Butler co.

Bald'win City, in *Kansas*, a post-village of Douglas co. It is a flourishing place.

Bald'win's Phos'phorus. (*Chem.*) Nitrate of lime, when evaporated, loses its water of crystallization, and becomes luminous in the dark, as discovered by Baldwin, in 1675.

Bald'winsville, in *Illinois*, a post-village of Edgar co., 24 m. N.W. of Terre-Haute.

Bald'winsville, in *Massachusetts*, a post-village of Templeton township, Worcester co., 55 m. W.N.W. of Boston.

Bald'winsville, in *Missouri*, a village of Mississippi co., on the Mississippi river, 3 or 4 m. above Wolf Island.

Bald'winsville, in *New York*, a post-village of Lysander township, Onondaga co., on the Seneca River, 12 m. N. by W. of Syracuse, and 22 miles south by east of Oswego.

Bald'wyn, or BALDWIN, in *Mississippi*, a post-village of Itawamba co., 31 m. S. of Corinth.

Bale, *n.* [Fr. *balle.*] A ball; a round mass; a bundle or package of goods covered with canvas or tarpaulin, and corded for carriage or transportation.

—[A.S. *beal*, *bealo*; O. Ger. *balo*, ruin, destruction.] Misery; calamity; sorrow; mischief; destruction.

> "For light she hated as the deadly *bale*." — *Spenser.*

—*v. a.* [Dan. *balle;* Gael. *ballam*, a pail or tub; Fr. *emballer.*] To pack up goods in the form of a bale. — To free from water with a *pail* or *bowl;* to lave out water; to bale; as, to *bale* a boat.

> "Each sea curl'd o'er the stern, and kept them wet,
> And bade them *bale* without a moment's ease." — *Byron.*

Bale, in Switzerland. See BASLE.

Balearic Islands, (*bāl-e-ar'ik,*) a group of Spanish islands, in the Mediterranean, lying off the coast of Valencia. They are five in number: — Majorca, Minorca, Cabrera, Iviza, and Formentera. Lat. between 38° 40′ and 40° 5′ N.; Lon. between 1° and 5° E. Aggregate *pop.* 269,818. — At an early date these islands were visited by the Phœnicians, and after them by the Greeks, who, it is said, named them *ballein*, "to throw," from the expertness of the natives in using the sling, to the use of which they were trained from their infancy. — Later, the *B. I.* became subject to Carthage; but after a short period of freedom were annexed to the Roman empire by Metellus, 123 B. C. From that time their history is involved in that of the peninsula.—Bayard Taylor, who visited them in 1867, and Capt. Clayton, in his *Sunny South*, published in 1869, concur in the statement that these primitive islanders still retain that remarkable character for honesty, simplicity, contentment, and industry, which has distinguished them from the earliest times. — See MAJORCA, MINORCA, &c.

Baleen', *n.* [Fr. *baleine.*] (*Com.*) Plates or slabs of *whale-bone*, q. v.

Bale'-fire, *n.* [A. S. *bæl-fyr*, the fire of a funeral pyre.] A lighted beacon; an alarm-fire.

> "Sweet Teviot! on thy silver tide
> The gloomy *bale-fires* blaze no more." — *Walter Scott.*

Bale'ful, *a.* Full of bale; replete with misery: deadly; pernicious; full of calamity, sorrow, or mischief; sad; woful.

> "But when I feel the bitter *baleful* smart,
> Which her fair eyes unawares do work in me." — *Spenser.*

Bale'fully, *adv.* Sorrowfully; perniciously; in a calamitous manner.

Bale'fulness, *n.* State or quality of bale; condition of being baleful.

Balen'ic Acid. (*Chem.*) A fatty acid, fusing at 164°; obtained from the oil of ben. *Form.* $C_{30}H_{30}O_4$.

Balfe', MICHAEL WILLIAM, a celebrated musical composer, was B. in Dublin, 1808. In 1827 he went to Paris, where, under the name of "Balfi," he met with great success as a bass singer, with Malibran and Sontag. He then went to Italy, and wrote a long series of operas for Milan, Paris, and London. In 1845, *B.* became director of the Italian Opera in the latter city. It is a curious fact that the operas of this composer have been more popular in Germany than in any other country. His *Bohemian Girl* and the *Quatre Fils d'Aymon*, had an immense success at Berlin. *B.* is a disciple of Paer and Rossini, and to some extent imitates Auber in his productions. His opera-airs are melodious, but he is destitute of the true creative genius. His principal works are, besides the above-mentioned, the *Siege of Rochelle*, the *Enchantress*, *Les Puits d'Amour*, the *Jewess*, the *Daughter of St. Mark*, the *Rose of Castile*, *Satanella*, &c. D. 1870.

Bal'four, SIR JAMES, lord-president of the Court of Session in Scotland, and the reputed author of *Practicks of the Law*, rose to eminence as a privy councillor and judge, and was with Mary Queen of Scots at Holyrood on the night of the assassination of Rizzio. He was, shortly afterwards, knighted by the queen, and subsequently attached himself to the fortunes of Bothwell, uniting in the conspiracy against Darnley. He prepared the house in the Kirk of Field for the atrocious murder of that unfortunate nobleman, and was, in the despatch of the Earl of Lennox, charged with being an accomplice in that crime. He seems to have changed sides with every party in power. After being concerned in nearly all the stormy intrigues of the times, now fleeing from his country to save his head, and now returning to become an accuser, a prosecutor, and condemner of others, he died 1583.

Balfroosh', a large and flourishing city of Persia, prov. of Mazunderan, on the Bahbul, about 12 m. from the S. shore of the Caspian Sea. Lat. 36° 37′ N.; Lon. 54° 42′ E. It possesses an extensive trade, and has a large number of caravanseras, bazaars, and *medrasses* or colleges. *Pop.* 50,000.

Bali, or LITTLE JAVA, an island of the E. or Malay Archipelago, 1st div.; lying in 8° 42′ 5″ S. Lat., and 116° 33′ E. Lon. *Area*, 16,848 sq. m. Length, 70 m., by an average breadth of 35. *Soil and Prod.* Soil tolerably fertile, producing rice, gambier, &c. The natives, being superior to the Malays and Javanese in size, strength, and intelligence, are preferred by the Chinese as laborers. *P.* about 700,000.

Bal'ing, *n.* Act or operation of making up into a bale, as cotton, &c. — Act of freeing from water, as a boat.

Bal'ing-press, *n.* A press worked by mechanical power, and used for the compression of cotton or other commodity, into bales for shipment or transportation.

Bal'iol, SIR JOHN DE, an English knight, founder of Baliol Coll., Oxford, and governor of Carlisle in 1248. On the marriage of Margaret, daughter of Henry III., to Alexander III., king of Scotland, the guardianship of the royal pair, as well as of the kingdom, was committed to *B.* in conjunction with another. They were afterwards charged with abusing their trust, and Henry III. marched towards Scotland to punish them, but *B.* made his peace with the king by paying a large sum into the royal treasury. In the contest between Henry III. and the barons, under Simon de Montfort, *B.* sided with the king, for which the barons seized his lands. D. 1269.

Bal'iol, JOHN DE, KING OF SCOTLAND, B. 1259, was the son of the preceding, and as the head of the English interest in Scotland, laid claim, on the death of Queen Margaret, (known as the "Maid of Norway,") to the vacant throne, by virtue of his descent from David, Earl of Huntingdon, brother of William the Lion, King of Scotland. His principal competitor was Robert Bruce, who sprung from the same ancestry. Edward I. of England being appointed arbitrator, declared in favor of Baliol, who did homage to him for the kingdom, 12th Nov., 1292. He, however, did not hold the sceptre long; for remonstrating against the power assumed by Edward over Scotland, he was summoned to his tribunal as a vassal. *B.*, provoked at this, concluded a treaty with France, the consequence

of which was a war with England. The battle of Dunbar decided the fate of *B.*, who surrendered his crown into the hands of Edward, who committed both him and his son to the Tower of London. At the Pope's intercession, they were subsoquently released, when *B.* retired to his estates in Normandy, where he D. in 1314. *B.*'s son, Edward, afterwards claimed, invaded, and recovered the kingdom of Scotland, but he did not keep it long, and dying without issue, the family became extinct.

Balis'ta, *n.* (*Mil.*) See BALLISTA.

Bal'ister, *n.* (*Mil.*) The same as BALISTA, *q. v.*

Bal'istes, *n.* [From *balista.*] (*Zoöl.*) The File-fish. See BALISTIDÆ.

Balis'tidæ, *n. pl.* (*Zoöl.*) The File-fishes; a family of fishes, order *Plectognathi*. They are characterized by having a conical compressed body, jaws armed with one or two rows of small distinct teeth, and skin covered on the surface with scaly plates, surmounted with spines, tubercles, &c. The species are found chiefly in tho intertropical seas. The UNICORN FILE-FISH (*Balistes monoceros*) grows to a considerable size, often exceeding two feet in length: the body is of an oval shape, and, like most others of this genus, it possesses the power of inflating at pleasure the sides of the abdomen, by means of a pair of bony processes withiu that part: the skin is everywhere covered with very minute spines, and the general color is gray, inclining to brown on the upper parts, and varied with irregular, dusky, sub-transverse undulations and spots: both fins and tail are of a light brown color, the latter marked by a few dusky bars. It is a native of the Indian and American seas, and feeds chiefly on crustaceous and testaceous marine animals.

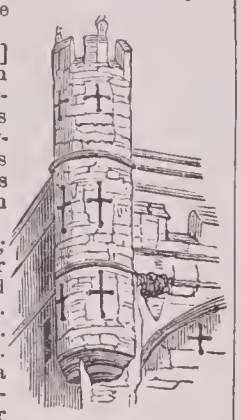


Fig. 274.

Balistra'ria, *n.* [It. *balestriera.*] (*Arch.*) One of the names given to narrow and cruciform apertures in the walls of strongholds or castles, through which the bowmen discharged their missiles, as seen in fig. 274, which represents a bartizan, or small turret, from Monk-bargate, York, England.

Balize, (*ba-leez'.*) [Fr. *balize;* Lat. *palus,* a pole.] A beacon or land-mark; a pole or staff erected on a coast as a gnide for mariners.

Balize', in Hondnras. See BELIZE.

Balk, (*bawk.*) *n.* [A.S. *balc;* W. *balc.*] Something passed over: a ridge of land left unploughed between furrows, or between other ridges.—A great beam or rafter of timber used in building; as, a rafter in a barn.—A hinderance a frnstration; a disappointment.

(*Mil.*) One of the beams connecting the successive supports of a trestle-bridge or bridge of boats.

—*v. a.* To pass over, as in ploughing; to leave untouched.

> "Nor doth he any creature *balk,*
> But lays on all he meeteth."—*Drayton.*

—To baffle, disappoint, or frnstrate; as, to *balk* a fancy.

> "*Balk'd* of his prey, the yelling monster flies,
> And fills the city with his hideous cries."—*Pope.*

—To pile, as in a heap or ridge.

> ". . . three and twenty knights,
> *Balk'd* in their blood, did Sir Walter see
> On Homildon's plains."—*Shaks.*

—*v. n.* To come to an abrupt pause or stop in anything; as, ho *balked* in his sermon.

Bal'kan Mountains. See TURKEY IN EUROPE.

Balkash', or TENGHIZ, an extensive lake of Central Asia, on the borders of Chinese Tnrkestan, and the Russian government of Tomsk. Between 44° and 47° N. Lat., and Lon. 77° and 81° E. It is 150 m. long, by 75 broad.

Balk'er, *n.* One who balks another.—A person who stands on a cliff or other high grounnd on the sea-shore, and notifies fishermen which course the shoals of herring take, and where they may bo found.

Balkh. (Anc. BACTRA.) A province of Central Asia, now snbordinate to the Emir of Afghanistan, lying between Lat. 35° and 37° N., and Lon. 63° and 69° E., having on the N. the Oscus, E. Buduk-Shun, S. the Hindoo-Coosh, and on the W. the desert. Length, E. to W. about 250 m.; breadth, 100 to 120; *area,* 30,000 sq. m.—*Surface,* irregular; *soil,* generally sandy and barren. Its capital, and the country subordinate to it, have, since the fall of the Dooranee monarchy in Cabul, to which state it formerly belonged, been taken possession of by the Afghans.

BALKH (the *Zariaspa* and *Bactra* of the Greeks), a decayed and almost depopulated city, once the capital of the aboved-named province, is situate on a river of the same name, in a plain 18 m. S. of the Oxus, and 250 S.E. of Bokhara; Lat. 36° 48′ N.; Lon. 67° 18′ E. The ruins of tho ancient city occupy a circuit of 20 m.; they consist chiefly of fallen mosques and decayed tombs, none of an age prior to that of Mohammed. This city, like Babylon, has become to the surrounding country an all but inexhaustible mine of bricks. The citadel contains a stone of white marble, pointed out as the throne of Cyrus! *B.* is styled by Orientals, *Omm-el-Buldan* (the "Mother of Cities"), on account of its great antiquity. It is said to have been built by Kyamoors, the founder of the Persian monarchy. After its conquest by Alexander the Great, it flourished as the capital of a Grecian kingdom. Jenghis Khan, Timour, Aurungzebe, Nadir Shah, and the Afghans successively possessed it, and it was finally taken by the Khan of Bokhara from the Usbeck Tartars, in 1820.

Balk'ingly, *adv.* In a frustrating or balking manner.

Balk'ish, *a.* Uneven; rugged; ridgy. (R.)

Balk'y, *a.* [Amer.] Apt to shy or turn aside, or come to a sudden stop; as, a *balky* mule.

Ball, (*bawl,*) *n.* [Ger. and Swed. *ball;* allied to Lat. *pila,* a ball.] A round body; anything round or approaching roundness; as, a billiard-*ball.*

—Any part of the human body which is round, bossy, or protuberant; as, the *ball* of the great toe.

—A small globe of wood or ivory, used in casting lots, or balloting.—See BALLOT.

(*Mil.*) Any round or conical projectile of lead or iron discharged from fire-arms. For small arms, as pistols and muskets, they are of lead; for artillery, of iron. The term ball, with a prefix sufficiently expressive of its purposes, denotes a composition of various combustible ingredients, as fire-balls, light-balls, smoke-balls, stink-balls. The projectiles bearing these names are used either for giving light, or for harassing the enemy by giving out a dense smoke or suffocating fumes. They are generally fired out of mortars, and seldom from guns. *Light-balls,* which are used in order to disclose the position or movements of the enemy at night, are composed of painted canvas stretched over a framework. They are filled with a compact mixture of saltpetre, sulphur, resin, and linseed-oil, and are furnished with time-fuses. They give out a brilliant light, which lasts for a considerable period. *Smoke-balls* are composed of successive layers of strong paper, and are filled with gunpowder, saltpetre, powdered coal, tallow, and pitch. After ignition they give out dense fumes of blinding smoke for more than half an hour. *Stink-balls* are filled with a chemical composition which, when burning, diffuses a noxious suffocating odor around.

(*Printing.*) A sort of cushion composed of hair or wool, covered with leather or other coating, and fixed to a holdfast called a *ball-stock;*—formerly used to lay the ink on type when set in forms.

(*Farriery.*) [From Lat. *bolus.*] A large bolus or pill in which medicine is administered to horses; generally termed a *horse-ball.*

(*Games.*) A gymnastic exercise of high antiquity. In the *Odyssey,* we find Phæacian damsels playing ball to the sound of music. It was the principal exercise of the Spartans; and so highly was it esteemed by the Athenians, that they set up a statue to Aristonicus for his skill at it. The Romans of all ages and degrees played at it, and Pliny describes old Spurinna as warding off decrepitude by practising the game. The Greeks and Romans had four kinds of balls: two of leather inflated with air, and played upon the earth, by many running after it at once,—consequently similar to our foot-ball; one a small ball, played like our shuttlecock; and one stuffed with feathers, and played by three persons in a triangle. In the Middle Ages, ball-playing was a regular amusement with the students of France, Germany, and Italy; and at the present time, there are public places for ball-playing in Italy and Germany. In England, ball-playing has been a favorite exercise from an early date, one variety of game at ball giving its name to a celebrated street at the west-end of the metropolis—*Pall-Mall.* The ball is still played in various ways; such as being kicked by the foot, thrown by the hand, or knocked by a bat; this last is much played in many parts of the U. States, under the name of BASE-BALL, *q. v.*—See also CRICKET, TENNIS, GOLF, &c.

—[Fr. *bal;* It. *ballo,* from *ballare,* to dance.] An entertainment of dancing; a social assembly met for the amusement of the dance.

Ball, *v. a.* To collect snow into balls, as on horses' hoofs.

Ball, SIR ALEXANDER JOHN, a British admiral, who served with distinctiou in the first American war, and afterwards in tho Mediterranean under Nelson. At the battle of the Nile he commanded the *Alexander,* and it is said that from a peculiar combustible thrown from that ship the explosion of the French man-of-war *L'Orient* is to be attributed. e afterwards besieged Malta, in 1800, which place was compelled to surrender. D. at Malta, of which island he had been made governor, in 1809.

Bal'la, or **Bal'lagh,** a village of Ireland, in the co. Mayo, 8 m. S.E. of Castlebar; *pop.* about 620.

Bal'lad, *n.* [Fr. *ballade;* It. *ballata,* from *ballare,* to dance.] (*Lit.*) A song originally adapted to a dance or ball; a popular song; a short narrative poem of the lyric order; a short air. Specifically, a short epic song of an entirely lyrical nature. If we trace the English and Scottish ballad to its origin, we must have recourse to those songs which existed among the inhabitants of the island before the Norman conquest, and were of a kind common to all the Teutonic nations. It is related of King Alfred that he sung ballads to his harp in the camp of the Danes. Among the Scandinavian nations, the three great divisions, or cycles, of the Teutonic poetry of the Middle Ages,—the stories of the *Nibelungen-Lied,* those of Charlemagne, (particularly such as relate to his wars against the Arabians and the battle of Roncesvalles,) and the tales of King Arthur's Round Table,—consist of what, at a later period, were called *ballads.* Tacitus informs us that ballads were the only annals known among the ancient German nations. In Wales, the *bards,* or writers of ballad-poetry, have from the earliest ages exercised an almost omnipotent influence over their countrymen; an influence surviving, in a great measure, up to the present day. Even in the New World, the American savages had their war-songs and rude poetry, in which they sung the praises of those who had fought and died for their nation. In process of time, as manners refined, the ballad in every country by degrees included a wider range of subjects: it was no longer solely employed in rehearsing valorous exploits, but included in its rhymes tho marvellous tale or the wild adventure, occasionally becoming the vehicle of sentiment and passion. No festivity was esteemed complete among our ancestors in the 11th, 12th, and 13th centuries, which was not set off with the exercise of the minstrel's talents; who usually sang his ballad to his own or some other harp, and was everywhere received with respect. As intellectual gratification advanced, however, these rude performances gradually lost their attraction with the superior ranks in society. When language became refined, and political taste elevated, by an acquaintance with the Greek and Latin authors, the subjects of the epic muse were no longer dressed in the homely garb of the popular ballad, but assumed the borrowed ornament and stately air of heroic poetry; and every poetical attempt in the sublime and beautiful cast was an imitation of the classic models. The native poetry of the country was reserved merely for the humorous and burlesque, and the term "ballad" was brought, by custom, to signify a comic story, told in low familiar language, and accompanied by a droll trivial tune. It was much used by the wits of the time as a vehicle for laughable ridicule and mirthful satire; and a great variety of the most pleasing specimens of this kind of writing is to be found in the witty æra of English genius, which we take to be comprehended between the beginning of Charles II.'s reign, and the times of Swift and Prior. Since that period, the genius of the age has chiefly been characterized by the correct, elegant, and tender; and a real or affected taste for beautiful simplicity has almost universally prevailed. Andrew Fletcher, of Saltoun, said, if he were permitted to make the *ballads* of a nation, he cared not who should make the *laws,* ("Political Works," 1749;) so strong a belief had he in the revolutionizing tendency of an heroic ballad or song. To give an instance of the truth of this remark, we need only mention how the popular, though comparatively senseless, ballad of *Lillibullero* assisted to bring about the English Revolution of 1688. It is generally allowed among well-read men that the best specimens known of the old popular ballads are to be found in Scotland, or more properly, perhaps, on the Scottish border between Scotland and England. The earliest ballad now remaining in the English language is believed to be a "Cuckoo Song" of the latter part of the reign of Henry III. The song speaks for itself, although we give a modernized version.

Fig. 275.
ENGLISH BALLAD-SELLER, (1650.)

Sumer is icumen in,	Summer is coming in,
Lhudè sing cuccu;	Loud sings cuckoo;
Groweth sed and bloweth med,	The seed grows, the mead blows,
And springyth the wdè nu.	And the wood springs new,—
Sing cuccu.	Sing cuckoo.
Awe beteth after lamb,	Ewe bleats after lamb,
Lhouth after calvè cu,	The calf lows after cow,
Bullue sterteth,	The bullock starts, the buck
Buckè verteth,	verts—
Murie sing cuccu:	Merrily sings cuckoo!
Cuccu, cuccu:	Cuckoo! cuckoo!
Wel singes thu cuccu,	Well sing'st thou, cuckoo,
Ne swik thu naver nu.	Mayst thou never cease.

Among the finer of the old English *B.* that have come down to us are, *Chevy Chase, The Robin Hood Ballads,* Sir John Suckling's *Ballad on a Wedding,* &c. Sir Walter Scott, in his "Scottish Minstrelsy," has presented us with the choicest examples of the old Scots *B.* Among its more modern specimens of note are, *Fair Helen of Kirkconnel Lea; Johnnie Armstrong;* Lady Lindsay's *Auld Robin Gray;* the *Banks and Braes o' Bonnie Doon,* of Burns; *Annie Laurie,* &c. Ireland, from the muse of Carolan, and later, of Moore, the "Bard of Erin," has given to the world *B.* poetry of touching pathos and beauty. Need we mention the "Irish Melodies" of the latter poet?—his *Harp that once through Tara's Halls,* that one, of the many, which is so dear to the Irish heart?—Of the modern English *B.* (strictly speaking) we have Cowper's *John Gilpin;* Goldsmith's *Edwin and Angelina;* Aytoun's *Lays of the Scottish Cavaliers;* Praed's *Ballads;* the *Bon Gaultier Ballads;* Macaulay's *Armada,* and *Lays of Ancient Rome;* the ballads of Thackeray; Coleridge's *Ancient Mariner,* &c., &c.—The French *B.* never reached any degree of perfection, because their *fabliaux,* legends, &c., early degenerated into interminable metrical and prose romances of chivalry. From 1830 to 1840, with the taste for the study of the Middle Ages, the *B.* came into fashion, and very successful illustrations of the modern style may be found in the works of Alfred de Musset, and the earlier poetical effusions of Victor Hugo.—No modern nation has cultivated the composition of ballad poetry so assidnously as the Germans. The *Lenore* of Bürger brought in a new æra of ballad-writing in Germany. He confined the name 'ballad,' as Coleridge has also done in imitation of him, to an epic narrative, with something fabulous and supernatural in

the background, but still possessing enough of earth to interest the mass of humanity. Schiller, Göthe, and Uhland have followed in his wake; and the latter has done much in modern times to familiarize the German mind with this species of composition.—The ballad poetry of the northern nations, particularly those of Iceland, of the Faroe Isles, of Denmark, and Norway and Sweden, retain their ancient character to the present day.—In Italy, the ballad never flourished: the poetry of that country has always retained a certain antique spirit, and the Italians never partook, to any great extent, in the crusades, being fully occupied at home in the wars of the free cities. The Portuguese never cultivated the ballad much. Almost all their poetry of this kind is to be traced to a Spanish origin. The Russians have lyrico-epic poems, of which some, in old Russian, are excellent. A curious circumstance in this connection is the resemblance which appears between the *B.* of peoples often widely separated and distinct in race, the same incidents, and sometimes the same story, recurring. This may have been due to the great popularity of these poems during the mediæval period, and their wide extension in consequence. Probably the Crusades had much to do with this.—See Bard, Fabliaux, Jongleur, Lay, Minnesinger, Minstrel, Nibelungen-Lied, Romance, Roundelay, Troubadour, Trouvère, &c.

—*v. n.* To compose or sing ballads; to allude to, or make mention of, in ballads.

Bal'lader, Balladeer', *n.* A writer of ballads.

Bal'lad-mong'er, *n.* An itinerant vender of ballads.

Ballaghade'rin, a town of Ireland, co. Mayo, 30 m. E.N.E. of Castlebar; *pop.* about 1,400.

Ballaghmore', a village of Ireland, near Roscrea, in Queen's co. The ruins of Monaincha Abbey are near this place.

Ballaghy', a village of Ireland, co. Londonderry, 18 m. from Coleraine.

Bal'lahac, in *California*, a mining camp of Sierra co., 25 m. N. of Downieville.

Bal'larat, a town of Victoria, S. Australia, 75 miles W.N.W. of Melbourne. It is famous for its gold-fields, unrivalled for the fineness of the metal they yield. *Pop.* (1895) 46,036.

Bal'lard, in *Kentucky*, a western county, separated from Missouri and Illinois by the Ohio river. It is watered by Mayfield's Creek. Surface, undulating and wooded; soil, partly fertile, partly poor. *Cap.* Wickliffe. *Pop.* (1898) 8,750.

Bal'lardsville, in *Kentucky*, a village of Oldham co., about 30 m. E. by N. of Louisville.

Bal'lardsville, in *W. Virginia*, a post-village of Boone co., about 250 m. W. by N. of Richmond.

Bal'las, a town of Upper Egypt, on the Nile. Lat. 26° N.; Lon. 32° 42′ E. It is famous for the earthen jars called *Ballasee* jars, which are manufactured here and used throughout Egypt for carrying water.

Bal'last, *n.* [A.S. *bat*, a boat, and *hlæst*, a burden; Dut. *ballast.*] (*Mar.*) The load of stones, sand, or other heavy substance, which a ship carries when without cargo; dead-weight laid in the hold of a ship to keep her steady or in equipoise in the water.—Broken stones or rubbish, gravel, &c., used in constructing a railroad to make solid the permanent way.—Metaphorically, that which is used to make anything steady.

—*v. a.* To load a vessel with ballast.—To make or keep anything steady; as, to *ballast* the bed of a railway.

> "Now you have given me virtue for my guide,
> And with true honour *ballasted* my pride."—*Dryden.*

Bal'lastage, *n.* (*Law.*) Dues or tolls paid to harbor-authorities for the privilege of loading a ship with ballast.

Bal'lasting, *n.* Furnishing with ballast; keeping steady.

Bal'last-lighter, *n.* (*Mar.*) A barge or lighter employed in a port or harbor to receive the ballast discharged from a ship; or, *vice versâ*, to convey the same to a ship's side.

Ballatoon', *n.* A large flat-bottomed boat or barge used in Russia for the carriage of timber by water.

Ball Camp, in *Tennessee*, a post-office of Knox co.

Ball-cart'ridge, *n.* (*Milit.*) A cartridge furnished with a ball.

Ball'-cock, *n.* A hollow sphere of thin metal, attached by a small rod to the cock of a water-cistern. When the cistern is empty, the water flows in at the tap, but with the rising water, the hollow sphere, the ball-cock, is buoyed up, and by this means the tap is turned off when the cistern is full.

Bal'lenstadt, a town of N. Germany, in the duchy of Anhalt, 15 m. S.E. of Halberstadt. In the environs is a fine castle, the residence of the Duke. *Pop.* 4,848.

Bal'leny Islands, in the Antarctic ocean, a group of five islands discovered in 1839. They are volcanic, and of small size. Lat. 66° 44′ S; Lon. 163° 11′ E.

Balleri'na, *n.* [Sp. and It.] The principal female dancer in a ballet; a ballet-girl.

Ballet, (*bal'lai,*) *n.* [Fr. *ballet*; It. *balletto*, from *ballo*, a dance.] In its widest sense, the representation of a series of passionate actions and feelings, by means of gestures and dancing. According to this signification, we comprehend, under *B.*, even representations of mental emotions, not connected with a regular train of action. In a more confined sense, we call *B.* musical pieces, the object of which is to represent, by mimic movements and dances, actions, characters, sentiments, passions, and feelings, in which several dancers perform together. According to the analogy of lyrical poetry, those which rather represent feelings may be called *lyrical* ballets; those which imitate actions, *dramatic* ballets. The lyrical and dramatic ballets, together, constitute the higher art of dancing, in opposition to the lower, the aim of which is only social pleasure. A ballet is usually divided into several acts, each of which has several *entrees*. An *entree*, in a ballet, consists of one or several quadrilles of dancers, who, by their steps, gestures, and attitudes, represent a certain part of the action. In criticising a ballet, we must consider, first, the choice of the subject, which must have unity of action or of passion, and must be capable of being represented in an intelligible manner by means of mimic movements and dancing; secondly, the plan and execution of the single parts, which must have a due proportion to each other; and, finally, the music and decorations, which must supply whatever dancing cannot bring before the eye. The ballet is an invention of modern times, (the ingenious artist Baltazarini, director of music to the Queen Catharine de Medicis probably gave its form to the regular ballet,) though pantomimic dances were not unknown to the ancients. (See Mimic, and Pantomime.) Noverre, a Frenchman, brought the ballet to the greatest perfection, about 1750.—The bounds, leaps, and pirouettes of the principal performers seem rather to be surprising feats of muscular strength and agility than the actual motions of the dance. The intricate figure-dances of the auxiliary groups of coryphées, as performed in the principal theatres in Europe, are generally most picturesque and pleasing; but they become offensive to the taste when performed without any respect for morality and decency, as it is too often the case in our theatres, where the name *Ballet* is given to licentious dances and poses imported from the Parisian minor theatres and pleasure-gardens.

Bal'let-dancer, *n.* A figurante; a female dancer in a ballet.—See Ballerina.

Bal'let-master, *n.* One who directs a ballet; a person who manages the Terpsichorean department in a theatre.

Ball'-flower, *n.* (*Arch.*) An ornament resembling a ball placed in a circular flower, the three petals forming a cup round it; much used as an enrichment to mouldings, and otherwise, in the decorated style of Gothic architecture.

Bal'liage, *n.* Same as Bailage.

Bal'lin, *n.* (*Geog.*) See Bal.

Ballina', a town of Ireland, co. Mayo, on the Moy, 126 m. W.N.W. of Dublin. *Pop.* 5,960.

Ballinaboy', a parish of Ireland, in the co. Cork.

Ballina'carrig, a parish of Ireland, in the co. Carlow.

Ballinà'carrig, a hamlet of Ireland, co. Cork.

Ballinacour'ty, a par. of Ireland, in the co. Galway, at the head of Galway Bay, 3½ m. S. of Oranmore.

Ballinacour'ty, a parish of Ireland, in the co. Kerry.

Ballinahag'lish, a par. of Ireland, in the co. Mayo.

Ballinahag'lish, a par. of Ireland, in the co. Kerry.

Ballinahinch', a barony, parish, demesne, lake, river, and ancient castle of Ireland, in Connemara, co. Galway, 37 m. W.N.W. of Galway. This barony was until a few years past the property of the celebrated "Dick Martin," or, as he was popularly called, the *King of Connemara*. In the castle of *B.* he lived for years with almost regal state, dwelling among his retainers and tenantry like a chieftain of feudal times, and keeping a daily table for all comers to dine at.—He eventually ruined himself utterly by his hospitality and munificence. Mr. Martin, who for many years represented the co. Galway in the British parliament, was the author of the well-known "Martin's Act" for the Prevention of Cruelty to Animals. His fortunes form the substance of Charles Lever's novel of the *Martins of Cro'Martin*.

Ballinahinch', a town of Ireland, in the co. Down, 10 m. E. of Dromore. A battle was fought here in 1798, between the insurgent Irish and the royal troops. *Pop.* about 1,000.

Ballinakill', a town of Ireland, in Queen's co., 11 m. S. of Maryborough; *pop.* about 1,800.

Ballinakill', the name of several parishes in Ireland.

Ballinamore', a village of Ireland, co. Leitrim, 13 m. N.E. of Carrick-on-Shannon; *pop.* about 300.

Ballinamuck', a village of Ireland, co. Longford, prov. of Leinster, 11 m. N.N.E. of Longford.

Ballinascreen', a parish of Ireland, co. Londonderry.

Ballinasket'lig's Bay, in Ireland, co. Kerry. Hog Head is in its E. entrance; Bolus Head on its W. It is about 5 m. broad.

Ballinasloe', a town of Ireland, counties Galway and Roscommon, in prov. of Connaught, on the Suck, 78 m. W. by S. of Dublin. The battle of Aghrim (*q. v.*) was fought in the neighborhood. *Pop.* 4,106.

Ballincal'la, or Ballincho'la, a parish of Ireland, in prov. of Connaught, divided between the counties Mayo and Galway.

Ballincol'lig, a garrison-town of Ireland, in the co. Cork, on the river Lee, 5 m. W. of Cork. Gunpowder is largely manufactured here, and an ancient castle presents fine remains.

Ballincuslane', or **Ballycuslane',** a par. of Ireland, in the co. Kerry.

Ballinder'ry, a parish of Ireland, co. Antrim.

—Another, in co. Tyrone.

—A village in co. Wicklow, 2 m. N.W. of Rathdrum.

Ballindoon', a parish of Ireland, co. Galway.

Ballingad'dy, a parish of Ireland, co. Limerick.

Ballingar'ry, a parish of Ireland, co. Limerick, and 17 m. S.W. of that city.

Ballingar'ry, a village and parish of Ireland, co. Tipperary, 20 m. N.E. of Clonmel.—A parish of co. Limerick.—Another in co. Tipperary.

Balling-process, (*bawl'ling.*) (*Chem.*) A process by which sulphate of soda is converted into carbonate of soda. Sulphate of soda, limestone (carbonate of lime), and small coal are intimately mixed, and subjected to heat in a reverberatory furnace. Sulphide of sodium is formed, carbonic acid escaping in large quantities. By carefully regulating the heat, the limestone gives up its carbonic acid to the soda, receiving sulphur in exchange. The resulting mixture is termed *black ash*, or crude soda, and contains carbonate of soda, lime, and sulphide of calcium.—See Soda.

Ballinland'ers, a parish of Ireland, co. Limerick.

Ballinoe', a parish of Ireland, co. Cork.

Ballinrobe', a town of Ireland, co. Mayo, prov. of Connaught, on the Robe, 25 m. N.N.W. of Galway. It is a progressive place in the midst of a fine agricultural country. *Pop.* about 2,900.

Ballintem'ple, a parish of Ireland, co. Cavan.—Also the name of five other parishes in Ireland.

Ballintob'ber, a parish of Ireland, co. Roscommon, and 12 m. from the town of Roscommon. There are here the ruins of a magnificent castle.—The name of two baronies in the same co., and of a par. in the co. Mayo.

Ballintogher, a township of Ireland, co. Sligo, 7 m. S.E. of Sligo.

Ballintoy', a seaport town and parish of Ireland, 4 m. N. of Ballycastle, co. Antrim. *Pop.* about 5,200.

Ballis'ta, or **Balis'ta,** *n.*; *pl.* Ballistæ, or Balistæ. [Lat.] (*Mil.*) An engine used by the ancients for hurling stones, as the *catapulta* was used for throwing heavy darts and arrows. The particular construction of the *B.* is not exactly understood, or rather, it seems to have been made in different ways. One sort was constructed with levers and bars, and another with pulleys, another with a crane, and another with a toothed wheel.

Bal'lister, *n.* The same as Ballista.

Ballis'tic, *a.* [Lat. *ballista.*] Belonging, or having relation to, a cross-bow, or to the art of projecting weapons of assault by means of an engine.

Ballistic Pendulum. (*Phys.*) An instrument invented by Robins, for measuring the velocity of cannon or musket-balls. It consists of a large, heavy block of wood, plated with iron at the back, and fixed to an iron bar, which, at the other extremity, is attached to a transverse bar of iron, which serves as an axis of suspension. To the lower end of the pendulum is attached a ribbon, passing loosely through an orifice in a horizontal bar in the framework. The length of the ribbon drawn out by the pendulum, on being struck, shows the extent of the vibration, which being known, together with the weight of the shot, the length, &c. of the pendulum, the velocity may be calculated.

Ballis'tics, *n.* (*Milit.*) The art or function of impelling darts or offensive weapons by means of an engine or other mechanical contrivance.—The science of projectiles.

Bal'lium, *n.* [L. Lat.] (*Fort.*) See Bailey.

Ball Mountain, in *Michigan*, a P. O. of Oakland co.

Balloon', *n.* [Fr. *ballon*, from *balle*, a ball.] Any spherical hollow body; a round chemical vessel; a ball on the top of a pillar, &c.

(*Aëronautics.*) A large globe or pear-shaped bag, made of paper or varnished silk, which, containing a gas specifically lighter than common air, rises into the atmosphere with a greater or less degree of ascensional force. A car, supported by a net-work which extends over the balloon, supports the aëronaut; and a valve, usually placed at the top, to which a string is attached, reaching to the car, gives him the power of allowing the gas to escape, and of descending at pleasure.—During the dark ages, and for some time after the revival of science, numerous projects were entertained for navigating the air; but it is only in very recent times, since 1783, that any of them have been realized. The first idea was to employ some mechanical contrivance resembling the wings of birds; but Borelli demonstrated that all attempts on the part of man to fly must necessarily fail, from the utter disproportion of his muscular power to the force that would be necessary to give impulsion to wings of such enormous magnitude as would be required to sustain his weight in the air.—The principle by which a *B.* rises in the atmosphere is exactly the same as that which causes the ascent of a cork from the bottom of a vessel filled with water. The weight of the volume of air which it displaces must exceed the weight of the balloon and all that it carries with it. That bodies must rise and remain suspended in a fluid denser than themselves was proved by Archimedes; but the weight of the air is a modern discovery; and it was only in the latter half of the last century that chemistry detected the nature and differences of specific gravities of aëriform fluids. Mr. Cavendish, in 1766, found hydrogen gas to be from about seven to eleven times lighter than common air, according to the mode of its preparation. In its pure state it is found to be nearly sixteen times lighter than common air. This substance, therefore, if prevented from diffusing itself, and allowed to obey the force by which it is impelled upwards, will continue to mount till it arrives at a stratum of the atmosphere sixteen times more attenuated than at the surface of the earth. Accordingly, no sooner had Cavendish announced his discovery, than it occurred to Dr. Black that a very thin bag filled with hydrogen gas would mount to the ceiling of a room. Through some imperfection, the experiment, when he attempted to execute it, failed; and Cavallo, in 1782, did not succeed in raising anything heavier than a soap-bubble.—Knowing the specific gravities of atmospheric air, of the gas with which the balloon is to be filled, and the weight of the envelope in which it is confined, it is not difficult to compute the size the balloon must have in order to rise from the ground, or carry a given weight to a given height in the atmosphere. A globe of air, one foot in diameter, at the level of the sea and under ordinary pressure, weighs about 1-25th of a pound avoirdupois. An equal globe of hydrogen gas, obtained in the usual way by dissolving iron filings in dilute sulphuric acid, may be assumed (making every allowance for imperfect preparation) to be about six times lighter

than atmospheric air; consequently, 5-6ths of its whole buoyant force will act in impelling it upwards: that is to say, the force with which a sphere of such gas, one foot in diameter, will tend to rise in the atmosphere, will be $\frac{5}{6} \times \frac{1}{2\,5} = \frac{1}{3\,0}$ of a pound avoirdupois. The ascensional forces of different spheres will be proportional to their magnitudes, that is, to the cube of their diameters; therefore a sphere 12 feet in diameter would rise with a force of 57 pounds, and one of 24 feet in diameter with a force of $8 \times 57 = 456$ pounds. But these determinations must be diminished by the weight of the envelope. The best material for the purpose at present known is thin silk varnished with elastic gum, or India-rubber. The quantity of this material required to cover a globe one foot in diameter, weighs about 1-20th of a pound. Now for a globe of a greater size, the quantity required will increase with the square of the diameter; hence the covering of a balloon 12 feet in diameter must weigh about 7 pounds, and of one 24 feet in diameter. 28 pounds. It follows, therefore, that a balloon of 12 feet in diameter will only raise from the ground a weight of 50 pounds, and one of 24 feet, 428 pounds. Computing in the same manner, it is found that a balloon 60 feet in diameter would raise a weight equal to about 6,950 pounds; and that one of a foot and a half would barely float, the weight of the bag being just equal to that of the imprisoned gas.—The height to which a balloon will rise is determined from the law according to which the density of the atmospheric strata diminishes as the distance from the earth is increased. The buoyant force diminishes with the density; and when it is reduced to a quantity only equal to the weight of the balloon and its appendages, no further ascension can take place. Another circumstance also confines the possible elevation within moderate limits. As the pressure of the external air is diminished, the expansive force of the confined gas becomes greater, and would ultimately overcome the resistance of any material of which a balloon can be made. A balloon quite filled at the surface of the earth would inevitably be torn to shreds at the height of a few miles in the atmosphere, unless a portion of the gas were allowed to escape. For this purpose the balloon is furnished with a safety-valve, which can be opened and shut at pleasure; but, to prevent unnecessary waste of gas, it ought to be made of such a size that it requires only to be partly filled. A balloon half filled at the surface of the earth would become fully distended at the height of 3½ miles.—We have hitherto spoken only of balloons filled with hydrogen gas; but it is evident that any other substance specifically lighter than air would answer the purpose; in fact, the first balloons by which any one was raised into the atmosphere were not filled with hydrogen, but simply with rarefied air, the rarefaction being produced by kindling a fire under them; and as they thus became filled with smoke, they were called smoke-balloons. The ascensional force, however, which can be gained in this way, is not great; besides, the aëronaut must carry a portion of fuel with him for the purpose of maintaining the fire, which adds sensibly to the weight to be raised.—The two French brothers Montgolfier had the honor of first preparing and sending up a *B.* into the air. After one or two previous

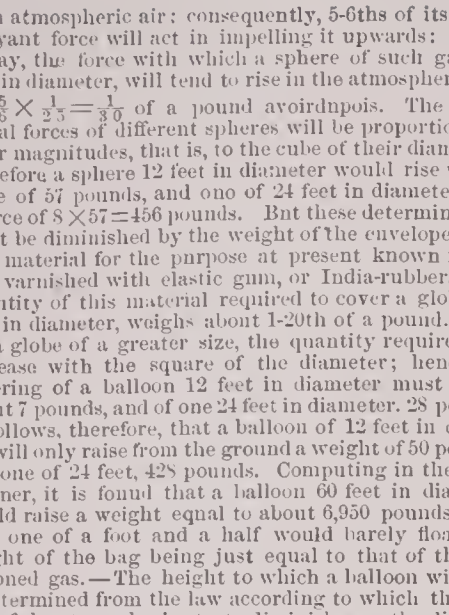


Fig. 276.—THE FIRST BALLOON SENT UP.

trials, they announced a public ascent on the 5th of June, 1783. The envelope was prepared of linen cloth, a fire was kindled under it, and fed with bundles of chopped straw. This substance was used with a view to produce a large quantity of smoke. It would seem that they attributed the elevation of the *B.* to the ascending power of the smoke, instead of its true cause, the rarefaction of the heated air. In the space of five minutes it was completely distended, and on being let slip, ascended rapidly. It reached an elevation of about a mile, remained suspended ten minutes, and fell at the distance of 1½ miles from the place of its ascension. Later in the same year, two other experimentalists, MM. Charles and Robert, stimulated by the success of the Montgolfiers, substituted hydrogen gas for heated air, and their *B.* rose to a height of 3,000 feet. The first adventurers who had courage to undertake an aërial ascent in a *B.*, were Pilâtre de Rozier, a young naturalist, and the Marquis d'Arlandes. On the 21st of Nov., 1783, they took their seats in the basket of a smoke-balloon; and after rising to an elevation of upwards of 3,000 feet, descended in safety to the earth. The next ascent was made by MM. Charles and Robert in a *B.* filled with hydrogen gas, on the first of Jan., 1784. After a flight of an hour and a half, they alighted on the meadow of Nesle, about 25 m. from Paris, without the slightest accident. *B.* became then quite a rage, so that, from the commencement of the year 1784, Europe was literally covered with them. In 1785, Dr. Potain crossed from Dublin to England; and the celebrated Blanchard, who made 36 successful voyages, passed from England to France, accompanied by Dr. Jeffries, an American physician, the voyage being performed in less than three hours. This visit led to the tragic death of Pilâtre de Rozier. Wishing to return the compliment of Blanchard's trip, Rozier, with a companion named Roumain, set out for England in a combination of the fire and gas *B.* Shortly after starting, when they had reached a height of 3,000 feet, the whole took fire, and the voyagers were dashed upon the rocks near Boulogne, and killed. This calamitous occurrence, however, did not damp the courage of aëronauts. It was obvious that it had been occasioned by the want of proper precautions; accordingly, ascents continued to be multiplied, and have since become so common as to be an ordinary spectacle in the principal cities of the Old and New Worlds.—When *B.* first began to be constructed, it was expected that they would be found applicable to many important purposes. These expectations have largely ended in disappointment, chiefly through the difficulty of controlling the course of balloons, the principal power which the aeronaut has being to control the elevation of his balloon within certain limits. The highest ascent on record was made by Glaisher and Coxwell, Sept. 5, 1862, from Wolverhampton, England. These daring aëronauts reached an elevation of fully 7 miles, at which point the barometer fell to 7 inches and the thermometer stood at—12° F. Greater height has been reached by small balloons provided with registering apparatus. One sent up in March, 1896, reached a height of 8 miles; but in October, 1895, a still greater height had been reached—50,854 feet, or about 9⅔ miles. The temperature here registered—94° F. In some instances the *B.* has been used for military purposes—first by General Jourdau, in 1794, and later in various wars. During the siege of Paris, in 1870–71, many *B.* left the city, conveying several persons and nearly 2,500,000 letters and post-cards, answers being returned by means of carrier pigeons. It is probable that in future wars captive or dirigible *B.* may be employed, both to observe or photograph an enemy's position and to let fall explosives on camps and ships. Ascents were made by Biot and Gay Lussac, in 1804, for the purpose of making meteorological observations in the upper atmosphere. Other scientific ascents have been made from time to time, the most important being those of Glaisher and Flammarion (1862–68). Aërostation has been actively prosecuted in the U. S., and Mr. Wise has more than once exploded his *B.* in the air, the fragments of the net-work serving as a parachute and permitting an easy descent. The latest projected use of the *B.* is for the purpose of reaching the North Pole, a feat which several adventurers are prepared to undertake. (See POLAR RESEARCH.) For experiments and results in the use of *B.* as controllable air-ships, see AERONAUTICS.

Balloon'ist, *n.* An aëronaut; one who manufactures or ascends in a balloon.

Balloon'ry, *n.* The science of aëronautics; the practice or art of ascension in a balloon.

Bal'lot, *n.* [Fr. *ballotte*, from *balle*, a ball.] A little ball used in giving votes; a ticket or written note, used for the same purpose, and put privately into a box or urn set apart for this object.

—Act of voting by balls or tickets; as, "The insufficiency of the *ballot*."—*Dickens.*

—*v. n.* [Fr. *ballotter*.] To vote by ballot or by written tickets.

"Giving their votes by *balloting*, they lie under no awe."—*Swift.*

Ballo'ta, *n.* [Gr. *ballo*, to reject, on account of its offensive odor.] (*Bot.*) A genus of plants, ord. *Lamiaceæ*. The black or fetid Horehound, *B. nigra*, with a stem 2–3 feet high, and purple or white flowers in axillary verticles, has the general appearance of the Horehound, *Marrubium vulgare*, without its fragrance.

Bal'lotade, *n.* (*Man.*) The leap of a horse between two pillars, or upon a straight line, so that when his fore feet are in the air, he shows nothing but the shoes of his hind feet, without jerking out; differing in that respect from the *capriole*.

Bal'lot-box, *n.* A box for receiving votes by ballot.

Bal'loter, *n.* A person who votes by ballot.

Bal'lotin, *n.* One who collects votes by ballot. (R.)

Bal'loting, *n.* The act of voting by ballot.

Ballou', HOSEA, commonly called FATHER BALLOU, the founder of Universalism in the U. States, was B. at Richmond, New Hampshire, in 1771. His father, a Baptist clergyman, gave him but scanty education. We are told that he learned to write with a cinder on strips of bark, by the light of the fire. Having embraced the Universalist doctrine, he was expelled from his father's church, and soon became an itinerant preacher. After laboring in different parts of the country, he settled as minister of the second Universalist Society in Boston, where he D. in 1852. During his long ministry of 60 years, he was ever earnest in promulgating his peculiar tenets, and was so successful as to found a sect. In his various writings he also avowed his belief in the Unitarian doctrines. *B.* founded the *Universalist Expositor*, now called the *Universalist Quarterly Review*.

Ball'-proof, *a.* Not susceptible of being punctured or penetrated by balls from fire-arms.

Ball'-room, *n.* A room set apart for the holding of balls, or assemblies of persons met for dancing.

Ball's Bluff, in *Virginia*, opposite Harrison's Island, on the right bank of the Potomac, in Loudoun co., about 33 m. N.W. of Washington. Here a severe battle was fought between the Union troops and the Confederates on the 21st Oct., 1861. The latter having occupied the Virginian shore of the river for several months, Gen. McClellan, whose army was assembled on the Maryland side, made a reconnoissance on the 19th. Several Union companies crossed the Potomac on Sunday, the 20th, and took up a position on Leesburg Heights, or Ball's Bluff. Their number was increased to 1,900 men by large reinforcements on the 21st, when they occupied a parallelogram, bounded on three sides by a dense forest, and on the fourth by the river, with only four boats capable of carrying 60 persons each, as a means of return. The Confederates opened a heavy fire from the surrounding woods, and the National troops, their retreat being cut off by the destruction of the boats, suffered a disastrous defeat, losing their commander, Col. Baker, and about 1,000 men killed, wounded, and prisoners; together with three guns. The Confederate General Evans estimated his loss at 300 men. This battle is sometimes called the *Battle of Leesburg Heights*.

Ball's Mills, in *Pennsylvania*, a vill. of Lycoming co.

Ball's Pond, in *Connecticut*, a village of Fairfield co.

Balls'ton, in *New York*, a post-township of Saratoga co., 25 m. N. of Albany.

Balls'ton Centre, in *New York*, a post-village of Saratoga co., 25 m. N. of Albany.

Balls'ton Spa, in *New York*, a post-village and cap. of Saratoga co., 30 m. N. of Albany, and 7 S.W. of Saratoga Springs. It is remarkable for its springs of mineral waters, from whence the affix of *spa* to its name.

Balls'town, in *Indiana*, a post-village of Ripley co.

Balls'ville, in *Ohio*, a village and township of Sandusky co., on the Sandusky river, about 1½ m. from Fremont.

Balls'ville, in *Virginia*, a village of Powhattan co.

Ball'-valve, *n.* (*Mech.*) A valve consisting of a ball, fitting into a hemispherical cup which has a hole at the bottom. The ball is prevented from moving upwards or sideways beyond a certain point, by a frame of wire placed over it.

Ball'-vein, *n.* (*Min.*) A sort of iron-ore, found in loose masses of a circular form, containing sparkling particles.

Ball'ville, in *New York*, a village of Orange co., 23 m. W. by N. of Newburg.

Ball'win, in *Missouri*, a post-office of St. Louis co.

Bal'ly, *n.* (*Geog.*) See BAL.

Bal'ly, a considerable town of the island of Lombok, in the Malayan Archipelago, E. Indies. Lat. 8° 31′ S.; Lon. 116° 28′ E.

Ballybay', a town and par. of Ireland, in co. Monaghan, and 8 m. S.S.E. of Monaghau.

Ballybo'fey, or **Ballybo'phy,** a town of Ireland, co. Donegal, on the Finn, 14 m. W.S.W. of Lifford; *pop.* about 850.

Ballyboy', a parish of Ireland, in Leinster province, King's co.

Ballybun'nion, a watering-place of Ireland, on the Shannon, 17 m. N. of Tralee, in the co. Kerry. It is famous for its many natural caves, some of which are of large size.

Ballybur'ley, a parish of Ireland, in King's co.

Ballycal'len, a par. of Ireland, co. Kilkenny.

Bal'lycastle, a seaport of Ireland, on the N. coast of the co. Antrim, prov. Ulster, on a bay of the same name, 42 m. W. by N. of Belfast; *pop.* about 2,500.

Bal'lycastle, a sea-bathing resort in Ireland, co. Mayo; *pop.* about 1,000.

Ballyclare', a market-town of Ireland, co. Antrim, 11 m. N. of Belfast; *pop.* about 1,000.

Ballyclough', in *Iowa*, a post-office of Dubuque co.

Ballycon'nell, a town of Ireland, co. and 9 m. N.W. of Sligo. *Pop.* about 600.

—A town of Ireland, co. Cavan, and 13 m. N.W. of the town of Cavan. *Pop.* about 420.

Ballycot'ton, an island, bay, and village of Ireland, co. Cork, about 20 m. S.E. of Cork. *Pop.* of village, about 500. Lat. of island, 51° 50′ N.; Lon. 7° 59′ W.

Ballydu'ff', a post-village of Upper Canada, co. Durham, 55 m. N.E. of Toronto.

Ballyeas'ton, a par. and village of Ireland, co. Antrim, 2 m. N. of Ballyclare. *Pop.* about 300.

Ballyfer'ris Point, a promontory of the E. coast of Ireland, co. Down; Lat. 54° 39′ N.; Lon. 5° 34′ W.

Ballyfin', a chapelry of Ireland, in Queen's co., 4 m. N. of Maryborough.

Ballygaw'ley, a market-town of Ireland, co. Tyrone, 3 m. N.N.W. of Aughnacloy. *Pop.* about 950.

Ballyhaise', a town of Ireland, co. and 4 m. N.N.E. of Cavan. *Pop.* about 750.

Ballyheigh', or **Ballyheigue',** a par. of Ireland, co. Kerry, on a bay of the same name, 9 m. N.E. of Tralee. *Pop.* about 5,000.

Ballyjamesduff', a market-town of Ireland, co. and 11 m. S.E. of Cavan. *Pop.* about 2,000.

Ballykean', a parish of Ireland, in King's co.

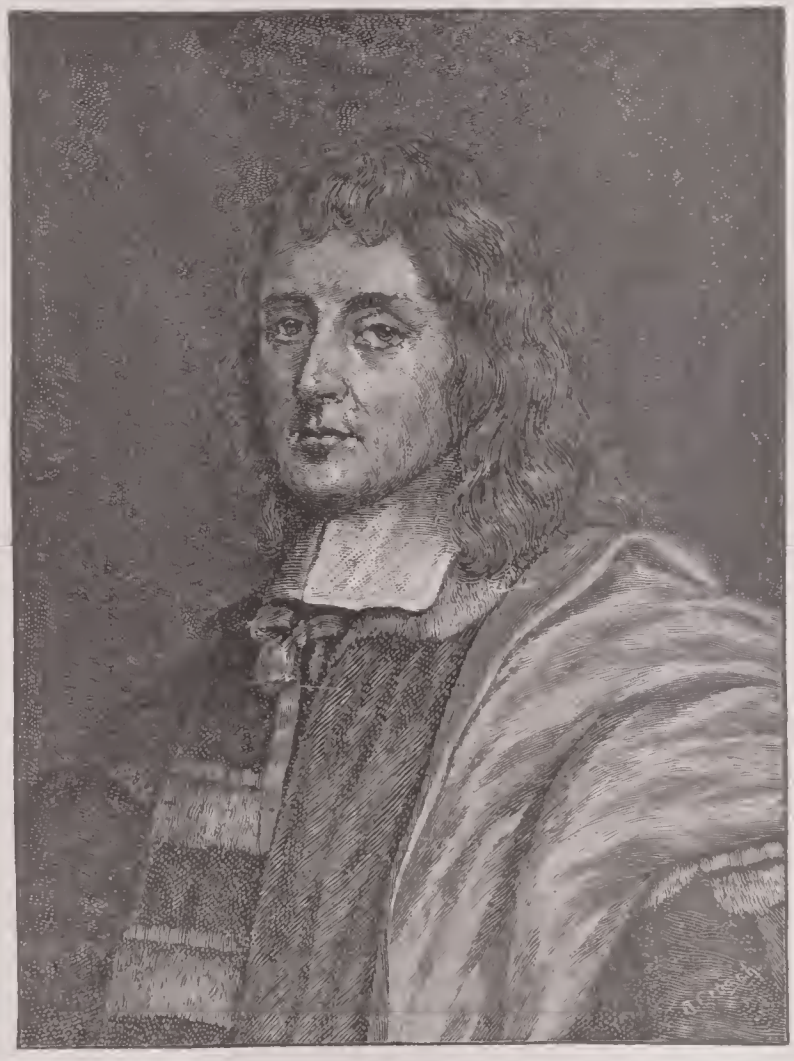
Ballylong'ford, a small seaport of Ireland, co. Kerry, in Munster, 5 m. W.S.W. of Tarbert, on the estuary of the Shannon. Near it are the ruins of Lislaghten Abbey.

Ballyloughloe', a par. of Ireland, co. Westmeath.

Ballymacel'ligott, a par. of Ireland, co. Kerry.

Ballyma'hon, a market-town of Ireland, co. and 11 m. S.E. of Longford. It is a thriving place, with a *pop.* of about 1,500.

Ballymascan'lon, a par. of Ireland, co. Louth.



Lord Baltimore

1582–1632

Ballyme'na, a flourishing town of Ireland, co. Antrim, 23 m. N.N.W. of Belfast. It is a fine, well-built place, with a large trade in linen. *Pop.* 7,451.

Ballymo'ney, a town of Irelaud, co. Antrim, 8 m. S.E. of Coleraine; *pop.* about 3,000.

Ballymo'ney, a town and par. of Ireland, co. Autrim, 17 m. N.W. of Ballymena. *Pop.* about 3,000.

—A parish of Ireland, co. Cork.

Ballymore', a par. of Ireland, co. Westmeath. *Pop.* about 4,000.—Another, co. Wexford; *pop.* about 600.

—A par. and market-town, co. Armagh; *pop.* about 12,000.

Ballymore'-Eus'tace, a village and par. of Ireland, co. Kildare on the Liffey. *Pop.* of parish, about 2,400; of village, about 1,100.

Ballymote', a village of Ireland, co. Sligo, aud 13 m. S.W. of the town of Sligo.

Ballymy'aeck, a par. of Ireland, co. Tipperary.

Ballyo'vey, a parish of Ireland, co. Mayo.

Ballyrag'get, a par. of Irelaud, ou the Nore, co. Kilkenny, 10 m. N.N.W. of Kilkenuy. *Pop.* about 930.

Ballysadare', a flourishing seaport of Ireland, situated at a bay of the same name, in the co. of Sligo.

Ballysax', a par. of Ireland, co. Kildare.

Ballyscal'lion, a par. of Irelaud, co. Antrim.

Ballyshan'non, a seaport town of Ireland, in the co. of Donegal, and prov. of Ulster, on the Erne, where it discharges into Ballyshanuon Bay, 108 m. N.W. of Dublin. In its immediate vicinity is a magnificent cascade formed by the Erne. *Pop.* about 3,000. Here are the ruins of the ancient castle of the O'Donuells, Earls of Tyrconnell.

Ballyshan'non, a parish of Ireland, co. Kildare.

Ballytore', a town of Ireland, 11 m. S.S.E. of Kildare. *Pop.* about 510.

Ballyvour'ney, a par. and village of Ireland, co. Cork, 8 m. W. of Macroom.

Ballywal'ter, a par. of Ireland, co. Down.

Ballywil'lin, a parish of Ireland, co. Londonderry.

Balm, (*bäm,*) *n.* [Fr. *baume.* See BALSAM.] An odoriferous vegetable sap or juice; a fragrant ointment. That which heals, soothes, or mitigates pain; figuratively used in the same sense in composition.

"A tender smile our sorrow's only *balm.*"—*Young.*

(*Bot.*) A common aromatic plant; the *Melissa officinalis.* See MELISSA.

Balm of Gilead. See BALSAMODENDRON.

—*v. a.* To anoint with balm, or any balsamic substance.

"*Balm* his foul head with warm distilled waters."—*Shaks.*

—To soothe; to mitigate; to assuage.

"This rest might yet have *balm'd* thy senses."—*Shaks.*

Balm, in *Pennsylvania,* a post-office of Mercer co.

Balme, (COL DE,) (*bam,*) a pass of the Alps in Switzerland, leading from the valley of Trient into that of Chamouni. Height, 7,218 ft. above the sea.

Balm'ily, *adv.* In a balmy manner.

Balmoral Castle, (*bal-mo'ral,*) in Scotland, the Highland residence of Queen Victoria, in the parish of Crathie, Aberdeenshire, 52 m. from Aberdeen.

Balm'y, *a.* Having the qualities of balm; aromatic; odoriferous; soft; mitigating; mild.—Affording or producing balm.

Bal'neum, or **Bali'neum,** *n.* [Lat., a bath.] (*Antiq.*) In its primary sense, a bath or bathing-vessel, such as most Romans possessed in their own houses; and from that it came to mean the chamber which contained the bath. When the baths of private individuals became more sumptuous, and comprised many rooms, the plural *balnea* or *balinea* was adopted, which still, in correct language, had reference only to the baths of private persons. *Balneæ* and *balineæ,* which have no singular number, were the public baths. But this accuracy of diction is neglected by many of the subsequent writers. *Thermæ* mean, properly, warm springs, or baths of warm water, but were afterwards applied to the structures in which the baths were placed, and which were both hot and cold.—See THERMÆ.

Bal'otade, *n.* See BALLOTADE.

Bal'sa, or **Bal'za,** *n.* [Sp. and Pg.] (*Mar.*) A kind of fishing-craft employed on the W. coast of S. America.

Bal'sam, *n.* [Gr. *balsamon;* Heb. *baal,* lord, and *shemen,* oil.] (*Chem. and Med.*) The name given to almost every oily or resinous substance exuding from trees; but now used scientifically to denote a vegetable product containing either benzoic or cinnamic acid. The true balsams are much used in medicine on account of their stimulating, expectorant, and tonic properties. The most important are the balsams of *Peru* and *Tolu, benzoin,* solid *styrax,* or *storax,* and liquid *styrax.* (See these different words.) All these substances are very fragrant. They vary much in their consistence. Thus benzoin is solid, hard, and brittle; Peruvian balsam is fluid; and Tolu is intermediate, being a very soft and readily fusible solid. *Copaiba,* commonly called balsam copaiba, is not a true balsam, but belongs to the class of oleo-resins. The same may be said of Canada balsam. Several medicinal mixtures, in which oils enter, are commonly included under the head of balsams. Thus the preparation known as balsam of sulphur, used as an application to foul ulcers, consists simply of flowers of sulphur and olive-oil. (*Bot.*) See BALSAMINACEÆ, and FIR.

Balsama'tion, *n.* The act or operation of making balsamic

Balsam'ic, *n.* [Fr. *balsamique.*] Anything which owns the properties of a balsam.

Balsam'ic, Balsam'ical, *a.* Having the qualities of balsam; unctuous; soft; mitigating: mild; as, "and renders them oily and *balsamic.*"—*Arbuthnot.*

Balsam'ically, *adv* In a balsamic manner.

Balsamiferous, *a.* [Lat. *balsamum,* and *ferre,* to bear.] Affording or producing balsam.

Balsamifluæ, *n. pl.* (*Bot.*) The same as ALTINGIACEÆ, *q. v.*

Balsam'ina, *n.* (*Bot. and Hort.*) The most common name of the gen. *Impatiens,* ord. *Balsaminaceæ.* CHARACT. Sepals colored, apparently 4, the 2 upper being united, the lowest gibbous and spurred; petals apparently 2, each of the lower being united to the 2 lateral ones; anthers cohering at the apex; capsule often 1-celled by the obliteration of the dissepiments, 5-valved, bursting elastically; stems smooth, succulent, tender, subpellucid, with tumid joints. There are numerous species, several of which have very handsome flowers. They are chiefly found in the damper parts of the East Indies; but the only one that is much known is the common garden balsam, *B. hortensis,* which, in its double state, has been an object of cultivation since the earliest records of modern horticulture. This plant is one of those species which not only has a tendency to vary with double flowers, but has also the power of continuing to produce them when renewed from seeds. On this account it particularly deserves the attention of the cultivator, especially as it may be brought by art to a state of beauty equalled by few plants. It should be raised in a hot-bed, treated with great care as a tender annual, grown in rich soil, sheltered from excessive sunlight, and kept constantly in a damp atmosphere, but freely and fully ventilated. It should not, however, be stimulated into extremely rapid growth until the plants have become stout bushes, and the flowers have grown to the size of small peas. At that time the plants should have all the heat and moisture they can bear, and the most brilliant flowers the plant is capable of producing will be the result; in the latter stage of growth, great care is still to be taken to expose the plants fully to air.—The Touch-me-not, *Impatiens pallida,* (*Fig.* 277,) found in wet, shady places, in the U. States and Canada, has a stem 2–4 ft. high, branched and pale yellow flowers, sparingly maculate, blossoming in Aug. Its capsule, oblong-cylindrical, 1′ long, bursts at the slightest touch when matured, and scatters the seed.—The Jewel-weed, *Impatiens fulva,* principally distinguished from the preceding by its flowers, deep orange, maculate with many brown spots, is more common, and found in the same places.

Balsaminaceæ, (*bal-sa-mi-nai'se-e.*) BALSAMS, *n. pl.* (*Bot.*) An order of plants, alliance *Geraniales.* DIAG. Very irregular and unsymmetrical flowers without an involucre, distinct stameus, and no albumen. They are succulent herbs, most abundant in hot countries, with simple, opposite, or alternate leaves, and showy flowers, with a spur to their calyx. They have no sensible properties of importance, but are the ornament of the damp or swampy places in which they grow wild. The order is remarkable for the elastic force with which the valves of its fruit contract and reject the seeds. It includes

Fig. 277.—IMPATIENS PALLIDA, (*Touch-me-not.*)

1. The front of an anther; 2. the back of the same; 3. an ovary cut across; 4. the ripe fruit; 5. the same in the act of bursting and scattering its seeds; 6. a seed; 7. the same cut transversely.

two genera, *Impatiens* (or *Balsamina*), and *Hydrocera,* subdivided into 110 species. The *B.* are distinguished from the order *Geraniaceæ,* principally by their many-seeded fruit and unsymmetrical flowers.

Balsamoden'dron, *n.* [Gr. *balsamon,* and *dendron,* a tree.] A genus of Oriental trees, ord. *Amyridaceæ.* The species are natives of the East, and are remarkable for the odoriferous gum-resins which exude from their trunks. *B. myrrha,* a small tree growing in the north-eastern parts of Africa, and in the adjoining parts of Arabia, is believed to be the principal, if not the only source of the fragrant gum-resin known in commerce under the name of *myrrh.* This is called in Hebrew *mor* or *mur,* and is mentioned in the Old Testament for the first time in *Gen.* xxxvii. 25; hence it must have been in use more than 3,500 years ago. It is at first soft, oily, and of a yellowish-white color; on exposure to the air, it soon acquires the consistence of butter, and in time becomes much harder, and changes to a reddish hue. Medicinally, myrrh is regarded as a tonic, stimulant, expectorant, and anti-spasmodic, when taken internally: as an external application, it is astringent and stimulant. It is an ingredient of the incense burnt in Roman Catholic chapels, and of some kinds of pastils which are used for fumigation. The substance called *balm of Gilead,* or *balm of Mecca,* and which is supposed to be the *balm* of the Old Testament, is said to be procured from *B. gileadense;* some authors, however, name *B. opobalsamum* as its source. This substance was, in ancient times, regarded as a cure for almost every disease; but it is seldom used at the present day. The gum-resin known as *Indian bdellium,* or *false myrrh,* and supposed to be identical with the *bdellium* of Scripture, is probably the produce of two species of this genus; namely, *B. mukul,* and *B. pubescens.* It is the *googul* or *guggar* of the Beloochees, and the *mokul* of the Persians. It is very similar to myrrh. *African bdellium,* another of the gum-resins of commerce, is said to be an exudation of the species *A. africanum.*

Bal'ta, a town of European Russia, prov. of Podolia, on the Kodema, 132 m. S.E. of Kamenietz. *Pop.* about 15,000.

Bal'ta, one of the Shetland Islands, E. of Unst, in Lat. 60° 45′ N., Lon. 0° 45′ W.

Bal'tee, or **Bal'ti,** in Asia. See BULTI.

Baltic Port, or **Baltüskoi',** a small seaport of Russia in Europe, in the prov. of Esthonia, on the island of Rogo, near the entrance of the Gulf of Finland, 38 m. W. of Revel, and 158 from Riga.

Bal'tic Provinces, the name employed to distinguish the Russian governments of Courland, Esthonia, Livonia, and St. Petersburg, with a part of Finland, on the Baltic Sea.

Bal'tic Sea, an internal or mediterranean sea in the N.W. part of Europe, surrounded, and very nearly enclosed by Sweden, Finland, Russia, Prussia, Germany, and Denmark. It is usually understood to commence S. of the Danish islands of Funen, Zealand, and Laaland, and thus limited, it is the most isolated of any similar body of water in the world. But N. of these islands the Cattegat and the Skager Rack can be regarded only as parts of the Baltic, which may therefore be described as commencing at the Naze of Norway, in Lon. 7° E., and extending to St. Petersburg on the Gulf of Finland, in Lon. 30° 28′ 45″ E. Its extreme latitudinal points are Wismar, in Mecklenburg, 53° 50′ N., and Tornea, on the Gulf of Bothnia, 65° 51′ N. These points mark also its greatest length, which is consequently about 900 m.; its width varies from 75 to 180 m., and its *area* is estim. at 125,000 geog. sq. m., without including the Cattegat and Skager Rack, for which an addition of 18,000 or 19,000 sq. m. may be made. As it receives the drainage of more than a fifth of Europe, its basin has been estimated at 900,000 sq. m. It makes three great indentations into the continent by the Gulfs of Bothnia, Finland, and Riga. *Desc.* As no sea has a greater influx of fresh water, it contains comparatively little salt; while the great quantities of sand and mud carried into it by the rivers have considerably raised its bottom, and gradually lessened its depth. It is frozen for about 3 months every year, so as to close navigation altogether. There are 3 passages entering into this sea from the Cattegat: the Sound, the Great Belt, and the Little Belt; of these the most frequented is the Sound.—By a treaty concluded between Russia and Sweden, at St. Petersburg, March 9, 1759, to which Denmark acceded 17th March, 1760, the neutrality of the *B. S.* is maintained. The Holstein Canal (*q. v.*) now connects the *B. S.* with the Elbe.

Baltüskoi', in Russia. See BALTIC PORT.

Baltimo'ra, *n.* (*Bot.*) A gen. of plants, ord. ASTERACEÆ.

Bal'timore, CECIL CALVERT, LORD, founder of the colony of Maryland. His father, George, first Lord Baltimore, held important offices under James I., and obtained from that monarch extensive grants of land in Ireland and Newfoundland. Becoming a Roman Catholic, he was deprived of his offices, and induced to seek a sphere of action in founding across the Atlantic a colony, which should be governed on the principles of religious toleration. For this purpose he turned his attention to a settlement in Newfoundland; but that country having fallen into the hands of the French, he induced Charles I. to make a grant to him of the tract of country which now forms the State of Maryland. He died, however, in 1632, before the charter was made out, and it was, therefore, drawn up in the name of his son Cecil. See MARYLAND.

Bal'timore, in *Maryland,* a county bordering on Pennsylvania, on the W. side of Chesapeake Bay, separated from Anne Arundel co. on the S. and S. W. by a branch of the Patapsco river, and from Harford co. on the E. and N.E. by the Gunpowder river. *Area,* 700 sq. m. The surface of the county is hilly, and rugged along watercourses; *soil,* moderately fertile, and in some portions highly improved. The chief *products* are cereals, hay and dairy products. The *minerals* include iron, granite, limestone, chromic iron ore, some copper, and fine marble and building stone. *Manufactures* are woollens, cottons, iron, chemicals, leather, bricks, lime. Towson is the capital. *Pop.* in 1890, 72,909.

BALTIMORE, a city and port of entry of the above county, one of the four great Eastern cities of the United States, is situated at the head of navigation on the N. branch of

Patapsco river, 12 miles from the Chesapeake Bay, 200 miles from the ocean. Lat. 39° 19′ N.; Long. 76° 44′ W. Baltimore is fortunately situated on a succession of hills that rise fanlike from the Patapsco, giving the city excellent drainage in addition to a picturesque appearance. The harbor of Baltimore is safe and capacious, with adequate depth and wharfage for vessels of any draft. It is approached by a ship-channel from the bay, 150 feet wide, with a uniform depth of 24 feet at low tide, and is defended by Fort McHenry. The railroad connections of Baltimore, by means of the Northern Central, a branch of the Pennsylvania R.R., the Baltimore and Potomac, the Philadelphia, Wilmington and Baltimore, the Western Maryland, and the Baltimore and Ohio, give it a commanding position in regard to a very extensive back country. There are two lines to Richmond, two to Washington, two to Philadelphia, and two to the West. It is 150 miles nearer Chicago than New York is; 210 miles nearer St. Louis; 240 miles nearer Louisville; 240 miles nearer Cincinnati; 104 miles nearer Pittsburg. It is nearer to Harrisburg than Philadelphia is, and the great valleys of Pennsylvania, of Virginia and Tennessee are naturally tributary to it. These circumstances, added to unsurpassed terminal facilities, have contributed very largely to the commercial importance of *B.* For the year 1896, the custom-house receipts were $2,262,007, the average for the preceding six years being about $3,000,000. The receipts of grain in 1896 exceeded 48,000,000 bushels; corn figuring for 27,724,535 bushels, oats for 10,428,859 bushels, wheat for 7,592,041, &c., in

Fig. 278.—BATTLE MONUMENT.

addition to 4,104,986 barrels of flour; while the exports exceeded 40,000,000 bushels (25,602,693 bushels of corn, 6,621,660 bushels of oats, 6,588,559 bushels of wheat, &c.), in addition to 3,049,191 barrels of flour. Of miscellaneous exports, the largest in 1896 were 87,973,467 lbs. of lard, 81,392,570 lbs. of copper, ingots, &c., 74,218,390 lbs. of leaf tobacco, 47,581,861 lbs. of cured meats, 45,276,688 gals. of petroleum, ref., &c.; while among the miscellaneous imports were 365,903 tons of iron ore, 119,990,442 lbs. of cement, 36,993,831 lbs. of sugar, 33,742,576 lbs. of soda ash, 17,916,180 lbs. of coffee, 17,626,109 lbs. of tin plate, 11,988,454 lbs. of muriate of soda, 8,775,618 lbs. of chloride of lime, &c. The shipments of tobacco amounted to 33,073 hhds.; the receipts of cotton to 283,889 bales. The cattle trade of *B.* in 1896 was represented by 147,809 head of cattle, 392,917 sheep, and 798,000 hogs; and the shipbuilding industry by 19 vessels, of a tonnage of 5,083, and of the value of $327,799. *B.* has earned the the title of the "Monumental City," containing several, the chief of which is the fine Doric column to the memory of George Washington, a shaft of white marble, 176 feet high. There are also the Battle Monument, the Wells and McComas Monument, and the Wildey Monument, to the founder of Odd Fellowship in America. The Merchants' Shot Tower is 246 feet high. The chief public buildings are the City Hall, the Peabody Institute, Masonic Temple, Young Men's Christian Association Building, State Normal School, and a great number of handsome churches. Druid Hill Park, containing 672 acres, is one of the finest parks in the country for forest trees of natural growth and scenery unimproved by art. Clifton Park has 253 acres, Patterson Park 106 acres; and the several other parks, public squares, water-supply lakes, &c., make up a grand total acreage of nearly 2,960. The water-supply from Lake Roland, supplemented by water brought through an aqueduct from Gunpowder river, is ample for the city's needs. The bank clearances for the decade 1887–1896 were as follows: 1887, $659,346,471; 1888, $620,587,729; 1889, $650,583,571; 1890, $753,095,193; 1891, $735,714,652; 1892, $769,355,899; 1893, $705,733 232; 1894, $673,443,512; 1895, $695,707,281; 1896, $720,089,733. There are some 30 national or State banks, and a score of insurance companies (life, fire, marine, &c.). The Johns Hopkins Hospital has an endowment of nearly $3,000,000; there are also 15 other hospitals, great and small; 30 homes, asylums, &c.; besides a large amount of money is annually devoted to charity by the churches and the very many beneficiary societies, orders, and lodges, secret and open, which have long been characteristically abundant in *B.*, this city being the fountain-head of the order of Odd Fellows, a great centre of the Masonic order, &c. In 1882, $1,000,000 was left the city for a free library.—*Educ.* The private and denominational schools are very numerous, and at the head of the school system is the richly endowed Johns Hopkins University, which, although quite still young, is in successful operation, and has won already a widespread reputation. The uet public debt of *B.* was $14,922,620 in 1896.—*B.* was founded in 1729; named for Lord B. in 1745; became shire-town of co. in 1768, its first newspaper (a weekly) issued Aug. 20, 1773, was made a port of entry in 1780, and was incorporated by charter in 1796. An attack made on this city Sept. 13 and 14, 1814, by the British Gen. Ross, was resisted by the U.S. forces at North Point, and on the 14th Admiral Cockburn bombarded Fort McHenry. They were repulsed and Gen. Ross slain. The patriotic "Star-spangled Banner" was composed during this bombardment by Francis S. Key, then a ship-prisoner. On April 19, 1861, while U.S. troops were passing through *B.* to Washington, a riotous mob opposed them, killing several and wounding more, and some of the troops returned the fire, killing and wounding a greater number in defence. *B.* was the first city in the U. S. to use gas; it had the first railroad and the first telegraph line. It has long been celebrated for the loveliness of its women and for the excellence of its *cuisine;* the Chesapeake Bay is the home of the canvas-back duck, the diamond-back terrapin, the cherrystone and other fine oysters, and the soft-shell crab; these delicacies, when served by Baltimore cooks, are without rivals anywhere. It was early a grain and flour market of importance. The growth of *B.* in pop. has been rapid. In 1782, it was 8,000; 1790, 13,503; 1800, 31,514; 1810, 46,555; 1820, 62,738; 1830, 80,625; 1840, 102,313; 1850, 169,054; 1860, 212,418; 1870, 267,599; 1873 (by school census), 319,000; 1880 (by the 10th census), 332,190, and in 1890, 434.439; now (1898) estimated at about 542,000.—One of the more recent important improvements in *B.* is the railroad tunnel constructed by the Baltimore and Ohio R. R. Co., at a cost of $8,000,000. This was finished in 1896. Immense electric motors of 309 horse-power are used to propel trains through this tunnel, under the very heart of the city. The Pennsylvania R. R. Co. had years before completed a series of tunnels for the use of their lines within the city limits, so that now there is in *B.* a notable absence of dangerous grade crossings, without loss of convenient terminals for passenger traffic.

Bal'timore, in *Cal.* a town on the Mercede river, adjacent to the boundary bet. Tuolumne and Mariposa cos.
—In *Ill.*, a vil. of Jo. Daviess co., 10 m. E.N.E. of Galena.
—In *Iowa*, a township of Henry co.
—In *Ohio*, a post-village of Liberty twp., Fairfield co.
—In *Mich.*, a post-township of Barry co., 40 m. W.S.W. of Lansing.

Bal'timore, in *Vermont*, a twp. of Windsor co.

Bal'timore, a small seaport of Ireland, co. Cork, on a bay of the same name, near Cape Clear Island, 46 m. W.S.W. of Cork; *pop.* about 200.

Baltimore Hundred, in *Delaware*, a division of Sussex co.

Bal'timore Oriole, or GOLDEN ROBIN, *n.* (*Zoöl.*) The *Icterus Baltimore*, fam. *Icteridæ*, a beautiful bird, native of N. America, east of the Mississippi, is 7½ inches long; its color is black, with the rump, upper tail-coverts, lesser wing-coverts, the terminal portion of all but two tail-feathers, and the under parts, orange-red; the edges of the quills, and a band across the tips of the greater coverts, white. That of the female is much duller; the black of the head and back being replaced by brownish-yellow. Its song consists of few notes, but these are loud, full, and mellow. It constructs a very marvellous nest on the tulip trees, on whose leaves and flowers he seeks the caterpillars and beetles which constitute his principal food. When the time comes for preparing it, the male picks up a filament of the *Tillandsia usneoides* and attaches it by its two extremities to two neighboring branches. Soon after, the female comes, inspects his work, and places another fibre across that of her companion. Thus by their alternate labors a net is formed, which soon assumes the shape of a nest, and as it advances towards its completion, the affection of the tender couple seems to increase. The tissue is so loose as to allow the air to pass through its meshes, and as the parents know that the excessive heat of summer would incommode their young, they suspend their nest so as to catch the cooler breeze of the north-east when breeding in Louisiana; while in more temperate regions, such as Pennsylvania and New York, they always give it a southern exposure, and take care to line it with wool or cotton. Their movements are uncommonly graceful; their song is sweet. They migrate in winter towards more southerly regions, Mexico or Brazil, and return after the equinox to the United States.

Fig. 279.—BALTIMORE ORIOLE.

Baltimo'rite, *n.* (*Min.*) A mineral, found near Baltimore. It is allied to serpentine; grayish-green, consisting of longitudinal fibres, somewhat resembling asbestos; lustre silky.

Balt'schik, or **Bald'jik,** a town of Turkey in Europe, 18 m. N.E. of Varna, on the Black Sea. In its neighborhood are the ruins of *Tomi*, to which the poet Ovid was banished. Since 1878 transferred to Bulgaria.

Balu'chistan. See BELOOCHISTAN.

Balue, JEAN DE LA, (*ba'loo,*) a Frenchman, who, by his servility and art, obtained the see of Angers, and, by his intrigues, induced Paul II. to give him a cardinal's hat. He engaged in a secret correspondence with the dukes of Burgundy and Berri, disclosing all the secrets of the state, which, being discovered by Louis XI., he was imprisoned eleven years in an iron cage, which he himself, it is said, had invented. On regaining his liberty, he went to Rome, and working on the weakness of the Pope, was sent to France as legate by Sixtus IV. B. in 1422; D. 1491.

Baln' Island, in the Indian Ocean, Gulf of Martaban, at the entrance to the Salween river, separating Siam from Burmah. It is 17 m. in length, by 8 in breadth. Lat. from 16° 14′ to 16° 31′ N.

Bal'uster, *n.* [Fr. *balustre;* It. *balaustro;* Lat. *balaustium*, the flower of the pomegranate.] (*Arch.*) A small column or pilaster used for balustrades, and so named from being originally adorned with flowers and figures. An illustration of a *B.* may be seen in *Fig.* 272.

Bal'ustered, *a.* Possessing balusters. (R.)

Bal'ustrade, *n.* [Fr. *balustrade.*] (*Arch.*) A range of small columns called *balusters*, supporting a cornice, used as a parapet, or as a screen, to conceal the whole or a part of the roof. It is also sometimes used as a decoration for finishing a building. *B.* are employed in parapets; on the margins of stairs; before windows; to enclose terraces, or balconies, by way of security (see *Fig.* 272); or sometimes to separate one place from another.

Balva'no, a town of S. Italy, prov. Basilicata, 15 m. W. of Potenza; *pop.* about 4,250.

Balzac, (*bal'zak,*) HONORÉ DE, a celebrated French novelist, B. at Tours in 1799. He commenced his literary career by writing articles for the journals. The first of his works that attracted the attention of the public was *The Physiology of Marriage*, a work full of originality and piquant observation. He then formed the bold conception of depicting the natural history of society as it existed in his own day in France. Endowed with a rich imagination, and marvellous sagacity for seizing the peculiarities of character, he pursued his course of study during 20 years of indefatigable industry, and gave to the world an immense number of compositions to which he has given the collective name of *The Comedy of Human Life.* Some of his novels, as *La Peau de Chagrin*, *Eugénie Grandet*, *Le Père Goriot*, *Le Medecin de Campagne*, *Les Parents Pauvres*, &c., are admirable studies of the sadder passions of humanity. Far less popular than Alexandre Dumas, *B.* ranks nevertheless far above him in the appreciation of all the true lovers of serious literature. His works have been translated into all the European languages. Diversely judged in England, he has been received more favorably in Germany, where the name of *B.* is held in such estimation that new editions of his productions are succeeding one another nearly every year. He died in 1850, from disease of the heart.

Bal'zac, JEAN LOUIS GUEZ DE, a French writer, B. 1594. He gained great popularity by his "Letters," which were first published in 1624. At the close of life, *B.*, who had indulged in all the elegancies of a dissipated court, became very devout, had apartments fitted up for him in a convent, and bestowed considerable sums on the poor. D. 1654.

Bal'zarine, *n.* [Fr.] A fabric of light texture, composed of mixed worsted and cotton, used for ladies' dresses.

Bam, *n.* A vulgarism, (probably derived from the term *bamboozle,*) denoting a cheat, deception, fraud, or imposition; as, "plying them with all manner of *bams.*"
—*v. a.* To cheat: to play a trick upon; to cozen.

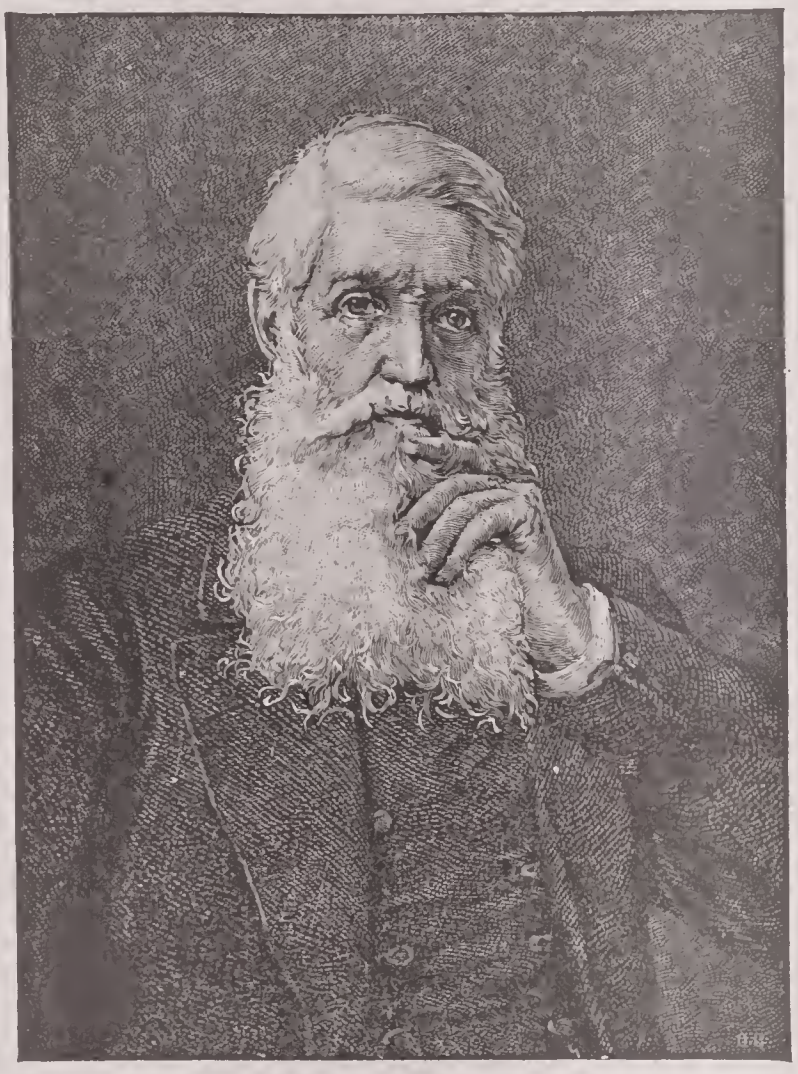
Bam, Bamp. [Probably from A.S. *beam*, a tree or beam.] When prefixed to the name of a place, it usually implies it to have been, originally, wooded; as, *Bam*borough, *Bamp*ton.

Bam'ba, a prov. of the kingdom of Congo, in W. Africa, extending upwards of 200 m. into the interior. It is considered one of the richest districts in Congo, having mines of silver, lead, iron, copper, and salt. Lat. 7° 2′ S.; Lon. 13° 52′ E.

Bamba'lio, *n.* [Gr. *bambaino*, I speak inarticulately.] (*Med.*) One who stammers or lisps, or utters inarticulate sounds. According to Kraus, one who speaks as if he had pap in his mouth; or as if his tongue were paralyzed.

Bamba'ra, an ancient city of Hindostan, in Scinde, now in ruins; Lat. 24° 46′ N.; Lon. 67° 50′ E.

Bambarra, (*bam-bar'ra,*) a large and powerful kingdom of N.W. Central Africa, bounded on the N. by Ludamar and Beeroo; W. by Kaarta and Manding; E. by Timbuctoo and Baedoo; and on the S. by Kong and Mamana. Lat. between 12° and 14° N.; Lon. between 15° E. and 5° 20′ W. Its greatest length is about 400 m.; breadth, 300. *Area.* Estimated at about 50,000 sq. m. *Desc.* This country is generally fertile, and is traversed by the Niger, (here called the *Joliba.*) The butter and cotton trees, the baobab, tamarind, date, and oil-palm are indigenous; and maize, millet, rice, and cassava yield two crops annually. The inhabitants have made considerable progress in agricultural arts, as well as in those of civil life. *Manf.* Leather, iron, and gold ornaments, and various kinds of dyed fabrics. A considerable trade is carried on with Timbuctoo and Guinea. *Exp.* Iron, grain, ivory, slaves, and cloths. *Imp.* Arms, hardware, cotton goods, and salt. *Chief towns.* Sego,



George Bancroft

1800–1891

Sansanding, and Yamina. *Pop.* estimated at 2,000,000, chiefly negroes.

Bamberg, (*bam'bairg.*) a fortified city of Bavaria, circ. Upper Francouia, on the Regnitz, 31 m. W. of Bayreuth. This is a fine and ancient city, possessing many noble public buildings, conspicuous among which is the Byzantine Cathedral, built in 1004. *Manf.* Gloves, jewelry, porcelain, &c. This city was surrendered to, and pillaged by, the Prussians, May 16–17, 1759. It was again taken in 1763. *Pop.* 26,128.

Bam'berg, in *South Carolina*, a post-village of Barnwell district.

Bam'berg, in *Wisconsin*, a post-office of Sheboygan co.

Bambino, (*-be'no,*) *n.* [It. *baba.*] (*Paint.*) Au art-phraso significative of the infant Christ, as represented in swaddling-clothes, and tended by angels, in many of the altar-pieces of Roman Catholic churches. At Rome, in the church of the "Ara Cœli," may be seeu one of the finest examples, the *Santissimo Bambino*, which is of carved wood, painted, and profusely adorned with trinkets and gems. The carving is said to have been the work of a Franciscan friar, and wrought from the wood of a tree on Mount Olivet, whither he had made a pilgrimage; while the picture itself is attributed to St. Luke. This *B.* is supposed to have wonderful efficacy in the healing of the sick, and is accordingly much revered by devotees of the Roman Catholic religion. The festival of the *B.* at Epiphany is celebrated by vast numbers of persons who flock into Rome from the country districts with oblations to its shrine.

Bamboc'cio, Antonio, an eminent Italian sculptor, b. 1368. He is chiefly remarkable for his magnificent tombs; among the finest of which are that of Cardinal Minutolo, (the object of Boccaccio's praise,) of Cardinal Carbone, and above all, the Aldemareschi Mausoleum. B. stands as the link between Ciccione and Aniello Fiore; and, together with these, is one of the greatest glories of the Neapolitan school of sculpture during the 15th century. D. at Naples, 1430.

Bamboccio, (*bam-boch'e-o.*) a celebrated Italian painter, whose real name was Peter van Laer; but who is better kuown by the nickname of *B.*, on account of his deformity. B. at Laerden, 1613; he lived at Rome for several years, and painted inns, farriers' shops, and cattle with great effect. His style is soft, and his touch delicate, with great transparency of coloring. D. 1673.

Bamboo', *n.* (*Bot.*) See Bambusa.

—*v. a.* To administer a flogging with a bamboo.

Bamboo'zle, *v. a.* Vulgarly used in the sense of to deceive; to cozen; to practise mean tricks upon.

"After Nick had *bamboozled* about the money, John called for counters."—*Arbuthnot.*

Bamboo'zler, *n.* A trickster; a cheat; a cozener.

"There are a set of fellows they call banterers and *bamboozlers*, that play such tricks."—*Arbuthnot.*

Bam'borough, a coast-town and parish of England, in Northumberland, 17 m. S.E. of Berwick-on-Tweed. There is here a magnificent fendal castle, which is in good preservation. It is said to have been built in 548, and rebuilt in 1070. *Pop.* about 4,600.

Bambouk, (*bam'book.*) a kingdom of Central Africa, lying between the rivers Senegal and Gambia, and enclosed by the upper courses of the rivers Faleme and Scnegal. Lat. between 12½° and 14½° N.; Lon. betweeu 10° and 12° 30′ W. In form it is nearly a parallelogram, 140 m. in length, and 100 in width; and is supposed to have an area of abont 14,000 sq. m.—*Desc.* Tho surface is mountainous, but, on the whole, well watered and fertile.—*Prod.* Maize, millet, cotton, and immense water-melons. It abounds with leguminous plants, and the lower lands, which are exposed to the inundations of the rivers, yield large crops of the finest rice.—*Clim.* Perhaps the most unhealthy on the face of the globe, and uninhabitable by Europeans.—*Min.* Gold in abundance, which is given to the Moors in exchange for salt. The natives are a fierce Mandingo race, and quite backward in civilization. In the 15th century this country was occupied by the Portuguese. During the last century it was visited by Mungo Park and Major Houghton. *Pop.* about 800,000.

Bambu'sa, *n.* [Skr. *ban buhr.*] (*Bot.*) The Bamboo, a genus of plants, ord. *Graminaceæ.* A number of species are known, all gigantic, tree-like, branching grasses, natives of India, the isles of Sunda, and tropical America. The stems are hollow, jointed, hard externally, and coated with flint. The bamboo is one of the most valuable and useful plants which the Author of nature has bestowed on the natives of the countries where it grows. Wherever strength and elasticity are required in combination with lightness, there the bamboo is available. Houses are made and roofed with them, and all sorts of carpentry work are prepared from their stems. Cut into lengths, and the partitions at the joints knocked out, they form durable water-pipes, or if the partition is left, excellent buckets are made for holding water. Masts of vessels, lance-shafts, bows and arrows, with the quiver for receiving them, walking-sticks and smoking-pipes are readily prepared, and by notching their sides the Malays make wonderfully light scaling-ladders, easily conveyed where heavier machines could not be transported. A grove of these gigantic grasses, when covered with spines, as several of the species are, such as *B. spinosa*, form stockades impenetrable without the aid of artillery. The young shoots, as they spring from the earth, make a tender and good esculent vegetable, and they are also used as a pickle. Most of the paper manufactured in China is made from the leaves bruised and crushed in water, and of the fibres, baskets are made and a durable material prepared for weaving into mats, window-blinds, and even the sails of boats. It would be difficult to enumerate the various purposes to which the bamboo is applied. *Bambusa arundinacea* is perhaps the most common species. It sometimes covers immense spaces forming a dense jungle, and rising occasionally to the height of forty or fifty feet. It is at

Fig. 280.—bamboo, (*B. spinosa.*)
a. Section of the stem.

once majestic and elegant, and impresses upon the traveller the peculiar aspect of a tropical region. In the joints of the stems an opaque white substance, becoming opaline when wetted, and composed of silica, is found, called *Tabasheer.* The seeds are sometimes used instead of rice, and a tolerably good bread is made of them. It grows very rapidly, but does not bear fruit or grain till it is twenty-five years old.

Ba'mian, in Cabul. See Baumeean.

Bam'makoo, a town of Bambarra, in Central Africa, on the Niger; Lat. 12° 50′ N.; Lon. 5° 48′ W.

Bampoo'ra, a town of Hindostan, prov. of Malwah, in Rajpootana, on the Rewa River, 1,344 feet above sea-level, and 50 m. from Kotah. Lat. 24° 31′ N.; Lon. 75° 50′ E. The towu and adjacent territory formerly were a part of Holkar's dominions. *Pop.* estimated at 20,000.

Ban, *n.* [Fr. *ban*, proclamation, proscription; A.S. *bannan, abannan*, to command, to proclaim; Teut. and Sclav. *ban*, a governor, a prince.] This word is found in many of the modern languages of Europe in various senses. Bnt as the idea of 'publication' or 'proclamation' runs through them all, it is probable that it is the ancient word *ban* still preserved in the Gaelic and the modern Welsh in the simple sense of proclaiming or publishiug, as in *banns*, q. v.—A public proclamation or edict respecting a person or a thing: an edict of interdiction, as a sentence of outlawry, or one forbidding, permitting, or anuouncing anything. An ecclesiastical excommunication, anathema or denunciation; a curse of any kiud, by whomsoever given forth; any maledictiou supposed to have supernatural power to injure. Hence, also, the penalty edicted against the offender.—*Hist.* in former times, when a grant of land was made for a religious purpose, the transaction was proclaimed with certain ceremonies, and curses were denounced against any oue who should thereafter violate the deed. Persons who escaped from justice, or who opposed themselves to the sentence of the Church, were also sometimes banned. In Germany, persons or cities who opposed themselves to the general voice of the Confederation, were, by some public act, placed under the ban of the empire. In France, in fendal times, the barons who held their lands direct from the king, when summoned to attend him in time of war, were called the *ban*, and the tenants of the secondary rank, the *arrière-ban.*—In the Slavonic tongues, *B.* or *Banus* (probably a contraction of the Illyric word *Bogan.* Lord) was a title given to some of the military chiefs who guarded the eastern boundaries of the Hungarian kingdom, and was therefore synonymous with the German *Markgraf*, or Margrave. Within his own territory, or *Banat*, the *B.* exercised an influence similar to that of the Palatine in Hungary, and only inferior to that of a king. In the 16th century, the various banats were formed into the United Banat of Dalmatia and Croatia. In 1723, it was made entirely subordinate to the supreme government of Hungary; and during the reign of Maria Theresa, the Ban was acknowledged to be the 3d dignity of the Hungarian kingdom. During the disturbances in Vienna and Hungary, in 1848, the Ban *Jellachich*, q. v., rendered important services to the Austrian emperor.

(*Mil.*) A proclamation by beat of drum, requiring strict observance of discipline, either for declaring a new officer, or for punishing an offender.

(*Com.*) A description of fine muslin fabricated in the East Indies.

—*v. a.* To curse; to anathematize; to execrate.

". . . wherein he cursed and *banned* the Christians."—*Knolles.*

Banagampilly, (*ba'na-gam-pil'e,*) a village of Hindostan, in the Balaghaut territory, 70 m. from Cuddapah. It is famous for its diamond mines. Lat. 14° 28′ N.; Lon. 79° E.

Banagher, a town and parish of Ireland, King's co., on the Shannon, 68 m. W.S.W. of Dublin; *pop.* of town, about 1,600.

Ban'agher, a parish of Ireland, co. Londonderry, and 16 m from that city; *pop.* about 5,500.

Banalbufar, (*ba'nal-boo'far,*) a town of Spain, in Majorca one of the Balearic Islands, 10 m. N.W. of Palmas. Fine marble-quarries are close to the town. *Pop.* about 3,500.

Bana'na, *n.* (*Bot.*) The common name of the genus Musa, *q. v.*

Bananal', or Santa Anna, an island of Brazil, formed by the river Araguay, in the prov. of Matto-Grosso. Its length is 200 m.; breadth, 35. It is covered with dense forests, and has in its middle an extensive lake. Soil fertile.—The name of several small villages in Brazil.

Ba'nat, (The,) one of the four divisions of the border states or military frontier of the Austrian empire, bounded W. by the Theiss, S. by the Danube, E. by the line of mountains which separates Hungary from Wallachia and Transylvania, N. by the Maros. *Area*, 12,453 sq. m. *Desc.* Mountainous in the E. and swampy in the W. *Rivers.* The Temes, Alt-bega, and the Karasch. *Prod.* Maize, wheat, other grains, and cotton. Silkworms are reared, and the cattle and horses are held in high estimation. *Minerals.* Iron and copper in the mountain regions, and some gold has been discovered. The mineral springs of Mehadia are in great repute. *Chief town.* Temesvar.—Formerly, Banat was a name given to any district or territory under a *ban*, q. v. It is now applied solely to this prov., although it has *no* ban.

Banawaram, (*ba'na-war-am,*) a town of Hindostan, in Mysore, 76 m. from Seringapatam; Lat. 13° 24′ N.; Lon. 76° 13′ E.

Ban'bridge, a flourishing town of Ireland, in the co. Down, on the Bann, 23 m. S.W. of Belfast; *pop.* 5,062.

Ban'bury, a fine and flourishing towu of England, in Oxfordshire, 69 m. N.W. of London. It is especially noted for its cakes. *Pop.* about 4,800.

Banc, (*bănk,*) or Banco. [Fr., a bench.] (*Hist. of Law.*) A tribunal or judgment-seat. Hence, *Bancus reginæ*, or Queen's Bench; and *Bancus communium placitorium*, Common Bench, or Common Pleas. In England, the judges of the three superior courts of common law sit in *banc*, or *banco;* that is, on the bench of their respective courts at Westminster, during term-time, for the purpose of adjudicating on causes that have been referred to them from the inferior courts, and where the law is in dispute.

Banca, (*bang'ka,*) an island of the E. or Indian Archipelago, belonging to the Ist or W. division, lying off the N.E. coast of Sumatra, between Lat. 1° 30′ and 3° 8′ S., Lon. between 105° 9′ and 106° 51′ E.; length, from N.W. to S.E., 135 m.; average breadth, 35. *Area*, 3,568 sq. m. Its most remarkable features are the tin-mines, about 4,000 tons of tin being annually exported, mainly to China and Java, for re-exportation to Europe. *B.* was discovered by the English in 1710, and was ceded to their East India Company by the Sultan of Palembang, in 1810. In 1814, the English ceded the island to Holland. *Pop.* 54,339.

Ban'ca, (Strait of,) separating the islands of Banca and Sumatra, ranges from 8 to 20 m. broad.

Bancallan, (*ban'kal-an,*) a fortified town on the W. side of the island of Madura, Indian Archipelago. Lat. 7° 2′ S.; Lon. 112° 45′ E. It is a large and populous place, and the residence of the sultan of the island.

Banco, (*băn'ko,*) *n.* [It., a bank.] (*Com.*) This term, formerly applied to the standard money in which a bank held its transactions, as distinguished from the current money of the place, is now chiefly applied to the money in which the Hamburg bank keeps its accounts, which is not represented by any coinage. The Hamburg Mark *B.* is to the current mark as 20 to 16. Sweden has also a peculiar bank-money, 8 dollars *B.* being equal to 3 dollars specie. Genoa had at one time a bank standard, and the present current money being different from that, is still called *fuori banco*, outside the bank.

Banco'orah, in Hindostan. See Burdwan.

Ban'croft, Aaron, father of the more celebrated George Bancroft, *q. v.*, was born at Reading, Mass., in 1755. For 60 years he labored as a clergyman, first in Nova Scotia, and at a later period at Worcester. His best-known work is a *Life of George Washington;* but he published, at various times, numerous addresses and sermons. Of his *Sermons on the Doctrines of the Gospel*, John Adams said, that he "never read a volume of sermons better adapted to the age or country in which it was written." D. in 1839.

Ban'croft, George, an eminent American historian, was born at Worcester, Mass., in 1800. He graduated at Harvard College. He then travelled in Europe, and studied at Göttingen and Berlin; and, in 1820, had conferred upon him the diploma of Ph. D. After making the "grand tour," he returned to America in 1822. He was originally destined for the pulpit, but a love for literature proved the stronger attraction. For a brief period he held the post of Greek Professor in Harvard College. After publishing a volume of poems, and a translation of *Heeren's Reflections on the Politics of Ancient Greece*, Dr. *B.* devoted himself to the duties of an instructor of youth, opening a great public school at Northampton, to which he attracted a very eminent staff of professors from Germany. The intervals saved from professional duties were devoted to superintending and publishing a translation of *Heeren's Histories of the States of Antiquity, and the Political System of Europe and its Colonies.* Between the years 1834 and 1855, *B.*'s great work, *The History of the United States*, was published, in which the subject was treated in the spirit of that advanced criticism which has reformed the style of modern historical narrative. It placed its author at once among the great writers of the age. In 1846 he was appointed minister to Great Britain, and there resided until 1849. Dr. *B.* has also contributed to the *North American Review*, and his articles therefrom were published at New York in 1855, under the title of *Miscellanies, Essays, and Reviews.* In 1871, *B.* was appointed minister to Berlin, which he resigned in 1874. His *History of the Formation of the Constitution of the U. S.* appeared in 1882. Died Jan. 17, 1891.

Ban'croft, in *Idaho*, a village of Bannock co.
Ban'croft, in *Iowa*, a town of Kossuth co.
Ban'croft, in *Kansas*, a village of Nemaha co.
Ban'croft, in *Maine*, a post-township of Aroostook county.
Ban'croft, in *Massachusetts*, a village of Berkshire co.
Ban'croft, in *Minnesota*, a post-township of Freeborn co., 45 m. S.E. of Mankato, with a village of the same name on Shell Rock River.
Ban'croft, in *Missouri*, a post-village of Daviess co.

Band, *n.* [A.S. *banda*, from *bindan*, to bind; Sansk. *bunda*; Fr. *bande*.] That which binds, ties, or fastens; a tie; a fillet; a cord; a belt.

"You shall find the *band*, that seems to tie their friendship together, will be the very strangler of their amity."—*Shaks.*

—Means of restraint or union between persons. (o.)

"Here 's eight that must take hands,
To join in Hymen's *bands*."—*Shaks.*

—A company of soldiers; a body of musicians, or of persons united for any purpose.

"Strait the three *bands* prepare, in arms to join,
Each *band* the number of the sacred Nine."—*Pope.*

(*Bot.*) One of the spaces between the elevated lines or ribs, of the fruit of umbelliferous plants.

(*Mech.*) A belt communicating motion from one pulley to another. — See PULLEY.

(*Arch.*) A flat moulding, with a vertical face slightly projecting beyond the vertical or curved face of any moulding or parts of an edifice to which it is attached. It is very extensively employed in edifices, and is used apparently to bind parts of buildings together, as in the bands which are employed to bind the triglyphs of a Doric architrave. This moulding is most frequently used in the basement story of a building, where it becomes a bold and striking feature. It is for the most part plain, though sometimes enriched. The term band and *bandelet*, little band, is often applied to what is more properly speaking a *fillet*. The band is, however, broader in proportion than the fillet. This moulding is also employed to encircle the shafts of columns. A plain band is often placed in both public and private buildings, either on or nearly on the same level with the floors, as if the original intention had been to finish the projecting ends of the floors with a flat board.

Band, *v. a.* To bind together; to tie.

"With wings unfledged, his eyes were *banded* over."—*Dryden.*

—To unite in a troop, company, or confederacy.

"Some of the boys *banded* themselves as for the major, and others for the King."—*Carew.*

—*v. n.* To unite in a band; to associate; to confederate.

Ban'da, or BANDAH, a town of Hindostan, prov. of Allahabad, cap. of dist. of S. Bundlecund, 80 m. W. of Allahabad. Lat. 25° 50′ N., Lon. 80° 20′ E. It is a considerable place, and has an extensive trade in cotton.

Ban'da, or NUTMEG ISLANDS, a group of 12 small islands, belonging to the 3d or E. division of the Malay archipelago, and owned by the Dutch; the principal, Banda Neira, lying in 4° 30′ S. Lat., and 129° 30′ E. Lon.; 120 m. E.S.E. of Amboyna. Lantori, the largest of the islands, is only 8. m. long, and 3 broad. They are all high and of volcanic origin; one of them, Goonung Api, contains a volcano, 2,500 ft. above the sea, which is continually

Fig. 281. — GOONUNG API.

emitting smoke, and sometimes flame. *Climate*, injurious to strangers: the W. monsoon brings rain and storms in Dec., and earthquakes occur from Oct. to April. *Soil*, chiefly a rich black mould. Four of the larger and central islands are almost entirely appropriated to the growth of nutmegs, their cultivation in the other islands being prohibited. The inhabitants consist mostly of Papuan Negroes, Chinese, and Dutch. Sago and cocoa form the chief vegetable food. The imports are provisions for the Europeans, piece-goods, cutlery, and iron from Batavia: sago, salted deer, &c., from Ceram: pearls, bird's-nests, tortoise-shell, and slaves for the Dutch and Chinese merchants, from Aru. *Chief export*. Nutmegs. The seat of govt. is at the fortified town of Banda Neira, where there is a good harbor. — A Portuguese, Antonio Abrens, discovered these islands in 1512. In 1524 the Portuguese, in 1589 the Dutch, and in 1810 the English, successively possessed themselves of them. In 1814 they were restored to the Dutch.

Banda Orien'tal. See URUGUAY.

Ban'da, SEA OF, a space of sea in the Eastern Archipelago, bounded by the islands of Booroo and Cerum on the N.; Timur, and the Serawattee Islands on the S.; Larat, Lant, and other isles on the E.; and the sea of Flores on the W.

Bandage, (*band'aje,*) *n.* [Fr.] (*Surg.*) Any fillet, roller, or swath of linen, cotton, or flannel, used for supporting a limb, retaining a dressing, or keeping in position the edges of a wound. The use of a bandage is to compress blood-vessels, correct deformities, unite wounds, keep fractured bones in their proper situation, &c. A bandage, of whatever material it may be made, should be strong, and of sufficient elasticity to support the parts to which it is applied, without becoming relaxed or loose; and sufficiently supple and soft to fold with ease and neatness, and yet yield without relaxation to the natural expansion of the limb. A bandage should be without seam or selvage, and have smooth, unravelled edges. *B.* are divided into simple and compound. A *simple B.* is a long, narrow piece of muslin, linen, or flannel, of lengths varying from three to nine yards, and of a width from 2 to 6 inches. A *compound B.* is that which has one, two, or more pieces sewn together; the most serviceable and frequently used is called the T bandage, and is composed of one horizontal limb, and a perpendicular one meeting it in the centre, where it is joined by a few stitches, forming a figure rudely resembling a T. We will describe the peculiarities and modes of application of the *B.* in most general domestic use. — 1. The *single-headed roller*, of linen, which, being rolled up from one end firmly, is denominated a roller, the rolled part being called the *head*, and the loose end the *tail*.—To apply this bandage properly, the head of the roller is to be held in the right hand, and only so much unrolled as is necessary for the commencement of the application.—In all cases of applying a bandage to the leg, (*Fig.* 282, A,) or the arm, covering must begin either at the foot or the hand, so as to compress the whole limb alike. This fact must be borne in mind while putting on the roller, for if unevenly applied, the part, when unswathed, will appear in creases of swollen and contracted ridges. Taking the tail in the fingers of the left hand, and spreading it across the foot, and making a careful beginning by passing the roller a few times over the top

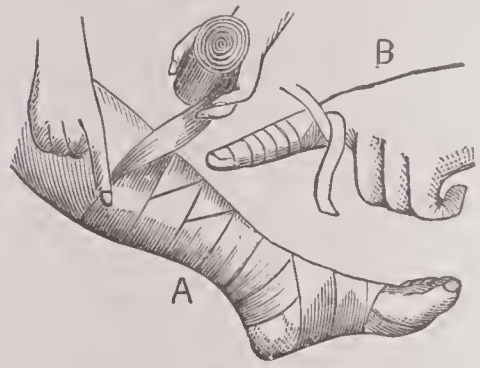
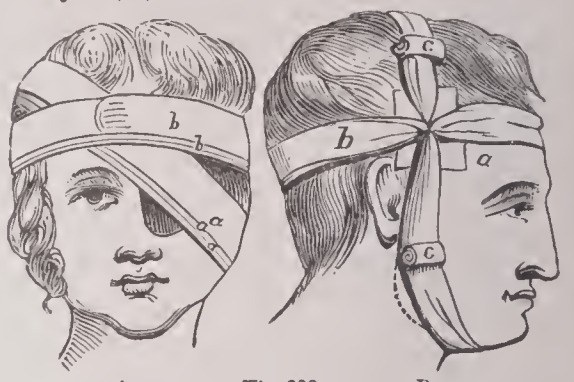


Fig. 282.

and under the hollow of the foot, making each fold, or revolution cover a third of the former circle, the bandage is to be carried round the heel, and so on to the leg. As the limb increases in size, the bandage must be made to fold back on itself by a double of the cloth, the fingers of the opposite hand being placed on the limb at the point where the turn is to be made, as shown in the above cut. In this manner the bandage is to be carried up the limb, the roller being passed from hand to hand, as the situation of the part requires the change. The tightest part of a bandage should be at the commencement, with a gradual slackening as it proceeds.—The next most useful application of this roller is as in *Fig.* 283, A, where it is applied for injuries to the eye or orbit, or for wounds to the upper part of the cheek. The dressing having been applied, and a compress placed over all, the tail of the bandage (*b*) is to be spread on the temple of the side affected, carried across the forehead and round the temples, above the ears, but between each and the head, for two or three turns; a fold is then to be made in the bandage behind the ear of the unaffected side, and there pinned to the previous circles. — The bandage (*a*) is then to be brought obliquely down over the forehead, past the angle of the nose, across the cheek and compress; round the back of the head, over two-thirds of the previous oblique fold, and in the same manner three courses of the bandage are to be taken over the eye or wound, when a second double of the roller is to be made over the first, and, like that, pinned to the bandage below. The roller is now to be carried once or twice round the temples and head, the end of the roller doubled under, and neatly fastened on the forehead with three small pins. — 2. The *double-headed roller* consists of a slip of muslin, equally rolled up from either end to the centre in two heads. Its length depends upon the purpose to which it is to be put. — For clean-cut wounds of the thigh or leg, to support the muscles, and keep the parts in apposition or connection, both ends of the bandage are to be unrolled for about a quarter of a yard; this being passed below the limb, and a head held in either hand, the bandage is brought up on each side, the right-hand head carried to the left, and the left to the right side, and each, with a moderate amount of pressure, laid smoothly, and slightly overlapping, in an oblique direction, each other. In this manner repeating each double fold, and beginning the bandaging a few inches below the wound, and terminating as much above it, the roller is brought to a conclusion, and tied in a bow. — When the injury is in the head, on the temple (*Fig.* 283, B), the wound having been dressed, the double-headed roller (*b*) is to be carried from the opposite temple, and brought round to the wound (*a*), on the top of which the meeting rollers are twisted, as shown in the cut, and one head (*c*) taken over the top of the head, the other (*c*) carried down the cheek and under the chin, till they meet on the top of the head, where they are again to be twisted, taken back, and the ends tied beneath the chin; or they may be brought back, and secured in a bow on the top of the head.—A double-headed bandage of extremely narrow dimensions is sometimes used for securing dressings on the fingers, as shown in *Fig.* 282, B, the terminal ends being used as strings



A *Fig.* 283. B

to secure the whole. — Great difficulty is sometimes experienced in securely fastening the end of a bandage, pins being often very objectionable; with the double-headed roller it is easy enough to make a bow; so equally is it with the single-headed bandage, if the final end of the roller is split with the scissors into two ribbons, a twist given to both, and one carried below and then tied with the other; by this means a safe and secure termination can always be effected.

Band'age, *v. a.* To bind with a bandage or fillet.
Ban'dagist, *n.* One who makes bandages, more particularly for hernia.
Banda'la, *n.* (*Bot.*) The fibre used in the manufacture of the white Manilla rope.
Bandana, Bandanna, (*ban-dăn'na,*) *n.* [Sp. *bandaña*, from *bandaño*, a handkerchief woven of bast.] (*Manf.*) A process invented by M. Kœchlin, of Mühlhausen, in 1810, for printing calico, in which white or colored spots are produced on a dark ground.—The method employed, which is said by some to have had its origin in India, is as follows:—The pattern desired is cut out in two sheets of lead, which are placed at the top and bottom of a pile of handkerchiefs, mostly dyed with Turkey-red. Bleaching-liquid is then forced, by means of a powerful Bramah-press, through the perforations in the top sheet of lead, through the pile of handkerchiefs, and out of the perforations in the lower sheet. The bleaching liquor in its course discharges the color from the cloth and leaves the pattern. — *B.* handkerchiefs are not now so fashionable as they were at one time; but M. Kœchlin's process is valuable in many other ways.
Band'box, *n.* A slight paper-box for holding bands, caps, bonnets, &c.

"With empty *band-box* she delights to range,
And feigns a distant errand from the 'Change."—*Gay.*

Bandeau, (*băn'do,*) *n.*; *pl.* BANDEAUX (*băn'doz.*) [Fr.] A narrow fillet or band, used as a head-dress; a mode of wearing the hair by ladies.
Ban'ded, *a.* (*Her.*) It is said of a wheatsheaf, bundle of arrows, or of any other charge, when tied together with a band of different color from the charge itself. Thus a golden wheatsheaf tied with a red band would be thus expressed in heraldic terms; a garb *or* banded *gules*.
Ban'del, ERNST VON, a celebrated German sculptor, B. 1800, in Anspach. His first remarkable production was a marble figure of *Charity*, which occupied the artist about ten years. It exhibits great chasteness of design, and a minute carefulness of execution. Among his best portrait busts, in which he excels, is that of Maximilian, king of Bavaria, (1832.) In 1842, *B.* executed a bust of the poet Grabbe, and a marble statue, as large as life, of Thusnelda, wife of Hermann. D. 1876.
Band'elet, *n.* (*Arch.*) See BAND.
Bandello, MATTEO, (*ban-dail'lo,*) an Italian Dominican monk, B. about 1480, who wrote some lively *novelle* or tales after the manner of Boccaccio. He accompanied Francis I. to France; was made bishop of Agen in 1550, and D. 1561.
Bande-noire, (*band-nwaw'.*) [Fr., "Black-band."] (*Hist.*) The name given to societies of speculators formed during the first French revolution for the purchasing of ecclesiastical property, and residences of the nobility which were for sale at that time. These they pulled down, and sold the materials; and hence received their opprobrious name.
Ban'der, *n.* A person who bands with others.
Bande'ra, in *Texas*, a S. central co.; *area*, 970 sq. m. The Medina river flows through it, and also Hondo creek. *Cap.* Baudera City. *Pop.* (1898) 4,100.
Bande'ra City, a post-village, cap. of above co. on the Medina river, W. N.W. of San Antonio. *Pop.* (1898) 510.
Banderole, (*băn'drol.*) *n.* [Fr.: Sp. *bandera*; It. *bandiera*, banner.] (*Mil.*) Any little flag or pennon attached to a spear, and also the fringed flag hanging from the straight trumpet used by cavalry, or that one sounded, in feudal times, before the heralds when making any proclamation.

(*Her.*) A little streamer or ribbon attached to the shaft of a crozier, and folding over it like a label.

(*Arch.*) The ribbon-moulding used to receive names or inscriptions in buildings of the Renaissance period.

Band'-fish, *n.* (*Zoöl.*) A genus of acanthopterygious fishes. They are so thin and flat in proportion to their length, that they had been formerly named *Fœnia* or Ribbou-fish.

Bandicoot, (*băn'di-koot.*) *n.* (*Zoöl.*) A genus of Marsupial animals, indigenous to Australia.

Bandinelli, (*ban'de-nel'e,*) Bartolommeo, or Baccio, one of the greatest sculptors of Italy, b. at Florence in 1487. But for his deep-rooted jealousy of Michael Augelo, this artist, by his undoubted genius, would have attained even a greater and more durable fame. His group of *Hercules and Cacus* is considered by many to be his masterpiece, though in the bas-relief representing the *Descent from the Cross*, now at Milan, he has fully equalled, if not surpassed, even his great rival. D. 1559.

Band'ing-plane, *n.* (*Carp.*) A plane used for cutting out grooves, and inlaying strings and bands in both straight and circular work.

Bandit, (*băn'dit,*) *n.*; *pl.* Bandits, Banditti. [It. *bandito*, from *bandire*, to banish.] Literally, one proclaimed as banned or banished; hence, one who is at war with civilized society; an outlaw; a brigand; a highwayman; a robber.

"No *bandit* fierce, no tyrant mad with pride."—*Pope.*

Ban'dle, *n.* [Ir. *bannlamh*, a cubit, from *bann*, a measure, and *lamh*, hand, arm.] A measure of length, in Ireland, of a dimension of two feet.

Bandoleer', *n.* [Fr. *bandoulière;* Sp. *bandolera.*] (*Mil.*) Before the invention of the *cartridge*, q. v., soldiers' muskets were provided with *matchlocks*, a very slow and ineffective contrivance for firing. The musketeers were furnished with gunpowder in small cylindrical boxes made of wood, tin, or leather, each containing sufficient for one charge. Twelve of these little boxes were fixed to a belt called a *bandoleer*, worn over the left shoulder. The noise they made, when agitated by the wind, but more especially the danger of all taking fire from the match-cord, occasioned their disuse about the year 1640.

Ban'doline, *n.* (*Perf.*) A glutinous pomade, used to fix or retain ladies' hair when dressed in bands.—A good *B.* may be readily prepared by dissolving 1 oz. tragacanth in 10 oz. alcohol and 30 oz. water; and after letting it stand for two days, straining the mucilage and perfuming it with some drops of essence of lemon.

Ban'dolon, *n.* [Sp.] (*Mus.*) The name given, in Mexico and other Spanish-speaking countries, to a stringed musical instrument, closely resembling the guitar.

Ban'don, or Bandon-Bridge, a town of Ireland, co. Cork, 14 m. S.W. of Cork; *pop.* about 6,700.—It is situated on a river of the same name that the poet Spenser has celebrated as

"The pleasant *Bandon*, crowned by many a wood."

Bandore', *n.* [Sp. *bandurria*, from Gr. *pandoura*, a three-stringed musical instrument.] (*Mus.*) A stringed musical instrument, resembling a lute.

Band'rol, *n.* See Banderole.

Ban'dy, *n.* [Fr. *bander*, to bend.] A club bent at the lower part for striking a ball at play.—A play at ball with such a club.

—*v. a.* To beat or toss to and fro, as with a bandy.

"And like a ball *bandy'd*, 'twixt pride and wit,
Rather than yield, both sides the prize will quit."—*Denham.*

—To give and receive reciprocally; to exchange.

"Do you *bandy* looks with me, you rascal?"—*Shaks.*

—To toss about; to agitate.

"This hath been so *bandied* amongst us."—*Locke.*

—*v. n.* To contend, as at some game, in which each one strives to drive the ball his own way.

"Could set up grandee against grandee,
To squander time away, and *bandy*."—*Hudibras.*

Ban'dy-leg, *n.* [Fr. *bander*, to bend.] A crooked leg, generally used of a leg that curves inwards.

"Nor makes a scruple to expose
Your *bandy-leg*, or crooked nose."—*Swift.*

Ban'dy-legged', *a.* Having crooked legs.

"The Ethiopians had a one-eyed, *bandy-legged* prince."—*Collier.*

Bane, *n.* [A.S. *bana;* Icel. *bana*, to slay.] That which causes death, destruction, ruin, or mischief: that which poisons or renders poisonous.

"False religion is in its nature, the greatest *bane* and destruction to government in the world."—*South.*

—Destruction; ruin; poison; mischief.

"My death and life,
My *bane* and antidote, are both before me."—*Addison.*

—A disease in sheep, more commonly called the *rot.*

Baneberry, (*bain'ber-e,*) *n.* (*Bot.*) See Actæa.

Bane'ful, *a.* Full of bane; pernicious; poisonous; destructive.

"The mighty wolf is *baneful* to the fold,
Storms to the wheat, to buds the bitter cold."—*Dryden.*

Bane'fully, *adv.* Perniciously; destructively.

Bane'fulness, *n.* Quality of being pernicious, or baneful.

Bane'la, in *Mississippi*, a post-village of Chickasaw co., on the Yallobusha River, 132 m. N. by E. of Jackson. Large quantities of cotton are raised in the neighborhood.

Bane'wort, *n.* (*Bot.*) The Atropa Belladonna.—See Atropa.

Banff, or Bamff, a maritime co. of Scotland, having N. the Frith of Moray, S.E. the co. of Aberdeen, and W. those of Elgin and Inverness. *Area*, 686 sq. m. *Surface*, mostly rugged and mountainous. *Soil*, tolerably fertile. *Prod.* Principally oats, agriculture being backward. Rock crystals, and topazes or cairngorms, are found in the mountains. *Pop.* 62,010.

Banff, a royal burgh, and cap. of above county, on the W. bank of the Deveron, near its entrance into the Moray Frith; Lat. 54° 40′ 18″ N.; Lon. 2° 31′ 30″ W.; *pop.* 7,459.

Ban'field, in *Wisconsin*, a village of Grant co., on the Wisconsin River.

Bang, *v. a.* [Swed and Goth. *bang*, the sound produced by a blow; Icel. *banga*, to strike, to knock.] To beat; to thump; to handle roughly; to treat with violence.

"He . . . . put it into his servants' hands to fence with, and *bang* one another."—*Locke.*

—Vulgarly, to surpass; to excel; as, that man *bangs* all.

—*n.* A blow with a club; a heavy blow.

"With many a stiff thwack, many a *bang*,
Hard crab-tree and old iron rang."—*Hudibras.*

—A drug. See Bangue.

Bang, a town of Hindostan, prov. of Malwa, in Scindia, 82 m. S.W. of Oozein, and 145 m. N.E. of Surat. It is remarkable for its cave temples of Buddhic origin, about 3¼ m. S. of the town.

Ban'gall, in *New York*, a post-office of Duchess co.

Bang'alore, a fortified town of Hindostan, prov. of Mysoro; Lat. 12° 57′ N., Lon. 77° 38′ E.; 70 m. N.E. of Seringapatam. It is built on a table-land, 3,000 ft. above the sea, and is so salubrious, that Europeans often resort to it for the benefit of their health. The palace of Tippoo Saib here, is a striking building in the Saracenic style. *B.* is generally a large and well-built place, and the neighborhood is prolific of the finest fruits.—*Manf.* Silk and cotton fabrics. Most of the inhabitants are Hindoos. *Pop.*, estimated at 190,000 in 1891. *B.* was founded by Hyder Ali, and captured by the British under Lord Cornwallis, in 1791.

Ban'ghy, *n.* A sort of a bamboo pole to be carried on a person's shoulder, with a basket suspended on each end.

Bang'ing, *a.* Extensive; huge; great;—a vulgarism, implying, surpassing or exceeding in size.

Ban'gle, *n.* A hoop, (usually of gold or silver) originally worn on arm or ankle by the natives of India and Africa, but of recent years a popular adornment here and in Europe. It frequently has coin-shaped pendants, &c.

Ban'gle-ear, *n.* A term applied to the ear of a horse, when loose and hanging, like that of a dog.

Bang'kok, or **Ban'kok,** the capital city of the kingdom of Siam. It stands on a swampy tract on both sides of the river Menam, in Lat. 13° 58′ N., Lon. 100° 34′ E., and 15 m. N. of the Gulf of Siam. *B.* consists of 3 parts, viz., the palace, the town proper, and the floating town. The first contains, besides the royal residence and its gardens, many temples and shops. The town proper

Fig. 284.—View of Bangkok.

lies on both banks of the river, with its wooden and palm-roofed houses built on piles driven into the mud; each house being provided with a boat. The floating town consists of a number of bamboo-rafts, bearing rows of 8 or 10 houses each, with a platform in front, on which the wares for sale are exposed; most of the trade is thus conducted on the river, on which, it is believed, one-half of the population resides. There are many Buddhic temples; the principal of which is 200 ft. high, and contains 1,500 statues of Buddha. The trade of *B.* is probably more extensive than that of any other emporium in the East not occupied by Europeans.—*Exp.* Sugar, black-pepper, stick-lac, sapan-wood, ivory, and hides. *Imp.* Chinese manufactures and produce, and British and Indian piece-goods. Many of the inhabitants are Chinese, who pay a tri-yearly tax of $3. *Pop.*, est. 500,000, 1895.

Ban'gor, a city of England, in N. Wales, co. of Carnarvon, at the entrance of the Menai Straits, 238 m. N.W. of London, and beautifully situated. Two m. distant is the famous *Menai Suspension Bridge*, and a little farther, the *Britannia Tubular Bridge;* both marvels of engineering skill. *Pop.* about 7,000.

Ban'gor, a seaport town of Ireland, co. Down, on the S. shore of Carrickfergus Bay, 12 m. E.N.E. of Belfast. *B.* is a sea-bathing resort. *Pop.* about 3,000.

Ban'gor, in *California*, a post-village of Butte co., 14 m. S.S.E. of Oroville.

Ban'gor, in *Indiana*, a township of Elkhart co.

Ban'gor, in *Iowa*, a post-village and township of Marshall co., 50 m. N.N.E. of Des Moines.

Ban'gor, in *Maine*, a flourishing city, and cap. of Penobscot co., on the W. bank of Penobscot River, at the head of tidal water, and the limit of ship navigation; about 230 m. N.E. of Boston. Lat. 44° 45′ N.; Lon. 68° 47′ E. It stands upon an area of 36 sq. m., and is the second city of the State both as regards wealth and population. *B.* possesses many fine public buildings, among which are the Bangor Theological Seminary, the Custom-House, Post-Office, a score of churches, and the Orphans' Home, a fine building erected by private liberality, besides these, and other institutions, there are excellent public libraries,—the "Mercantile," and that of the "Mechanics' Association," each containing several thousand volumes.—Ships of from 1,200 to 1,400 tons come up to the city with full cargoes; and more lumber is exported thence than from any other port in New England, the annual quantity averaging 220,000,000 ft. *B.* is also engaged in foreign commerce, coast trade and ship building, some 200 vessels, with a tonnage of 30,000, being enrolled, registered and licensed there. Extensive waterworks and a dam across the Penobscot have been erected at a cost of $500,000 to supply water to the city and a motive power to its numerous mills. *B.* is on the Maine Central R. R., and is also the terminus of the European and North American Ry. (which connects it with St. Johns, N. B.), of the Bucksport and Bangor R. R., of the Piscataquis R. R. and of the Bangor and Bar Harbor R. R. *B.* was first settled in 1769, incorporated as a town in 1795, and as a city in 1834. *Pop.* (1890), 19,103; 1897, about 21,000.

Ban'gor, in *Michigan*, a post-township of Van Buren co., 30 m. W. of Kalamazoo.

—A village and township of Bay county, on Saginaw Bay.

—A village of Oakland co., 7 m. N. of Pontiac.

Ban'gor, in *New York*, a post-township of Franklin co., 160 m. N. by W. of Albany.

Ban'gor, in *Pennsylvania*, a village of York co., 24 m. S. of Lancaster.

Ban'gor, in *Wisconsin*, a post-village and township of La Crosse co., on the La Crosse River, 15 m. E.N.E. of La Crosse.

Bang-pa-soe, a considerable town of Siam, on the Bang-pa-kung river, near its mouth, 39 m. E.S.E. of Bangkok; Lat. 13° 30′ N.; Lon. 101° 11′ E. It is populous, is stockaded, and considered a place of defence against the Annamese.

Bangue', or **Bang,** *n.* A narcotic and intoxicating opiate. See Hashish.

Ban'ian, *n.* [Sansk. *pan*, to sell, *panya*, salable, *banik*, merchant.] A general name given in India to a merchant, more particularly to the great merchants of the W. provinces at Bombay, Surat, Cambay, &c., who carry on an extensive caravan trade with the interior of Asia, even to the borders of Asiatic Russia and China. Mercantile establishments of Indian Banians are to be found in almost every important commercial city in Asia. The Banians form a particular caste in India, and are distinct from the Brahmins, Cuttery, and Wyse, the three other castes. The name *B.* was at first given by Europeans to all the Hindoos, they being the class with which they had the most frequent intercourse; and hence the term was used in contradistinction to Mohammedan. The Banians are very strict in the observance of the fasts prescribed by their religion, and in refusing to eat flesh.

—A morning-gown or wrapper, resembling that worn by the Banians.

—The Indian fig-tree. See Banyan.

Ban'ian Days, *n. pl.* (*Naut.*) A cant term used by sailors to denote those days on which they have no meat served out to them; derived from the practice of the Banians, who never eat flesh.

Ba'nias, a town of Palestine, situated at the foot of a branch of Anti-Libanus, now called Jebel Heish, the *Mount Hermon* of Scripture, which was the northern boundary of the children of Israel, and the *Paneium* of the Romans. Banias is supposed to be on or near the site of the *Dan* of the Jews. Its name was changed to Cæsarea Philippi, by Philip the Tetrarch, son of Herod; the former part of the name was in honor of the Emperor Tiberius, to which Philip added his own by way of distinguishing it from the Cæsarea on the sea-coast. The modern village contains only about 150 houses, mostly inhabited by Turks; it is a dependency on the town of Hasbeya, about twenty miles to the north, whose Emir nominates the Sheikh. It stands on a triangular-shaped piece of ground enclosed by the river of Banias and the Jordan, and is backed by the mountains, at the foot of which, to the N.E. of the village, the river of Banias takes its rise, in a spacious cavern beneath a precipitous

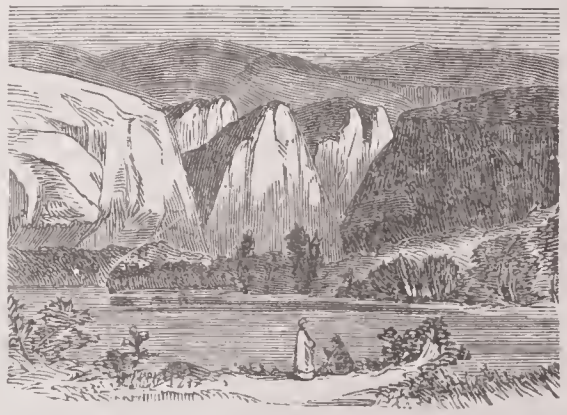


Fig. 285.—Source of Banias River. (Palestine.)

rock. This spring was formerly considered as the source of the Jordan. At some distance farther up the mountain, however, in a green and secluded dell, there is a very remarkable pond, circular in its form, and filled with clear and pellucid water. It has been known from the earliest times by the name of Phiala, or "The Bowl," and there is an immemorial tradition, that the fountain at Banias is supplied from this little lake, as

its reservoir. Josephus says, that, to prove the fact, some curious explorers of the locality put chaff into the lake, and then watching below, they saw it come out at the fountain. In recent times, another stream has been explored, which originates at a point far higher up the mountain, and descending through a long ravine, it joins the Jordan below Banias, and brings a greater supply of water than that which comes from the cavern fountains. — See JORDAN.

Ban'im, JOHN, a popular Irish novelist, B. at Kilkenny, April 3, 1798. His principal works are, the *Tales by the O'Hara Family;* the *Croppy;* the *Mayor of Windgap*, &c. As a man of genius, *B.* holds a high place in English literature. He was the founder of that school of Irish novelists, which much resembles the modern romantic French school of Eugene Sue and Dumas. D. 1842.

Ban'ish, *v. a.* [Fr. *bannir*, from L. Lat. *bannire.* — See BAN.] To declare to be banned, expelled, or exiled; to condemn or compel one to leave one's country; to exile.

"*Banish* plump Jack, and *banish* all the world." — *Shaks.*

—To drive away; to expel; to compel to depart.

"*Banish* business, *banish* sorrow,
To the gods belongs to-morrow."—*Cowley.*

Ban'isher, *n.* One who banishes; he that forces another from his country.

Ban'ishment, *n.* [Fr. *banissement.*] A punishment inflicted upon real or supposed offenders, by compelling them to quit a city, place, or country for a specified period of time or for life. *B.*, from being long obsolete in England, has never been introduced into the American laws. — See EXILE, OSTRACISM, TRANSPORTATION.

Ban'ister, *n.* A corruption of BALUSTER, *q. v.*

Ban'ister, in *Virginia*, a river which rises in the S. of Pittsylvania co., and flowing S.E. enters the Dan River about 10 m. from the village of Banister. It is navigable to Meadsville by bateaux.

—A village of Halifax co., now capital of above co., under the name of HOUSTON.

Banjermassin, (*băn'jer-măs-sin,*) an extensive territory lying on the S.E. part of the island of Borneo. — *Ext.* 350 m. long, and about 270 broad. — *Desc.* Generally flat, though intersected by a range of mountains running from N. to S. Where cultivation exists, the soil is extremely fertile, throwing up a luxuriant vegetation of great beauty and variety. — *Rivers.* The Banjer and its tributary, the Nagara, which water the western portion; and several large streams, plentifully irrigating the eastern. — *Prod.* Cotton, rice, wax, benzoin, pepper, dragon's-blood, and rattans. — *Min.* Gold, iron, coal; and some large and fine diamonds are found. — *Manf.* Swords, guns, pistols, and other arms. These are finished in the most elaborate style of workmanship, the decorations consisting of gold, silver, and copper. — *Pop.* estimated at 120,000, mostly Mohammedans. *B.* is governed by a Sultan, who is absolute so far as his people are concerned, but is to a certain extent subject to the Dutch, who for upwards of a century have had a factory in the capital.

BANJERMASSIN, the capital of the above territory, Lat. 3° 23′ S., Lon. 114° 37′ E., about 15 m. from the mouth of the Banjer, where it debouches into the Sea of Java. On account of the inundations of the river, the houses are built on piles of wood, at an elevation of three feet above the ground, and communicate with each other by means of planks. Many of the houses are built upon rafts, with their fronts turned towards the river, and exposing goods for sale; while on market-days the water forms the "great highway," on which all the necessaries of life are purchased at these floating marts. The town is in every respect a floating aggregate of houses, where there are no streets, nor carriages or horses, its whole business being entirely carried on by water communication.

Ban'jo, *n.* [From *bandore.*] (*Mus.*) A favorite instrument of the colored people in America. It has a head and a neck like the guitar, a body like a tambourine, and five strings which are played on with the fingers and hands.

Bank, *n.* [Fr. and A.S. *banc;* It. *banco.* See BENCH.] A mound, pile, or ridge of earth.

"They cast up a *bank* against the city."—2 *Sam.* xx. 15.

—The ground rising from the side of a river, lake, &c.; an embankment.

"Ye *banks* and braes o' bonnie Doon."—*Burns.*

—A rising ground in the sea; a shoal; a shelf of sand; as, the Bahama *banks.*

—A bench of rowers in a galley, or the bench they sit upon.

"Plac'd on their *banks*, the lusty Trojans sweep
Neptune's smooth face, and cleave the yielding deep."—*Waller.*

(*Printing.*) A kind of table used in printing-offices.

(*Carpentry.*) A long piece of timber about 6 in. square.

(*Law.*) The bench of justice. — See BANC.

(*Com.*) [Fr. *banque.*] A place for the deposit of money. An institution, generally incorporated, authorized to receive deposits of money, to lend money, and to issue promissory notes, — usually known by the name of *bank-notes*, — or to perform some one or more of these functions.

—*v. a.* To raise a mound or dike; to enclose, defend, or fortify with a bank; to embank.

"Amid the cliffs
And burning sands, that *bank* the shrubby vales."—*Thomson.*

—*v. n.* To deposit money in a bank; to carry on the pursuit of banking.

Bank'able, *a.* (*Com.*) A term applied to bank-bills or bank-notes, checks, and other securities for money, which are received as cash by the banks in those places where the word is used. Thus, the banks of New-York city, previous to the issue of national currency, received on deposit, or in payment of notes or bills, all the bank-notes issued by the different banks of the city, and also those of the neighboring county banks which have provided for the redemption of their notes in the city, as the banks of Jersey City, Brooklyn, &c. They also receive checks drawn on the city banks. This description of currency is, therefore, said to be bankable or *current*, to distinguish it from the notes of distant banks, which are said to be *uncurrent.* — The term is also sometimes applied to promissory notes and bills of exchange in high credit, thereby denoting that they are discountable by the banks.

Bank Account, *n.* (*Com.*) A fund which merchants, traders, and others have deposited into the common capital of some bank, to be drawn out by checks from time to time, according to the owner's or depositor's requirements. — The statement of the amount deposited and drawn, which is kept in duplicate, or in the depositor's bank-book, and the other in the books of the bank.

Bank'-book, *n.* (*Com.*) A book showing the debit and credit of a customer's account with a bank, and in which the bank officials make the necessary entries.

Bank-cred'it, *n.* (*Com.*) Accommodation allowed to a person, on proper security given to a bank, to draw upon it for money to a certain amount agreed upon.

Bank'er, *n.* [Fr. *banquier.*] One who keeps a bank; a person who traffics in money, negotiates bills of exchange, &c. — One who is the custodian of money held in trust, to be refunded to the owner as occasion may require. — See BANKING.

—A covering for a seat in the form of a cushion.

(*Mar.*) A vessel employed in the Newfoundland codfisheries.

(*Masonry.*) A stone bench used by masons in cutting out their work.

Bank'er's Note, *n.* (*Com.*) A promissory note given by a private banker, or banking institution, not incorporated; but resembling a bank-note in all other respects.

Bank'et, *n.* (*Bricklaying.*) A piece of wood on which bricks are cut.

Bank'-fence, *n.* A fence, or ha-ha, formed of a bank of earth.

Bank'-hook, *n.* A term used in some parts of England to express a large baited fish-hook attached by a line to the bank of a stream, &e.

Bank'ing, *a.* Belonging to, or conducted by, a bank; as, *banking* operations.

—*n.* The business or employment of a banker. — The vague notices which are found in ancient history, both sacred and profane, connected with dealings in money as a separate business, appear to warrant the belief that banking, in the sense wherein it is now understood, was but little known or practised in very remote periods. In times when nations were chiefly engaged in pastoral or agricultural pursuits, the trade of banking would hardly suggest itself to anybody as a profitable calling; and until, in the progress of a community toward civilization, the extent of its commercial dealings had become very considerable, none would be led to give their attention to the occupation of facilitating the money operations of the rest of the mercantile community. It is probable that the necessity for some such arrangement would be first experienced in consequence of the different weights and degrees of fineness of the coined money and bullion which would pass in the course of business between merchants of different nations. The principal occupation of the money-changers mentioned by St. Matthew, by whom the sacredness of the Jewish Temple was invaded, was doubtless that of purchasing the coins of one country, and paying for them in those of their own or of any other people, according to the wants and convenience of their customers. It is likewise probable that they exercised other functions proper to the character of bankers, by taking in and lending out money, for which they either allowed or charged interest (*Matthew* xxv. 27). Little, however, is known with certainty regarding the nature of the money dealings of the ancient Jews. In the time of Demosthenes, banking operations were carried on to a great extent in Athens. They exchanged foreign moneys, received deposits at interest, and gave loans. The bankers were generally of low origin, such as freedmen and aliens; but they frequently rose to great wealth and eminence. One Pasion, a manumitted slave, is frequently mentioned by Demosthenes and contemporary orators, and more than once was the state indebted to his liberality. He was a man of undoubted integrity, and his friendships and connections extended through the whole of Greece. The Athenian bankers are supposed to have been the first who invented the system of *discounts*, that is, of retaining the profits at the time of making the advance. The first mention that occurs of banking at Rome is in the year 352 B. C., when, the plebeians being in great distress, the state appointed certain persons to lend out the public money on security, and this system was adopted from time to time, for a limited period, in times of monetary distress throughout the republican period. Besides these, there were three principal classes of bankers at Rome: the *Negociatores*, who lent money upon interest to the inhabitants of the provinces, by which means they were enabled to realize a larger profit, as they were not limited there by any laws. The private bankers, *Argentarii*, with whom individuals opened accounts, and by whose intervention money was paid. They attended in particular to the payments of Roman citizens living in the provinces, as they might become due at Rome. The *Mensarii*, who were the bankers of the republic, and were created for the purpose of abating usury. Under the emperors, the two words *Argentarii* and *Mensarii* were used without distinction. Thus, C. Octavius, the father, is called *Argentarius* (*Suet. Aug.* c. 3), and *Mensarius* (*Ibid.* c. 4. *fin.*). There was also a class of money-lenders of an inferior description, called *Mummularioli.* The latter were also a sort of bankers or dealers in money, who combined with their dealings the business of assayers, for which purpose they were appointed to estimate the goodness or value of money, as to its weight, fineness of metal, and intrinsic worth. The *Argentarii* introduced one of the greatest conveniences in banking — that of making payments by means of checks or written orders, called *præscriptiones* or *attributiones.* — During the Middle Ages, when commerce was but little developed, there was little field for banking operations; but the business was first established in Europe by the Lombard Jews in Italy, A. D. 808, of whom some settled in Lombard Street, London, where many bankers still have their places of business. It seems to have been revived in Florence during the early part of the twelfth century. From the success that attended the commercial enterprises of the Florentines, that city became the centre of the money transactions of every commercial country of Europe, and her merchants and bankers accumulated great wealth. At one time Florence is said to have had 80 bankers; and we find that between 1430 and 1433, 76 bankers at Florence lent the State 4,865,000 gold florins. — The earliest public bank in modern Europe was that of Venice, founded in 1157. It originated in the financial difficulties of the State, which, in order to extricate itself, had recourse to a forced loan from the citizens, promising them interest at the rate of four per cent. The stock was made transferable, and a body of commissioners, called the *Camera degli Imprestiti*, or Chamber of Loans, was appointed to manage the transfer of stock and the payment of interest. This is believed to be the earliest instance on record of the funding system, and the first example in any country of a permanent national debt. This Chamber of Loans, as originally instituted for the purpose of managing the public debt, could scarcely be called a bank; and it does not appear to have carried on anything like a banking business for several centuries. Venice being the centre of an enormous commerce, foreign coins, usually in a very worn or clipped condition, were in circulation, to the great inconvenience of merchants; and hence the State had recourse to the expedient of authorizing the Chamber of Loans to receive coins of all sorts, and to pay for them in notes an amount corresponding to the real amount of bullion deposited. These notes promised to pay the bearer on demand a definite quantity of bullion of the proper fineness. The bank, however, does not seem to have discounted bills on its own account. Its only advantage was to save the wear and tear of the coinage, and to insure a uniform standard in mercantile transactions. Its notes always bore a premium as compared to the current money of the city; and it continued to exist until the fall of the republic in 1797. — About 1350, the Cloth-Merchants of Barcelona, then a wealthy body, added the business of banking to their other commercial pursuits; and in 1401 a public bank was opened by the magistrates of the city, which Spanish writers claim as being the first real bank, in the modern sense of the term. It received deposits, for which the public property of the city was pledged, and discounted the bills of merchants; but it does not appear that it issued notes or used checks. Almost at the same time with the Bank of Barcelona, that of St. George, at Genoa, was instituted. It was planned in 1345, but was not fully established and in operation till 1407. Like the Bank of Venice, it originated in the exigencies of the State. The republic had become indebted in large sums to a number of the citizens, and at length the whole was consolidated into one capital stock, to be managed as a bank, under the direction of eight protectors, chosen annually by the stockholders. This bank was pillaged by the Austrians in 1746, and never recovered its former prosperity. — Money matters in England were for some time regulated by the Royal Exchangers, but their calling fell into disuse until revived by Charles I. in 1627. The royal mint in the Tower of London was used as a bank of deposit until Charles I., by a forced loan, in 1638, destroyed its credit. The Goldsmiths' Company, of London, undertook private banking in 1645, but on the closing of the Exchequer, in 1672, their transactions terminated. Sir Josiah Child, of Fleet Street, London, was the first regular banker, and he commenced business soon after 1660: a business which is still in flourishing existence. — The Bank of Amsterdam was established in 1609, like that of Venice, to remedy the inconvenience arising from the great quantity of clipped and worn foreign coin that was in circulation. It received coins of all sorts at their weight in bullion, and after deducting a small percentage for the expenses of coinage and general management, gave credit for the remainder. It was enacted that all bills of 600 guilders ($262) and upwards — afterwards reduced to 300 — should be paid in bank-money. It professed to lend out no part of its deposits, and to possess bullion to the full amount of the credits given in its books; but when the French took possession of Amsterdam, in 1796, it was discovered that the bank had lent nearly $5,000,000 to the States of Holland and Friesland; and this caused its ruin. In 1814, a new bank was established, called the Bank of the Netherlands. The Bank of Hamburg was founded in 1619, upon the same principles as that of Amsterdam, and has continued to flourish. The Bank of Stockholm was founded in 1668, and is remarkable as being the first, according to Law and Hume, that invented bank-notes in Europe (the Chinese having the credit of having been the first to invent bank-notes, in A. D. 807). — From what has been already said, it will be seen that the term *Bank* is applied to establishments and monetary trans-

actions of very different kinds. Banks are usually divided into three classes, as they are merely for the custody or issue of money, or for both. The first class, or the *Banks of Deposit*, are, strictly speaking, those early banks which received money or valuables for custody, and kept them in their coffers till called for; but now the term is generally applied to those establishments that receive money from their customers, and lend it out to others at a higher rate of interest. *Banks of Issue* are those that issue their own notes for circulation; but as they likewise receive deposits, the term is generally applied to what forms the third class of the division. Were the duties of banks limited to the safe custody of money, they would still be of immense advantage to the public. Every one who has the care of large sums of money knows the anxiety that attends their custody, and the risks to which they are subjected; and hence the value of a place of security in which to lodge them. This gave riso to the first formation of public banks. But, were the money merely to lie idly in the coffers of the bank, it is evident that the depositor would not only not receive any interest upon it, but would have to pay for the trouble and expense of keeping it; while the money thus kept was so much drawn from the trading capital of the country. The advantages of combining a system of lending money with that of receiving it soon became apparent; and banks were established for the purpose of both receiving and lending money; the interest received on the sums being considered sufficient to cover all expense connected with its management, or the risk of losing it. By this means, numerous small sums of money, which would have remained unproductive in the hands of individuals, are collected into large sums in the hands of the bankers, who employ it in granting facilities to trade and commerce, and in this way increase the productive capital of the nation. Thus a million of money, in place of lying useless in small sums in the hands of the owners, or in one large sum in the coffers of a bank, is lent out to increase the capital of manufacturers and traders; and thus the world is made one million richer, or at least is saved from being one million poorer. Besides the money which a banker receives in deposits from his customers, he must be possessed of a certain capital of his own, in order to carry on business; and to insure confidence in his stability; for no one would lend money to a bauker if he knew that he was possessed of no capital. The interest derived from this capital forms part of the profits of the banker, but it is evident that the profit in this case is not the same as that which he derives from trading with the capital of others; in other words, that the interest is not greater than if he had lent out his money in any other way equally safe, and involving the same amount of trouble. The deposits over and above a certain sum which he must have at hand to meet daily claims, he advances in various ways as loans. The best and safest mode of employing such funds is considered to be in the discounting of good mercantile bills of exchange; that is, bills representing bonâ-fide transactions of trade and commerce. A bauker sometimes makes advances upon the deposit of government securities, railway debentures, bills of lading, dock warrants, and such like; but, except the government securities, the others are generally avoided by prudent bankers. Loans are usually divided into *short loans* and *dead loans*, the former having a fixed time for their repayment, the latter no fixed time. Loans of the latter class are generally avoided. Advances upon deeds, except in agricultural districts, are always objectionable. If depositors have the power of demanding the amount of their deposits of any kind from the banker, while he usually makes his advances for a fixed or definite period, it is evident that he must always have on hand, uninvested, a considerable sum to meet such claims. The amount necessary for this purpose may generally be pretty nearly estimated. It depends upon a number of circumstances; as the state of the money-market, the amount and nature of the deposits, the average amount of daily payments, and the like. If a banker is at liberty to issue bank-notes to a certain amount, it is evident that the profit derived therefrom is equal to the interest upon the difference betweeu the average amount in circulation and the amount of specie required to be kept on hand to meet them, less the expense of their manufacture. If, however, a banker were obliged to keep dead stock or bullion equal to the amount of his notes in circulation, he could make no profit. But for a banker in good credit it is considered that a 4th or a 5th part of this sum is usually sufficient. Besides serving as places for the safe custody of money, and allowing interest ou deposits, banks are of great use in a safe and rapid transference of money from one place to another. A debtor iu Philadelphia, or Baltimore, pays to his banker there the sum which he wishes to convey to his creditor in New York. The banker, for a small commission, furnishes him with a draft or letter of credit for the amount, to be paid by a banker in New York, from whom the creditor, on presenting the draft, receives the amount. Thus, then, the disposable means of a bank are: 1. The amount of paid-up capital. 2. The amount of money lodged by customers. 3. The amount of uotes in circulation. 4. The amount of money in course of transmission, that is, money received for the purpose of being repaid in some distaut place at a future time. These means are employed: 1. In discounting bills. 2 In advances of money in the form of cash credits, loans, or overdrawn accounts. 3. In the purchase of government and other securities. 4. A part retained in the safe to meet current demands. Of these four ways of employiug capital, three are productive, and one, namely the last, unproductive. The profits are that portion of the total receipts of a bank, including iuterest, discouut, dividends, and commissions, which exceeds the amount of the expenses. A great saving is also effected by the use of notes and checks, or wear and tear, and upon the coinage of the country. Geuerally, in the U. States, the banker performs the duties of cash-keeper to his depositors, making all their money payments beyond their small daily expenditure, and receiving the money payable to them. The merchant, by sending all the bills due to him to his banker, to be presented, and noted if not duly paid, is saved a great amount of trouble, and the risk of making mistakes in the presentation of the bills, the banker being always liable for any mistakes that may be committed through him. But it is in the use that the banker makes of the money that is intrusted to him that he may be of chief benefit to society, in his loans, discounts, and cash credits. It is here that he requires to exercise his greatest ability and skill, so that he may be the means of furthering the prosperity of the country, by aiding honest industry, and exposing rogues and reckless speculators. In the U. S. a large proportion of the active banking business is done by the National banks, although many State banks and large Trust companies also exist. See BANKS, NATIONAL, in Sec. II.

Bank-note, BANK-BILL, *n.* A promissory note payable on demand, to the bearer, made and issued by a person or persons acting as bankers and authorized by law to issue such notes. — For many purposes they are not looked upon as common promissory notes, and as such mere evidences of debt, or security for money. In the ordinary transactions of business they are recognized by general consent as cash. — The business of issuing them being regulated by law, a certain credit attaches to them, that renders them a convenient substitute for money.

Bank'rupt, *n.* [Fr. *banqueroute:* from *banque*, and Lat. *ruptus — rumpo*, to break.] (*Law.*) A trader who secretes himself or does certain other acts, tending to defeat or delay his creditors. — A person who has done, or suffered to be done, some act declared by law to be an act of bankruptcy.—Anterior to the Act of July 31, 1868, in the English law, the *B.* must be a trader; but in the American law the distinction between a *B.* and an insolvent was never generally regarded, and was expressly abrogated by the Act of Congress, Aug. 19, 1841. — For the American law on *B.*, see INSOLVENT.

(*Eng. Law.*) The numerous anterior statutes relating to bankruptcy have been consolidated by the *B.* Law Consolidation Act, (1849;) and this has been amended by the 15 and 16 Vict., c. 77, by the Bankruptcy Act, 1854, and 31 and 32 Vict., c. 104, of July 31, 1868. These four acts embody the actual law applicable directly to bankrupts and to their estates.

(*Scots. Law.*) By the Scottish system, as modified in 1783, the management of the estate is given to the creditors upon sequestration, and it is only where they require the aid of the court, or an appeal is taken from their determiuations, that resort is had to judicial proceedings. By recent amendments of the law, (1856,) the remedy is extended to apply to every class of debtors. There is also a remedy given the debtor to obtain a discharge from liability of the person, upon reliuquishing his property.

(*French Law.*) The Bankrupt Law of 1838 declares that all traders who stop payment are iu a state of insolvency. Traders are required immediately to register the fact that they have stopped payment at the Tribunal of Commerce, and file their balance-sheet; and a decree of insolvency is declared by the tribuual upon the trader's declaratiou or au application of the creditors. Prior voluntary conveyances and mortgages, pledges, &c., for antecedent debts, are void, and all subsequent deeds to those having notice are voidable.

Bank'rupt, *a.* Having committed acts of bankruptcy; unable to pay just debts; failing in trade; in debt beyoud the power of payment.

"The king 's grown *bankrupt* like a broken man." — *Shaks.*

—*v. a.* To break or fail in trade; to make insolvent.

"We cast off the care of all future thrift, because we are already *bankrupted*." — *Hammond.*

Bank'ruptcy, *n.* (*Law.*) The state or condition of a bankrupt. — See INSOLVENCY.

Banks, SIR JOSEPH, F. R. S., a distinguished cultivator of natural science, B. iu Loudon, 1743. Iu 1766 he made a scientific visit to Newfoundland and Labrador. Iu 1768, he accompanied Capt. Cook in his voyage round the world, and brought home large botanical collections. In 1772, he visited Icelaud. Iu 1777, *B.* was elected President of the Royal Society, and, in 1802, a member of the French Institute. D. Aug. 19, 1820. His library and herbarium he bequeathed to the British Museum.

Banks, NATHANIEL PRENTISS, an American statesman, B. at Boston, Jan. 20, 1816. In 1849 he was elected to the Massachusetts House of Representatives, of which, in 1851, he became Speaker. In 1853 he was president of the convention appointed to revise the constitution of the State. In Dec., 1854, *B.* was elected Speaker of the House of Representatives at Washington, and, in 1857, became Governor of Massachusetts. On the outbreak of the civil war, he was appointed to a comuand in the Union army with the rank of major-general, and stationed in the Shenandoah Valley, Va., from which, in Feb., 1862, he was expelled with severe loss by the Confederate General "Stonewall Jackson." On the 9th Aug., 1862, *B.*, then subordinate to General Pope, fought and won the battle of Cedar Mountain. In Dec. of the same year he succeeded Butler at New Orleans, conducted several important operations in the Mississippi Valley, and captured Port Hudson, July 8, 1863. He was afterwards employed in Texas, and again in New Orleans. Returning North, *B.* was, in 1865, elected representative from Massachusetts to the 39th Congress, and was re-elected in 1866, and iu 1868. Died Sept. I, 1894.

Banks, a N.E. county of *Georgia*, with an estimated area of 280 sq. m. It is intersected by the sources of Broad River. *Surface,* uneven. *Soil,* tolerably fertile. *Cap.* Homer.

Banks, in *Minnesota*, a post-village of Faribault co.

Banks, in *Pennsylvania*, a township of Carbon co., 10 m. N.W. of Mauch Chunk.

Bank'sia, *n.* (*Bot.*) A genus of plants, ord. *Proteaceæ*. They are very abundant in Australia, where they are called Honeysuckle trees. The genus has been named in honor of Sir Joseph Banks.

Banks' Island, of British N. America, lies in the Pacific Ocean, in Lat. 53° 20′ N., Lon. 130° W.

Banks' Land, in British N. America, lying in the Arctic Ocean, Lat. 74° N., Lon. 116° W., 70 m. S.W. of Melville Island.

Bank'-stock, *n.* A share or shares held in the capital or joint-stock funds of a bank.

Banks'ton, in *Illinois*, a post-village of Saline co., 65 m. N.E. of Cairo.

Banks'ton, in *Iowa*, a post-village of Dubuque co.

Banks'ton, in *Mississippi*, a village of Choctaw co.

Banks'ville, in *Connecticut*, a post-village of Fairfield co., 60 m. S.W. of Hartford.

Banlieue, (*ban'loo-e,*) *n.* [Fr., from *ban*, jurisdiction, and *lieue*, a league.] The territory without the walls, but withiu the legal limits of a town or city.

Bann, (UPPER and LOWER,) two rivers in the N. of Ireland; the first, or Upper, risiug in the Mourne Mountains, and falling into Lough Neagh. The Lower rises in Lough Beg, aud falls into the Irish Sea 5 m. below Coleraine.

Ban'nack City, in *Montana*. Same as BANNOCK CITY (see next page).

Bannalec, (*ban'na-lek,*) a town of France, cap. of a cant. in dep. Finistère, 9 m. N.W. of Quimper; *pop.* abt. 5,000.

Ban'ner, *n.* [Ger.; Fr. *bannière;* It. *bandiera;* Sp. *bandera*. From Celt. *band*, a band.] A piece of drapery attached to the upper part of a pole or staff, generally hanging loose, but sometimes fixed in a slight framework of wood. In this sense, *B.* is a generic term, including many varieties, such as a standard, ensign, pennon, flag, &c. The size and form are but accidents. In fact, it has been made to assume all the varieties of which so simple a frame-work is susceptible. When banners are displayed at the same time by persons of different classes, the size has often borne relation to the respective rank of the parties. — The drapery of a banner is usually made of the most costly stuffs — velvet or silk — but the material most commonly used is a kind of soft silk called taffeta. Sometimes it is quite plain, and of a uniform color; but they are often richly ornamented with tassels aud fringes, and generally there is wrought upon them some figure or device which has reference to the person, the community, or the nation by whom the banner is raised, or to the purpose or occasion of its being displayed. *B.* are of very early origin. We read of them constantly in the Old Testament, as in *Num.* ii. 2. — The military standards of the Romans were essentially different from the flags, colors, and ensigns of modern warfare. They were carvings in metal or wood; the eagle, or some other figure, elevated at the end of a tall lance or pole. The forms of them are known to us by the representations of them on medals, or the common coinage of that people. The Persian standard described by Xenophon (*Anab.* i. 10) was a golden or gilded eagle, raised on a spear or pole. When Constantine the Great was ou the eve of a battle with Maxentius, we are told that a luminous standard appeared to him in the sky with a cross upon it, and this inscription: "*In hoc signo vinces* — By this sign thou shalt conquer;" and that this omen so encouraged Constantine and his soldiers, that ou the next day they gained a great victory. — Alfred the Great captured the celebrated Danish banner called the "Raven," in 878. — When Waldemar II. of Denmark was engaged in a great battle with the Livonians in the year 1219, it is said that a sacred banner fell from heaven into the midst of his army, and so revived the courage of his troops that they gained a complete victory over the Livonians; and, in memory of the event, Waldemar instituted an order of knighthood called the *Dannebrog*, or the "Strength of the Danes," and which is still the principal order in Denmark. The great importance attached to the banner in the Middle Ages is not to be wondered at, when we consider that it was a kind of connectiug-link between the military and the clergy; it was a religious symbol applied to a military purpose, and this was the feeling which animated the Crusaders and Templars in their great struggle against the enemies of Christianity. The contest was then between the Crescent and the Cross—between Christ and Mahomet. The Knights Templars had a *B.* called *Beauseant*, simply divided into black and white; the white portion symbolizing peace to their friends, the black portion evil to their enemies, and their dreaded warcry was "Beauseant!" In the monasteries, *B.* were kept for festivals and great commemorations. In modern days, banners are carried in the processions attending the festivals of the Roman Catholic Church; they are also used as a part of the insignia of friendly societies and benevolent clubs, &c. — The relation which *B.* bear to other kinds of flags, in their forms and uses, will be explained under BANDEROLE; COLORS, (REGIMENTAL;) ENSIGN; FLAG; GUIDON; GONFALON; PENNANT; PENNON; STANDARD, &c. See also ORIFLAMME, and UNION JACK.

(*Her.*) *Banner displayed* is a *B.* open and flying.

Ban'ner, in *Illinois*, a township of Fulton co.

Ban'ner, in *Mississippi*, a post-office of Calhoun co.
Ban'ner, in *Kansas*, a post-office of Jackson co.
Ban'ner, in *Wisconsin*, a village of Fond du Lac co.
Ban'ner City, in *Idaho*, a mining village of Boisée co. 35 m. N.N.E. of Idaho city.
Ban'nered, *a.* Furnished with, or bearing banners.
"Shield the strong foes, and rake the *bannered* shore."—*Barlow.*
Ban'neret, *n.* [Fr. dimin. of *banner.*] A rank between that of knight and baron; a knight created on the field of battle. — See KNIGHT-BANNERET.
Ban'nerol, *n.* Same as BANDEROLE, *q. v.*
Ban'nerville, in *Pennsylvania*, a village of Snyder co.
Ban'nock, *n.* [Gael. *bonnoch*; Ir. *boinneog.*] A cake made of barley, oat, rye, or peas meal, baked on a girdle, or circular iron plate, over the fire; it is a favorite article of food in Scotland, and is used also in the N. counties of England.
Bannockburn, (*băn'nok-burn,*) a flourishing town of Scotland, co. Stirling, on the Bannock, 3 m. S.S.E. of Stirling. *Manuf.* Carpets, woollens, and tartans. *Pop.* abt. 3,000. Near it was fought, 24th June, 1314, the great battle between the English, under Edward II., and the Scots, under Robert Bruce, which ended in the total defeat of the former. The loss of the English was estimated at 30,000 men, and that of the Scots at abt. 8,000. This decisive victory secured the independence of Scotland, and established Robert Bruce on the throne. At Sauchie Burn, about 1 m. from *B.*, James III. of Scotland was defeated by his own son, afterwards James IV.
Ban'nock City, in *Montana*, a town, formerly the capital of Beaver Head county, about 45 miles W. of Virginia City.
Ban'nock-fluke, *n.* A Scotticism for the turbot.
Banns, *n. pl.* [See BAN.] (*Eng. Law.*) A public notice or proclamation, made in a church, of the names and designations of persons about to be married; the object being that those who have objections to the marriage may have an opportunity of stating them. The proclamation must be made on three successive Sundays during the time of the celebration of public worship.— See MARRIAGE.
Banquet, (*băñk'wet,*) *n.* [Fr. *banquet*, from *banque*, a bank, a bench, a table.] A repast; a feast; a sumptuous feast or entertainment; anything delightful.
(*Arch.*) [Fr. *banquette.*] The footway of a bridge, when raised above the carriage-way.
(*Man.*) A small rod-shaped part of the bridle under the eye of the horse.
—*v. a.* To treat with a feast or sumptuous entertainment.
"They were *banqueted* by the way."—*Hayward.*
—*v. n.* To fare sumptuously; to regale one's self with good eating and drinking; to feast.
"The mind shall *banquet*, though the body pine."—*Shaks.*
Ban'queter, *n.* A person who banquets; one who feasts, or provides a feast.
Ban'queting-house or **room.** An apartment, or spacious room or place, in which banquets are held.
"At the walk's end behold, how raised on high
A *banquet-house* salutes the southern sky."—*Dryden.*
Banquette, (*bang-ket',*) *n.* [Fr.] (*Fort.*) A step or small terrace of earth constructed along the inner side of a parapet, for musketeers to stand upon when the parapet is too high to fire over. It is usually made about 4 feet wide, and raised to within 4½ feet of the crest of the parapet.
Banquo, a famous Scottish thane of the 11th cent. In conjunction with Macbeth, cousin of Duncan the king, he obtained a victory over the Danes, who had landed on the Scottish coast. Macbeth, shortly afterwards, violently dethroned Duncan, and caused him to be secretly assassinated. *B.*, though not an accomplice, was a witness of the crime; and being consequently regarded by Macbeth with fear and suspicion, the latter invited him and his son to supper, and hired assassins to attack them on their return home during the darkness of night. *B.* was slain, but the youth made his escape. Shakspeare has interwoven this transaction with the theme of his celebrated tragedy of *Macbeth.*
Ban'shee, or BENSHIE, *n.* [Gael. *beanshith*, a fairy, from Gael. and Ir. *bean*, a woman, and Gael. *sith*; Ir. *sighidh*, fairy.] A supernatural being, supposed by the Irish peasantry to give notice to a family of the speedy death of some of its members, by wailing a mournful air under the windows of the house.
Ban'tam, an old and decayed town of the island of Java, and, until of late years, one of the most famous trading marts in the Farther East, belonging to the Dutch. Lat. 6° 1′ 42″ S.; Lon. 106° 10′ 42″ E. Its bay, formerly a great rendezvous of European shipping, is now choked up by coral reefs. The Dutch abandoned it in 1817 for the more elevated station of Serang, or Ceram, 7 m. inland.
Ban'tam, *n.* (*Zoöl.*) A variety of the common domestic fowl, originally brought from the East Indies, and supposed to derive its name from the above town. It is remarkable for its small size, being only about 1 pound in weight, and for a disposition more courageous and pugnacious than even that of a game-cock.
Ban'tam, in *Ohio*, a post-village of Clermont co.
Ban'tam Falls, in *Connecticut*, formerly a post-office of Litchfield co.
Ban'ter, *v. a.* [Probably from Fr. *badiner*, to be frolicsome; to play or joke with.] To joke or jest with; to play upon; to rally.
"Shall we, cries one, permit
His lewd romances, and his *bant'ring* wit."—*Tate.*
—*n.* A joking or jesting; raillery; pleasantry; good-humored sarcasm; as, "Part *banter*, part affection."
Banting System. See OBESITY,
Ban'terer, *n.* One who banters another; a pleasant railer; a joker.
"What opinion have these religious *banterers* of the divine power?"—*L'Estrange.*
Bant'ling, *n.* [Swed. and Goth. *pant*, a pledge: Icel. *pantr*; Ger. *pfand*, and *ling*, an image, an *image-pledge.*] A young child; an infant. Most frequently used in the sense of illegitimacy.
"They seldom let the *bantling* roar,
In basket, at a neighbour's door."—*Prior.*
Ban'try, a seaport town of Ireland, co. Cork, at the extremity of a bay of the same name, 43 m. W. by S. of Cork; *pop.* about 2,700.
Ban'try Bay, a large inlet of the Atlantic, in the S.W. extremity of Ireland, co. Cork, between Crow Point on the N. and Sheep's Head on the S. This is one of the finest and most capacious harbors in Europe, being about 25 m. long by from 4 to 6 broad, and having safe anchorage for the largest vessels. Possessing no considerable town on its shores, it is, however, but little resorted to by shipping.
Ban'ya, NAGY. See NAGY BANIA.
Ban'yan Tree, *n.* (*Bot.*) The *Ficus indica*, a species of the gen. *Ficus*, q. v. It is regarded as a sacred tree by the Hindoos. Its branches produce long shoots, or aërial roots, which descend to the ground and penetrate the soil; so that, in course of time, a single tree becomes a vast umbrageous tent, supported by numerous columns. No fewer than 350 stems, each equalling in bulk the trunk of a large oak, and more than 3,000 smaller ones, have been counted in one example, covering a space sufficient to contain 7,000 persons.

Fig. 286.—BANYAN TREE.

The fruit of the banyan is of a rich scarlet color, and about the size of a cherry; it is eaten by the monkeys, which live with birds and enormous bats in the thick forest of branches. The bark is a powerful tonic, and is much used by the Hindoo physicians. The white glutinous juice of the tree is used to relieve toothache, as an application to the soles of the feet when inflamed, and for making birdlime. *Ficus elastica*, also a native of India, yields an inferior kind of caoutchouc. *F. sycamorus*, the Sycamore-fig, is said to have yielded the wood from which mummy-cases were made.
Ban'yuls-sur-mer, a town of France, dep. Pyrénées-Orientales, with a fishing-port on the Mediterranean, near the frontier of Spain. The celebrated wines of Grenache and Rancio are produced here. *Pop.* 1,676.
Ba'obab, ADANSONIA, *n.* (*Bot.*) A genus of plants, ord. *Sterculiaceæ. Adansonia digitata*, the baobab-tree, is the typical species. This is remarkable for its enormous size, and for its extraordinary longevity. One specimen has been found to have a trunk nearly 100 feet in circumference; and the age of this gigantic vegetable is probably many thousand years. The leaf of the baobab is digitate, branched into finger-like leaflets; hence its specific name. The fruit, commonly known as monkey-bread or Ethiopian sour-gourd, is a large oval capsule, containing a starchy pulp, having a slightly acid flavor, which forms a wholesome and agreeable article of food. Mixed with water, it makes an acid drink, which is highly esteemed as a specific in putrid and pestilential fevers, and is also employed by the Egyptian doctors in dysentery. The leaves have astringent properties; and, when dried and powdered, they form the condiment called *lalo*, which the Africans mix with their daily food as a preventive of excessive perspiration. The bark is said to be febrifugal, and its fibres are used, by the African tribes living in the districts where the baobab flourishes, for the manufacture of cordage and various articles of dress.
Baphia, (*baf'i-a,*) *n.* (*Bot.*) A genus of plants, ord. *Fabaceæ.* The species *B. nitida* yields the dye-wood known in commerce as bar-wood or cam-wood.
Baphom'etus, *n.* The name of the image which the Knights-Templars were charged with worshipping, when the order was suppressed by Philip IV. of France. It is probably a corruption of "Mahomet," and the charge may have arisen from the circumstance that some of the Templars had gone over to the Moslem faith.
Baptisia, *n.* (*Bot.*) A genus of plants, order *Fabaceæ.* The Wild Indigo, *B. tinctoria*, found in dry soil in all the States, is a plant with a bluish-green foliage; stem very bushy, about 2 feet high; 6 to 12 or more flowers in each raceme; petals yellow; legume about as large as a pea, on a long stipe, mostly 1-seeded. This plant is used medicinally; the root and herbage being stated to possess antiseptic, sub-astringent, cathartic, and emetic properties. It yields a blue dye, resembling, but inferior to, INDIGO, *q. v.*
Bap'tism, *n.* [Fr. *baptême*; Gr. *baptismos*, a dipping.] (*Theol.*) A sacrament acknowledged by almost all the Christian churches. *B.* was usual with the Jews even before Christ, and every converted heathen was not only circumcised, but also washed, as a symbol of his entrance into the new religion, purified from the stains of his former life. From this *B.* of proselytes, however, that of St. John differed, because he baptized Jews also, as a symbol of the necessity of perfect purification from sin. Jesus himself was baptized by John. Christ never baptized, but directed his disciples to administer this rite to the converts, using the following words: "Go ye, therefore, and teach all nations, baptizing them in the name of the Father, and of the Son, and of the Holy Ghost, (*Matt.* xxviii 19.) In the time of the apostles, the form of the *B.* was very simple. The person to be baptized was dipped in a river or vessel, with the words which Christ had ordered, and to express more fully his change of character, generally adopted a new name. The Greek Church retained this custom; but the Western Church adopted, in the 13th century, the mode of baptism by sprinkling, which has been continued by the Protestants, the Baptists (*q. v.*) only excepted. The introduction of this mode of baptism was owing to the great inconvenience which arose from the immersion of the whole body in the northern climates of Europe. The custom of sprinkling thrice, in the administration of the rite, spread with the diffusion of the doctrine of the Trinity. In the first centuries of the Christian æra, when, generally speaking, adults only joined the new sect, the converted (Catechumens, *q. v.*) were diligently instructed: the power of this sacrament to procure perfect remission of sins was taught, and while some converts delayed their baptism from a feeling of sinfulness not yet removed, others did the same from the wish to gratify corrupt desires a little longer, and to have their sins forgiven all at once. But the doctrine of St. Augustine, that the unbaptized were irrevocably damned, changed this delay into haste, and made the baptism of children general. The death of a martyr, however, who perished while yet a catechumen, was accounted equally effectual for salvation with baptism. This was called *baptisma sanguinis*, (baptism of blood.) When, in the 5th century, Christianity became more firmly established, and the fear of the relapse of Christian proselytes into their former faith, which had so often occurred in the period of persecution, diminished, the baptism of children became still more general, and is now the common custom of Christians, with the exception of the Baptists.— As baptism is a sacrament, and considered by the Catholics so very efficacious, the Roman Church has strictly prohibited the re-baptism of baptized heretics, on their conversion to Catholicism. Anti-Trinitarians, only, are to be baptized again. Protestants, of course, acknowledge the validity of the baptism of other Protestant sects, as well as of that of the Catholic Church. The Roman and Greek Catholics consecrate the water of baptism, but Protestants do not. Even in the ancient church, every person, when baptized, was attended by a Christian friend of the same sex, who became responsible for the faith of the new Christian, and promised to take care of his spiritual welfare. The form still remains, though the promise is not very strictly complied with in most cases. After baptism in the Catholic Church, the baptized person receives milk and honey, as a symbol of his spiritual youth; and the spiritual privileges which he acquires as a Christian are all indicated by symbols; thus the salt of wisdom is given, the garment of innocence is put on, &c. The Catholic Church acknowledges three kinds of baptism, that of water, fire, and blood, (*baptisma fluminis, flaminis, sanguinis.*) The first is the common one; the second is perfect love of God, connected with a sincere and ardent desire to be baptized; the third is the martyrdom of a catechumen for the Christian faith. All three are equal in their effect. The Roman Church acknowledges, that all persons not baptized are damned, even infants; but it does not state what they are to suffer; for even St. Augustine, the sternest and severest preacher of this doctrine, deemed it hard that those who had not yet sinned should be damned for eternity in consequence of the sin of Adam; and he thinks that their suffering will be slight. Some scholastic theologians have thought that the pain they were to endure would consist in separation from God. The Jansenists believed in the total damnation of infants not baptized. Dante, who so strictly adhered to the dogmas of his church, but always retained his sensibility to the feelings of humanity, gives, in the 4th canto of his *Inferno*, a place to all virtuous heathens, and infants not baptized, separate from the other part of hell: and it is easily seen with what reluctance he placed them there.— The Friends (Quakers) reject all outward *B.*
Baptis'mal, *a.* [Fr. *baptismal.*] Pertaining to baptism.
"When we undertake the *baptismal* vow."—*Hammond.*
Baptis'mally, *adv.* In a baptismal manner.
Bap'tist, *n.* [Lat. *baptista.*] One who baptizes.— John, the forerunner of Christ.—One of the sect of BAPTISTS, *q. v.*
Bap'tistery, *n.* [Gr. *baptisterion*, a large basin or bath.] (*Arch.*) A large building designed for the administration of baptism. In early ages, baptism was performed by immersion, and the place used for the purpose was a pond or stream; but in the middle of the 3d century, distinct or insulated houses were erected for the ceremony. The *B.* was an octagon or circular building, covered with a cupola roof, and adjacent to the church, but not forming a part of it. The most ancient *B.* is that of S. Giovanni in Fonte, at Rome, said to have been erected by Constantine the Great. The most celebrated are those of Florence and Pisa. This last (see *Fig.* 169) is circular; its diameter is 116 feet; the walls are 8 ft. high, and the building is raised on 3 steps, and surmounted by a dome in the shape of a pear. This dome, which is covered with lead, is intersected by long lines of very prominent fretwork, terminating in another

dome, above which is the statue of St. John. The proportions of the interior are admirable; 8 granite columns, placed between 4 piers, decorated with pilasters, are arranged round the basement story; these support a 2d order of piers, similarly arranged, on which rests the dome. In the middle of the *B.* is a large octagonal basin of marble, raised on 3 steps. — The most remarkable features of the *B.* of Florence are the bas-reliefs of its three magnificent bronze doors, executed by Andrea of Pisa, and Lorenzo Ghiberti. — See FONT.

Baptist'ic, Baptist'ical, *a.* Pertaining or relating to baptism.

Baptist'ically, *adv.* In a baptistical manner.

Bap'tists, *n. pl.* (*Eccl Hist.*) A name used since the middle of the seventeenth century to denote various bodies of Christians (previously called Anabaptists) whose distinguishing tenet is erroneously supposed to be that only immersion is valid baptism. Their distinctive principle looks rather to the subject than the act of baptism. Accepting the Scriptures as the only rule of faith and practice, all Baptists hold that a church of Christ is a spiritual body, consisting only of the regenerate; hence, the only proper subject of baptism is a believer, one who gives credible evidence that he has been regenerated by the Spirit of God. With the exception of the Tunkers (who practice trine immersion) the single immersion of such a believer is regarded by all varieties of *B.* as the only baptism that conforms to the New Testament. Since they thus hold the religion of Christ to be a spiritual life, begun and continued by the grace of God, they regard it as a thing with which the civil law has no right to meddle; hence Baptists have always denied the rightfulness of persecution for religious beliefs, and advocated the entire separation of Church and State. The majority of *B.* have always held to that type of theology known as Calvinistic, though the Arminian theology has also from the first had its adherents among them. In polity they are congregational, each church being independent as regards its own discipline; but councils composed of delegates from sister churches are often called to give advice regarding ordination of ministers and the settlement of difficulties. Other organizations—such as Associations, State Conventions, Missionary Societies—are composed of delegates from the churches, and exist for missionary and administrative purposes, with no legislative or other authority over the churches. The majority of *B.*—sometimes called the "regular" *B.*—practice what is known as restricted or "close" communion; that is, they invite to the Lord's table only the baptized (immersed on profession of their faith). The practice of inviting all Christians, whether baptized or not, is called "open" communion.—*B.* are historically connected with sects on the continent of Europe that have existed since the twelfth century, at least, under the various names of Petrobrusians, Waldenses, Anabaptists, Mennonites, etc. Not all of these bodies practiced immersion, but they held the distinctive Baptist principle, a church composed only of those baptized on a credible profession of faith in Christ. The history of those bodies to whom the name *B.* was given begins, however, with a church established in 1609 among some English refugees in Holland, by John Smyth, formerly a clergyman of the Church of England. Members of this church came to England in 1611 and organized the first church of the General Baptists in England. (They were called General because they taught the Arminian doctrine that the atonement was general, *i. e.*, for all men, while the Calvinistic taught that the atonement was only for a particular class, *i. e.*, the elect; hence the Calvinistic Baptists were called Particular Baptists.) The first Particular Baptist church was formed in London in 1633. Notwithstanding the persecutions to which Dissenters were then subject, both these varieties of *B.* increased with great rapidity. In 1644 seven churches of the Particular Baptists issued a Confession of Faith. Under the Commonwealth *B.* were very numerous and influential; some of Cromwell's most trusted officers were *B.* They were severely persecuted after the Restoration, but received full toleration under the Act of 1689. John Bunyan, the author of the *Pilgrim's Progress*, Robert Hall, General Havelock, and Charles Haddon Spurgeon, are among the famous men the English *B.* have produced.—Their greatest achievement has been to lead modern Christendom in the work of evangelizing the heathen. The Moravians were before them in this work, but it was given to the English *B.* to direct the attention of all Christians to it and quicken missionary interest in every denomination. William Carey was the leader in organizing the English Baptist Missionary Society, in 1792. He was also the first missionary of this society, going to India, where he became one of the great Oriental scholars of the world, and before his death was instrumental in giving the Scriptures to more than 300,000,000 people, in forty different languages and dialects. The English *B.* now have missions in India, Ceylon, China, Palestine, Central Africa, the Bahamas, and Central America.—Besides the General and Particular Baptists there are found in Great Britain the following variant bodies: *Seventh-day B.*, whose first church was founded in London in 1676. As their name implies, their distinctive principle is that they observe the seventh day of the week instead of the first. The *Six Principle B.*, who take the six things enumerated in Heb. vi. 1, 2, as obligatory on all Christians, and differ from their brethren chiefly in laying hands on all persons after baptism. In 1690 five churches formed a separate denomination on this issue. The *New Connection of General B.*, formed in 1770 in consequence of many of the General Baptist churches

(CONTINUED IN SECTION II.)

Bap'tist-town, in *New Jersey*, a post-village of Ringwood township, in the W. part of Hunterdon co., 8 m. W. by N. of Flemington.

Bap'tist Val'ley, in *Virginia*, a village of Tazewell county.

Baptiz'able, *a.* Susceptible of being baptized. (R.)

Baptize', *v. a.* [Gr. *baptizō*; from *baptō*, to dip in water.] To immerse; to dip under water; to sprinkle with water; to administer the sacrament of baptism to.

Baptize'ment, *n.* The act of baptism. (R.)

Baptiz'er, *n.* He who baptizes, or administers the sacrament of baptism.

Baquet (*ba-kā*), *n.* [Fr.] A small tub, bucket, or trough, used for various purposes.

Bar, *n.* [A.S. *beorgan*, to protect, to defend, to fortify, to secure; W. *bar*, a bar or bolt; Fr. *barre*; It. *barra*.] That which guards, defends, or secures; a long piece of wood or metal; a cross-beam used for security. — An obstacle, obstruction, or barrier; anything which hinders or prevents.

"Fatal accidents have set
A most unhappy *bar* between your friendship." — *Rowe.*

—Any tribunal, as, the *bar* of public opinion. — An enclosed place within the lower apartment of a tavern, hotel, or coffee-house, where liquors are vended and served out to customers.

(*Law.*) 1. In a court of justice, an inclosure made with a strong partition of timber, 3 or 4 feet high, with the view of preventing the persons engaged in the business of the court from being incommoded by the public. The term is also applied to the benches where the advocates are seated; because, anciently, there was a bar to separate pleaders from attorneys and others. Those who, as advocates or counsellors, appeared as speakers in court, were said to be "called to the bar," that is, called to appear in presence of the court, as *barristers*, or persons who stay or attend at the bar of court. Hence, the word was applied to *the* persons who were so called, and the advocates were, as a class, called *the bar*. In the U. States, since attorneys as well as counsellors appear in court to conduct causes, the members of the legal profession, generally, are called the bar. — 2. Prisoners being brought for trial to the bar of the criminal courts, the practice arose of calling them the "prisoners at the *bar*;" i. e., standing at the bar to plead to the indictment. — 3. The term *bar* is similarly applied, in the houses of the English Parliament, to the breast-high partition which divides from the body of the respective houses a space near the door, beyond which none but the members and clerks are admitted. To these bars witnesses and persons who have been ordered into custody for breaches of privilege are brought; and counsel stand there when admitted to plead before the respective houses. The Commons go to the bar of the House of Lords, to hear the Queen's speech at the opening and close of a session. — 4. *Pleas in bar*, or peremptory pleas, are founded on some matter tending to impeach the right of action itself, and their effect, consequently, is to defeat the plaintiff's claim altogether. Pleas in bar are subject to various divisions. For, first, they comprise the class of *general issues*, which are denials (expressed in a particular form by ancient precedent) of the whole matter in the declaration, or, at least, of the principal fact upon which it is founded: while all other pleas in bar are distinguished by the term of *special pleas*. All these pleas are governed by particular rules of practice; as they involve much legal technicality and nicety, they are generally drawn by pleaders or barristers. In criminal pleading, a special plea in bar goes to the merits of the indictment, and gives a reason why the prisoner ought to be discharged from the prosecution. They are principally of four kinds: a former acquittal; a former conviction; a former attainder; or a pardon. (See AUTREFOIS ACQUIT, AUTREFOIS CONVICT, CONVICT, ATTAINDER.) — 5. In *contracts*, the term *bar* is applied to an obstacle or opposition. Thus, relationship within the prohibited degrees, or the fact that a person is already married, is a *bar* to marriage.

(*Her.*) One of the nine *honorable* charges or figures placed upon the field or escutcheon, called *ordinaries*, and consisting of two lines drawn across the field. It differs from the *fess* in this: the fess occupies a third part of the field, and is confined to the centre; whereas the bar contains only a fifth, is not limited to any part, and is never borne singly. It has two diminutives — the *closet*, which is half the width of the bar, and the *barrule* or *barrulet*, which is half the width of the closet. Of the closet, there may be five in one field, as in fig. 287, but the barrulet can be borne only in couples. *Barsgemelles* are so called when they stand in couples. When the shield contains a number of bars of *metal* and *color* alternate, of even number, that is called *barry* of so many pieces; as, barry of six *argents* and *gules*. See BATON (SINISTER)

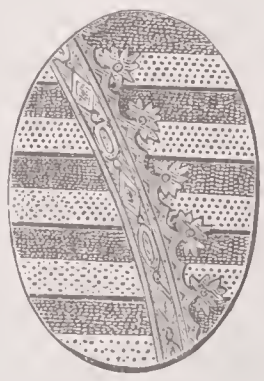
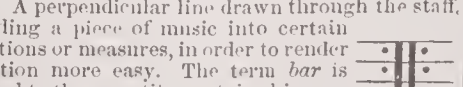


Fig. 287. — ARMORIAL ENSIGNS OF SAXONY.

(*Mus.*) A perpendicular line drawn through the staff, *q. v.*, dividing a piece of music into certain equal portions or measures, in order to render its execution more easy. The term *bar* is also applied to the quantity contained in any such portion; thus, we say a bar of two minims, of six quavers, &c.; and a bar in common time, in three-eighth time, &c. — *Double bars* mark a conclusion. They are likewise placed at the end of each strain; and if accompanied by dots, they indicate that the part next the side on which the dots appear is to be repeated.



(*Phys. Geog.*) A bank opposite the mouth of a river which obstructs or *bars* the entrance of vessels. The *B.* is formed where the rush of the stream is arrested by the water of the sea, as the mud and sand suspended in the river-water are thus allowed to be deposited. It is thus that deltas are formed at the mouths of rivers.

(*Com.*) A lump, ingot, or wedge, as of gold or silver, from mines, cast in a rough mould and unwrought. — The term *Bar* is also used in African traffic, for a denomination of price; payment being formerly made to negroes almost wholly in bars of iron.

(*Farriery.*) The upper part of the gums of a horse, between the tusks and grinders, to which the bit is applied. — A portion of the hoof of a horse.

Bar, *v. a.* To fasten, secure, or defend with a bar or bars. — To hinder, obstruct, or prevent; as, the statute *bars* my right.

"When law can do no right,
Let it be lawful that law can *bar* no wrong." — *Shaks.*

—To except; to prohibit; to shut out.

"But shut from ev'ry shore, and *barr'd* from ev'ry coast." *Dryden.*

—To cross with one or more lines or stripes.

Bar, a town of European Russia, govt. of Podolia, 48 m. N. of Moghilev. It is famous in Polish history from the confederation established there in 1768, by Pulaski and other Polish nobles hostile to Russia. *Pop.* about 8,000.

Bar, a considerable town of Hindostan, pres. of Bengal, on the S. bank of the Ganges, 18 m. N.E. of Bahar; Lat 25° 28′ N.; Lon. 85° 46′ E.

Bar, in *Indiana*, a township of Daviess co.; *pop.* abt. 2,200.

Barab'bas, a noted robber in Christ's time, who was imprisoned and awaiting death for the crimes of sedition and murder. It was a custom of the Roman government, for the sake of conciliating the Jews, to release one Jewish prisoner, whom they might choose, at the yearly Passover. Pilate desired thus to release Jesus, but the Jews demanded *B.* (*Matt.* xxvii. 16–26.)

Bar'aboo, in *Wisconsin*, a thriving city, the cap. of Sauk co., on a river of the same name, 40 m. N. N. W. of Madison. *Pop.* in 1890, 4,605; in 1897 (est.), 6,250.

Baraguay d'Hilliers, (*bar'a-gai'deel'ye-a,*) ACHILLE, COUNT, a marshal of France, was born in Paris, 1795. In 1830 he took part in the expedition to Algeria, in which his success against the Arabs gained him the confidence of Louis Philippe's government, who created him a lieutenant-general. He was, in 1836, appointed to the command of the military school of St. Cyr. In 1841, he was made governor-general of Algeria. On the fall of Louis Philippe in the revolution of 1848, the Provisional Government appointed him to the command of the military division of Besançon. He replaced Changarnier in the command of the army of Paris, and concurred in the accomplishment of the *coup d'etat* on the 2d of Dec., 1851. In the war with Russia in 1854, *B.* was commander-in-chief of the Baltic expedition, and for his services received the dignity of marshal of France, and later was nominated a senator. He took an active part in the campaign of 1859, when France leagued with Sardinia to free Italy from Austrian domination. D. 1878.

Barahat', a town of Hindostan, cap. of the rajah of Gurwal, 48 m. W.N.W. of Serinagur.

Baraitche', a town and district of Hindostan, prov. of Onde, 50 m. N.E. of Lucknow; Lat. 27° 33′ N.; Lon. 81° 30′ E. The district is well-wooded, fertile, and well cultivated. Many of the old Patan race inhabit this district.

Ba'rak, the principal river of Cachar, in Farther India. It unites with the Brahmapootra, 43 m. from Dacca.

Ba'rak, the son of Abinoam, tribe of Naphtali. God summoned him, by means of Deborah the prophetess, to release Israel from the yoke of Jabin, king of Canaan. *B.* gathered 10,000 men, and the song of Deborah and Barak (*Judg.* v.) chronicles their victory.

Baralip'ton, *n.* (*Logic.*) An imperfect syllogism, consisting of two universals and one particular affirmative proposition.

Baran'te, AMABLE PROSPER BRUGIÈRE, BARON DE, a French historian and statesman, and a member of the French Academy, was b. at Riom, in 1782. In 1805, he became auditor to the Council of State. In 1809, he published, anonymously, a work on *The Literature of France during the Eighteenth Century*, which excited the enthusiasm of Madame de Staël, and called forth the eulogium of Göthe. In 1822 appeared from his pen *The Commons and the Aristocracy*, and subsequently his greatest work, *The History of the Dukes of Burgundy, of the House of Valois, from* 1364 *to* 1477, which has placed him among the first of the French historians of the day. In 1851, he published a *History of the National Convention*, &c., and in 1859, a *Life of Mathieu Molé*. D. 1866.

Barata'ria Bay, in the S.E. part of *Louisiana*, extending N. from the Gulf of Mexico, between the parishes of Jefferson and Plaquemine. This bay is about 15 m. long by 6 wide. It, and the lagoons branching out of it, were rendered notorious about the years 1810–12 as being both the head-quarters and rendezvous of the celebrated Lafitte and his buccaneers.

Barb, *n.* [Fr. *barbe*; O.F. *barbare*; Lat. *barba*, a beard.] A beard, or that which resembles it, or grows in place of it.

"The barbel is so called by reason of the *barb* or wattles at his mouth, or under his chaps." — *Isaac Walton.*

—The jags or points which stand backward in an arrow, dart, fish-hook, &c.; a spine.

"Nor less the Spartan fear'd, before he found
The shining *barb* appear above the wound." — *Pope.*

(*Bot.*) *pl.* Applied to the hairs forked at the apex, with the divisions of the fork hooked, or curved back at the point.

(*Mil.*) The armor of defence worn in ancient times by horses, (Fig. 288.) It was generally constructed of leather, and studded with spikes of iron.—The accoutrements and housings worn by horses in a tournament.

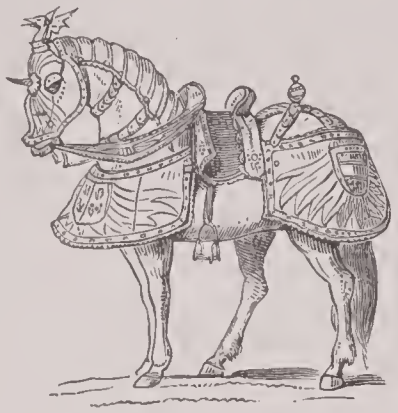


Fig. 288.—HORSE-ARMOR OF MAXIMILIAN OF GERMANY. (1500.)

—[Contracted from *Barbary.*] (*Zoöl.*) A noble breed of horses, reared by the Moors of Barbary and Morocco, and introduced into Spain during their dominion in that country, where, however, it has been suffered to degenerate greatly since their expulsion. The noble race of Barbary horses, which we commonly call *barbs*, are of rare occurrence even in their own country, where the tyranny of the governors holds out no inducement to private individuals to rear an animal of which they may be deprived without scruple or compensation by the first man in power who happens to fancy it; it is only among the wild nomadic tribes of the desert, whose roving habits and inhospitable country place them beyond the control of the ordinary powers of the state, that this breed exists in perfection. The common horse of Barbary is a very inferior animal, which, if originally derived from the same source as the noble race of barbs, has greatly degenerated. In the beauty and symmetry of their forms, however, even the latter are far from excelling. Their valuable qualities, and in these they are perhaps unequalled by any other breed in existence, are,—unrivalled speed, surprising bottom, abstinence, patience, and endurance under fatigue, and gentleness of temper. The head of the *B.* is large and clumsy, the neck short and thick, the chest broad and powerful, yet the body and legs are so long and slender as to resemble those of a greyhound, and form a perfect contrast to the rest of the animal. But the Moors do not regard the external appearance of their horses so much as their temper, speed, and capability to endure fatigue; and the animals which possess these valuable qualities are cherished with all the kindness and attention that are bestowed on children. Their mode of treatment is very different from that practised in our country. They are very early accustomed to the saddle, are mounted at two years old, and have their manes and tails cropped till the age of six, under the supposition that it adds to their strength and bottom. After this period they are never dressed, nor are their manes and tails combed; if dirty, they are washed in the next stream, and some Moors are even said to be offended by Europeans patting their horses with the palm of the hand, from an apprehension of its injuring their coat. They are never castrated, nor have the Moors the bad taste to seek to improve upon nature by cropping the ears and tails of their horses, as is practised by some nations; a Mussulman will neither mutilate nor sell the skin of "the beast of the Prophet," the noblest of animals. The horses alone are used for the saddle, the mares being kept for breeding. Walking and galloping are the only paces which these animals are allowed to practise; and it is even considered vulgar to trot or canter. Generally speaking, the Moors avoid giving their horses violent exercise, or overheating them, except upon extraordinary occasions; and among the desert tribes, it is only in their cavalry exercises, such as throwing the lance, &c., that their speed is at all put forth. On these occasions, however, they are not spared, and it is surprising with what rapidity and precision they perform the different evolutions. These, indeed, are not so complicated as the tactics of more civilized nations, but they are much more severe upon the cattle, and would soon break down the best of our European breeds.—*B.* is also the name of a dun or black-colored pigeon, originally brought from Barbary.

Barb, *v. a.* To furnish with barbs, as an arrow, &c.—To put armor on a horse; to furnish a horse with armor.

"On *barbed* steeds they rode, in proud array,
Thick as the college of the bees in May."—*Dryden.*

Barbacena, (*bar-ba-sai'na,*) a town of Brazil, prov. of Minas-Geraes, 125 m. from Rio Janeiro; *pop.* of town and district, 12,000.

Barbacoas, (*bar-ba-ko'as,*) a city of Quito, in the province of Esmeraldas, on the coast of the Pacific Ocean, 120 miles from Quito. Lat. 1° 42′ S.; Lon. 78° 8′ W.—2. A town of South America, in the province of Venezuela, at the source of the Tucuyo.—3. A village in the same province, E. of Lake Maracaibo.

Bar'bacan, Bar'bican, *n.* [Fr. *barbacane;* L. Lat. *barbacana,* from Ar. *burj,* a wall, rampart, tower.] (*Fort.*) In ancient fortification, a *B.* was an advanced work, which frequently covered the draw-bridge at the entrance of a castle; or, with regard to cities, a tower or outwork placed at any important point of the surrounding walls.—The term is likewise applied to an aperture made in the wall of a fortress to fire through upon an enemy. Also, to a fort at the entrance of a bridge, or the outlet of a city, having a double wall with towers. Figure 289 represents the strongly embattled gate or barbacan, which, in the reign of Queen Elizabeth, protected the entrance from Southwark to Old London Bridge, and was usually garnished with traitors' heads in "rich abundance."

Fig. 289.—THE GATE OF OLD LONDON BRIDGE.
(Copied from Visscher's View in 1579.)

Barba'dian, *n.* (*Geog.*) An inhabitant of, or anything pertaining to, Barbadoes.

Barba'does, or BARBADOS, the most E. of the Caribbee Islands, in the W. Indies; 21 m. long, by 14 broad. *Area,* 166 sq. m., or 106,470 acres, most of which is under cultivation. *Desc.* The island lies low, and its surface is generally undulating, with the soil rich and fertile, producing great quantities of sugar, the staple product of the colony. Bridgetown, the capital, is in Lat. 13° 4′ N., Lon. 59° 37′ W. *B.* has no mountains of any great elevation, the loftiest being Mount Hillaby, 1,145 ft. above sea-level. *Prod.* Sugar, cotton, arrow-root, aloes, and ginger. *Towns.* Besides the capital before mentioned, Speights Town, Charleston, and St. James. *Com.* Exports and imports are nearly equal, each being about $6,000,000. The U. States have, next to Great Britain, the greatest share of the trade of the colony, exporting to it bread-stuffs, rice, lumber, and shingles. This island is the residence of the governor-general of all the British Winward Islauds.—*B.* was discovered by the Portuguese at the close of the 15th century, and the English established a settlement here in 1624.

Barbadoes Cherry. See MALPIGHIA.

Barbadoes Gooseberry. See PERESKIA.

Barbadoes Tar. See BITUMEN.

Bar'bara, St., who suffered martyrdom at Nicomedia, in Bithyuia, about 236, or, according to other accounts, at Heliopolis, in Egypt, about 306 was of good birth, and well educated by her father, Dioscorus. To avoid disturbance in her studies, he had a tower built for her, where she spent her youth in the deepest solitude. While in this retirement, she was led, through Origen, as is said, to embrace Christianity. Her father, a fanatic heathen, learning his daughter's conversiou, and failing to induce her to renounce Christ, delivered her up to the governor, Martianus, to be dealt with by the law. Martianus, struck with the intelligence and beauty of the maiden, attempted first by arguments to make her relinquish Christianity, and when that failed, had recourse to the most exquisite tortures. At last the blinded father offered himself to strike off his daughter's head. Scarcely was the deed done, when he was struck with lightning. Hence St. B. is to this day prayed to in storms. For the same reason, she is the patron saint of artillery, and her image was at one time frequently placed on arsenals, powder-magazines, &c.—The powder-room in a French ship of war is to this day called Sainte-Barbe.—St. B.'s day is the 4th December.

Bar'bara, *n.* (*Logic.*) The first mode of the first figure of syllogisms. A syllogism in *B.* is one whereof all the propositions are universal and affirmative: the middle term being the subject in the first proposition, and the attribute or predicate in the second.

Barbare'a, *n.* (*Bot.*) A genus of plants, ord. *Brassicaceæ.* The Winter-cress, *B. vulgaris,* found in old fields and brook-sides in the U. States, has a stem furrowed, 1 to 2 feet long, branching above; leaves dark-green shining, on clasping petioles; yellow flowers, in May, on terminal racemes.

Barba'rian, *n.* [Lat. *barbarus,* from Gr. *barbaros,* strange to Greek blood, manners, or language.] (*Hist.*) This term was employed by the Greeks in a negative sense, and denoted all persons who were *not* Greeks. At the same time, as the Greeks made much greater advances in civilization, and were much superior in natural capacity to their neighbors, the word in question obtained an accessory sense of inferiority both in cultivation and in native faculty. At first the Romans were included among the barbarians; then *barbari* signified all who were not Romans or Greeks. In the Middle Ages, after the fall of the Western empire, it was applied to the Teutonic races who overran the countries of western Europe, who did not consider it as a term of reproach, since they adopted it themselves, and used it in their own codes of law as an appellation of the Germans as opposed to the Romans. At a later period it was applied, but probably from another derivation, to the Moors, and thus an extensive tract on the north of Africa obtained the name of Barbary. (See BARBARY.) In modern language, *B.* means a savage; a man in his rude and uncivilized state; also, a cruel, brutal, savage man; one without mercy or humanity.

—*a.* Belonging to savages; rude; uncivilized; cruel; inhuman; as, *barbarian* treatment.

Barbar'ic, *a.* [Lat. *barbaricus.*] Of, or from, any barbarous nation.

"The eastern front was glorious to behold,
With diamond flaming and *barbarick* gold."—*Pope.*

—Resembling, or relating to, an uncivilized person or people; rude; barbarous.

Bar'barism, *n.* [Fr. *barbarisme;* Gr. *barbarismos.*] State or quality of barbarians; ignorance; rudeness; savagery.

"Divers great monarchies have risen from *barbarism* to civility, and fallen again to ruin."—*Sir J. Davies.*

—An act of inhumanity; cruelty; barbarity. (R.)

—An impurity of style or language; an impropriety of speech, antagonistic to the true idiomatic quality.

Barbar'ity, *n.* The state or manners of a barbarian; savagery; cruelty; ferociousness; inhumanity.

"And they did treat him with all the . . . *barbarity* imaginable."—*Lord Clarendon.*

Bar'barize, *v. n.* To become barbarous. (R.)

"The Roman empire was *barbarizing* rapidly from the time of Trajan."—*De Quincey.*

—To adopt or make use of a foreign or barbarous form of speech.

—*v. a.* [Fr. *barbarizer.*] To make barbarous.

"Hideous changes have *barbarized* France."—*Burke.*

Barba'ro, FRANCESCO, one of the most distinguished Italian authors of the 15th century, B. at Venice, 1398. He became successively senator, governor of Vicenza, ambassador to Pope Martin V., general in chief at Brescia, and headed many embassies to Florence, to the emperor Sigismund, and to many other sovereigns; which prove that he was as skilful in diplomacy as he was versed in literature. His eloquence was something marvellous, and many times he harangued the senate, and the troops at Brescia; thus inducing the state and the army to defend for 3 years the walls of that besieged city against the superior forces of the Duke of Milan. His best work is: *On the Choice of a Wife, and the Duties of Women,* printed in Paris, in 1515. D. 1454.

Barbarossa, (*bar-ba-ros'sa,*) ARooJ, or HORUSH, styled *Barbarossa* from his red beard, was the son of a Greek, at Mitylene, and by profession a corsair chief. In 1516, he assisted Selim, king of Algiers, in driving the Spaniards out of that country, and having taken possession of the capital, put Selim to death, and mounted the throne himself. D. 1518.

B., KHAIREDDIN, also styled *Barbarossa,* brother and successor of the preceding, surrendered the sovereignty of Algiers to Selim I., Sultan of Turkey, in exchange for a force of 2,000 janissaries and the title of Dey. He was afterwards appointed *capitan pasha* or high admiral of the Turkish fleet, and conquered Tunis, which was retaken in 1535, by the Emperor Charles V. In 1538, he gained a victory over the imperial fleet under the command of Andreas Doria, in the bay of Ambracia. D. 1546.

Barbaros'sa, see FREDERIC I., EMPEROR OF GERMANY.

Bar'barous, *a.* [Lat. *barbarus.*] In a state of barbarism; ignorant; uncivilized; rude.

"Thou art a Roman; be not *barbarous.*"—*Shaks.*

—Cruel; inhuman; brutal.

"By their *barbarous* usage, he died within a few days."
Lord Clarendon.

Bar'barously, *adv.* In the manner of a barbarian; in a savage, cruel, or inhuman manner.

"We *barbarously* call them blest,
While swelling coffers break their owners' rest."—*Stepney.*

Bar'barousness, *n.* Quality or condition of being barbarous; barbarism.

Barbaroux, (*bar'ba-roo,*) CHARLES JEAN MARIE, B. at Marseilles, Mar. 6, 1767. He early distinguished himself at the bar of his native city, and establishing a journal called the *Marseillaise Observer,* ably supported therein the revolutionary cause. In 1792, he was deputy for the department of the Rhone, and joined the Girondin party. He it was, who, when the revolution seemed in danger from the veto of the king, wrote passionately to Marseilles for 600 men "who knew how to die"; which 600 men came to Paris, bringing Rouget de Lisle with them, who composed the *Marseillaise Hymn* on the march. To the last, *B.* was a brave but unsuccessful opponent of Robespierre, and finally, in 1793, he escaped to the coast in the neighborhood of Bordeaux. Here, in 1794, he was arrested, when, failing to accomplish suicide, he was, while half dead, guillotined at Bordeaux, on the 25th of June of the same year. With no great gifts of statecraft, he was one of the few lovable characters of the French revolutionary period.

Bar'bary, the name usually given in modern times to that portion of N. Africa which comprises the various countries between the W. frontier of Egypt and the Atlantic on the one hand, and the N. border of the Sahara, or Great Desert, and the Mediterranean, on the other; or between 25° E. and 10° W. Lon., and 25° to 37° N. Lat. It consequently includes within its limits the empire of Morocco and Fez, the French Algeria, and the governments of Tunis, Tripoli, and Barca. Under the Roman dominion it was divided into *Mauritania Tingitana,* corresponding to Morocco and Fez: *Mauritania Cæsariensis,* to Algiers; *Africa Propria,* to Tunis: and *Cyrenaica* and the *Regia Syrtica,* to Tripoli. Its extent may be taken at from 650,000 to 700,000 sq. m.; and its population is variously estimated at from 10,000,000 to 14,000,000. Some derive the name *B.* from *barbarus,* (see BARBARIAN;) but

it appears to have been derived from the name of its ancient inhabitants, usually styled *Berbers* or *Kabyles*, and should therefore, in strictness, be called *Berbery*. The Arabs call it *Maghreb*. or the "Region of the West;" but though this name correctly points out its situation in regard to Arabia, it would be incorrect if used by Europeans. It might properly be called the *Region of Atlas*, inasmuch as it includes the whole of that great mountain chain, with its numerous ramifications. This designation has, in fact, been given to it by some geographers. Anciently, this part of Africa was distinguished as being the seat of Carthage — that great commercial republic that waged a lengthened, doubtful, and desperate contest with Rome herself for the empire of the world. After the fall of Carthage, it formed an important division of the Roman empire. *B.* had many large and flourishing cities, and was long regarded as the principal granary of Rome. After being overrun by the Northern barbarians, it was subdued by the Saracens; and under their sway acquired a lustre and reputation scarcely inferior to that of the most brilliant period of its ancient history. But the Saracenic governments in *B.* losing their vigor, the entire country gradually sunk into the lowest state of barbarism and degradation. A handful of Turks and renegades acquired the control of its finest provinces, and subjected them to the most brutal and revolting despotism. Being unable to contend openly with the powers of Europe, they had recourse to a system of piracy and marauding; which, though often partially abated, was not entirely suppressed till the conquest of Algiers by the French. — *B.* has far more of an European than of an African character. Owing to its being pervaded by the great chain of Atlas, it has every diversity of surface, and is remarkably well watered. The climate is excellent; and it produces all the grains and fruits of S. Europe in the greatest perfection. In ancient times its fertility was such as to be almost proverbial: ("Frumenti quantum metit Africa." *Hor. Sat.*, lib. ii. sat. 3.) — The site of the famous gardens of the Hesperides was originally placed in Barca; but they were carried further W. as the Greeks became better acquainted with the coast, and with the riches and capabilities of the country. — See ALGERIA; ATLAS (MOUNT); BARCA; BERBERS; CARTHAGE; FEZ; MOROCCO; TRIPOLI; TUNIS, &c.

Bar'bary, *n.* A Barbary horse. — See BARB.

Bar'bary Ape, *n.* (*Zoöl.*) See MAGOT.

Barbas'tio, a town of Spain, prov. Aragon, on the river Vero, 28 m. S.E. of Huesca; *pop.* 6,476.

Bar'bate, *a.* [Lat. *barbatus*, from *barba*, a beard.] (*Bot.*) Bearded; bearing tufts, spots, or lines of hair.

Bar'bated, *a.* Possessing barbed points.

Bar'bauld, ANNA LETITIA, an English authoress, sister of Dr. John Aikin, *q. v.*, B. 1743. She was the writer of many poetical works and hymns which have enjoyed a wide reputation. As a writer of books for children she was very popular; D. 9th Mar., 1825. Her life has been written by Lucy Aikin, *q. v.*, and prefixed to the collection of the *Works of A. L. Barbauld*, 2 vol., Loudon, 1825.

Barbazan', ARNAULD GUILHEM, SIRE DE, a French captain, who was distinguished by Charles VI. with the title of *Chevalier Sans Reproche*, and by Charles VIII. with that of *Restaurateur du Royaume et de la Couronne de France;* B. about the end of the 14th century. He earned the former of his titles while yet young, by his successful defence of the national honor in a combat fought in 1404, between six French and six English knights, before the castle of Montendre; and the latter designation he acquired by his extraordinary exertions on the side of the Dauphin, at a time when the cause of native royalty, powerless in presence of the Anglo-Burgundian league, boasted few adherents. He was killed at Bullegneville, in 1432.

Barbe, *n.* See BARB.

Bar'becue, *n.* [From Fr. *barbe-à-queue*, i. e. from snout to tail.] An ox, sheep, hog, or other large animal roasted entire. — A large entertainment assembled in the open air, at which whole animals are roasted and eaten, along with other viands.

—*v. a.* To dress and roast an animal whole; which is performed by splitting the carcass through to the backbone, and then laying it flat upon a large gridiron, raised about two feet over a charcoal fire.

"Oldfield, with more than harpy throat endued,
Cries, 'Send me, gods, a whole hog *barbecued*.'"—*Pope.*

Barbed, *p. a.* [See BARB.] Jagged with hooks or points; armed as a war-horse.

Bar'bel, *n.* [Fr. *barbel;* Dut. *barbeel*, from Lat. *barba*, a beard.] (*Zoöl.*) The *Barbus vulgaris*, a fresh-water malacopterygious fish, usually frequenting the deep and still parts of rivers, swimming with great strength and rapidity, and living not only on aquatic plants, worms, &c., but occasionally by preying on small fishes. It is said to receive its name from the barbs or wattles attached about its mouth, by which appendages it is readily distinguished. The section of its body forms an elongated ellipse; its scales are small, its head smooth; its eyes large and contiguous to the nostrils, and the lateral line straight and nearly parallel to the back. Its pectoral fins are of a pale brown color; its ventral and anal, tipped with yellow; the tail is slightly bifurcated, and of a deep purple, and the general color of the scales is pale gold, edged with black on the back and sides, and silvery-white on the belly. The dorsal fin is armed with a strong serrated spine, with which it sometimes inflicts dangerous wounds on the hands of the fishermen, and does considerable damage to their nets. It is sometimes found to weigh from 9 to 20 pounds, and to measure 3 feet in length. The flesh of the *B.* is very coarse and unsavory; the fish, consequently, is held in little estimation, except as affording sport for the angler.

(*Farriery.*) Knots of superfluous flesh in the mouth of a horse; barbles.

Bar'bellate, *a.* [Lat. *barba*, a beard.] (*Bot.*) Beset with short and stiff hairs, like the pappus of *Liatris spicata*, &c.

Barbel'lulate, *a.* (*Bot.*) A diminutive of BARBELLATE, *q. v.*

Barbé-Marbois, (*barb'marb-waw,*) FRANÇOIS, COMTE AND MARQUIS DE, a French diplomatist and literateur, B. 1745. He filled many high offices of state under Louis XVI., Napoleon, Louis XVIII., and Charles X., and during a part of the reign of Louis Philippe. He was the author of *Complot d'Arnold et de Sir Henri Clinton contre les Etats Unis d'Amerique*, &c. D. 1837.

Bar'ber, *n.* [Fr. *barbier*, from Lat. *barba*, a beard; Ger. *barbier;* Pers. *barbr.*] One who shaves beards, and dresses hair.

"By whose decrees, our sinful souls to save,
No Sunday tankards foam, no *barbers* shave."—*Byron.*

(*Hist.*) The occupation of barber is an institution of civilized life, and is only known among those nations that have made a certain progress in civilization. It is referred to by the prophet Ezekiel; "and thou, son of man, take thee a *barber's* razor, and cause it to pass upon thine head and upon thy beard." (*Ezek.* v. 1.) We do not read of *B.* at Rome till about the year 454 of the city; but there, as elsewhere, when once introduced, they became men of great notoriety, and their shops were the resort of all the loungers and newsmongers in the city. Hence they are alluded to by Horace as most accurately informed in all the minute history both of families and of the state. But in early times, the operations of the *B.* were not confined, as now, to shaving, hair-dressing, and the making of wigs: but included the dressing of wounds, blood-letting, and other surgical operations. It seems that in all countries the art of surgery and the art of shaving went hand in hand. The title of *B.-chirurgeon*, or *B.-surgeon*, was generally applied to barbers. The *B.* of London were first incorporated by Edward IV. in 1461, and at that time were the only persons who practised surgery. The barbers and the surgeons were separated, and made two distinct corporations; in France, in the time of Louis XIV., and in England in 1745. The sign of the *B.*-chirurgeon consisted of a striped pole from which was suspended a basin; the fillet round the pole indicating the riband or bandage twisted round the arm previous to blood-letting, and the basin the vessel for receiving the blood. This sign has been generally retained by the modern *B.* In our country, nevertheless, it is only occasionally that the basin may be seen hanging at the door of an old barber's shop. The character of the *B.* is amusingly illustrated in one of the tales of the *Arabian Nights Entertainments*, and has been immortalized by Beaumarchais, Mozart, and Rossini, under the name of *Figaro.*

Bar'ber, *v. a.* To shave beards and dress hair.

"Our courteous Antony,
Being *barber'd* ten times o'er, goes to the feast."—*Shaks.*

Bar'ber, in *Minnesota*, a post-office of Faribault co.

Bar'ber-chirur'geon, *n.* See BARBER.

Bar'berry-tree, *n.* (*Bot.*) See BERBERIS.

Bar'ber's, in *California*, a village of Sutter co., about 18 m. W.N.W. of Marysville.

Bar'ber's Mills, in *Indiana*, a post-office of Wells co.

Bar'ber-sur'geon, *n.* One who joins the practice of surgery to the trade of a barber; a low practitioner of surgery. — See BARBER.

Bar'bersville, or BAR'BOURSVILLE, in *Indiana*, a post-village of Jefferson co., 14 m. N.N.E. of Madison.

Barbès, (*bar'baiz,*) ARMAND, a French politician and revolutionist, B. in the island of Guadaloupe, in 1810. At an early age he was brought to France, and in 1830 went to Paris to attend the law classes, where he had an opportunity of manifesting his political opinions at that period of public excitement. He had inherited some fortune from his father, and he thus had ample leisure to devote his attention to the formation of secret societies. During the whole reign of Louis Philippe he was constantly engaged in conspiracies. In consequence of an unsuccessful attempt to overthrow the government, he was condemned to death, a sentence which was commuted to perpetual confinement. The revolution of 1848 restored *B.* to liberty. He then founded a club, which took his name, in which the doctrines of socialism were superadded to republicanism. The name of "Barbès" sounded in the ears of the people like the tocsin against monarchy and the bourgeoisie. After the insurrection of May, 1849, *B.* was sentenced to "deportation." In 1854, he was again set at liberty, and left France a voluntary exile. D. 1870.

Barbesieux', LOUIS FRANÇOIS LE TELLIER, MARQUIS DE, minister of Louis XIV., B. at Paris, 1668. As a statesman he was not without talents, but he allowed himself to be engrossed by his pleasures, to the neglect of public business. D. 1701.

Bar'bet, *n.* [Fr.] (*Zoöl.*) The French name for the POODLE DOG, *q. v.* — A family of birds, order *Scansores*, or Climbers, including the genera *Bucco*, *Pogonias*, and *Tamatia*. They are distinguished by their large conical beak, and by being *bearded* (whence the name) with five tufts of stiff bristles, directed forwards. They inhabit Java, Sumatra, &c., and flutter about in all positions on the trunks and among the branches of trees, in search of insects or their larvæ, on which they feed. The plumage of some of the species is very brilliant.

—A genus of APHIS, *q. v.*

Barbette, (*bar-bet',*) *n.* [Fr.] (*Fort.*) An earthen terrace inside the parapet of a rampart, serving as a platform for heavy guns; it has such an elevation that the guns may be fired over the crest of the parapet instead of through the embrasures, to give them a freer scope by swivelling around into different directions.

Barbezieux, (*bar'beh-se-uh'.*) a town of France, dep. Charente, cap. of an arrond., 21 m. S.W. of Angoulême. It is well built, and has some manufactures. The *chapons truffés* of *B.* are highly esteemed. *Pop.* 4,265.

Bar'bican, *n.* (*Fort.*) See BARBACAN.

Bar'bier, AUGUSTE, a French poet, born at Lorient, 1805. He made himself known by a little volume of poetry, entitled *Iambes.* Those verses, published after the revolution of 1830, were remarkable for their energy, and accepted as a true expression of the popular feeling at that time. After this splendid effort, *B.* failed in everything he attempted. He is emphatically the man of one book; but such as he is, he will be remembered when the manufacturers of whole libraries will sleep unnoticed in the shroud of obscurity. He was elected member of the French Academy in May, 1869. D. 1882.

Bar'bitos, *n.* [Gr.] (*Mus.*) A musical instrument of ancient Greece, resembling a lyre.

Bar'ble, *n.* See BARBEL.

Barbo'sa, DUARTE, B. at Lisbon in 1480. He travelled all through India, visited the Molucca Islands, and was Magellan's companion and historiographer in his circumnavigation of the globe. He was murdered by the natives of the island of Zebu in the year 1521.

Bar'botine, *n.* (*Chem.*) A vegetable product from the Levant and India, consisting of wax, bitter extract, earthy and gummy matter.

Bar'bour, JOHN, an eminent Scottish poet, B. about 1320. He is now principally remembered for his work entitled *The Book of the Gestes of King Robert the Bruce.* D. 1395.

Bar'bour, in *Alabama*, an E.S.E. county, having an area of 825 sq. m. On the E. it is bounded by the Chattahoochee river (navigable for steamers), and it is also watered by Pea River. It has a varied surface, with a generally fertile soil, here and there covered with pine forests. *Cap.* Clayton.

—A post-office of Choctaw co.

Bar'bour, in *W. Virginia*, a northern county. *Area*, 330 sq. m. It is traversed by Tygart's Valley River, an offshoot of the Monongahela, and also by Buchanan River and Elk Creek. Surface, generally mountainous. Soil, fertile, with excellent pastures. It was formed in 1843 from the counties of Harrison, Lewis, and Randolph. *Cap.* Philippi.

Bar'bour's Mills, in *Pennsylvania*, a post-office of Lycoming co.

Bar'boursville, in *Indiana*. See BARBERSVILLE.

Bar'boursville, in *Kentucky*, a township and post-village, cap. of Knox co., on the Cumberland river, 122 m. E.S.E. of Frankfort. Coal and iron are abundant in the neighborhood.

Bar'boursville, in *New York*, a village of Delaware co., about 30 m. E. of Binghamton.

Bar'boursville, in *Virginia*, a village of Orange co., 76 m. N.W. of Richmond.

Bar'boursville, in *W. Virginia*, a village, cap. of Cabell co., on the Guyandotte river, 7 m. from its confluence with the Ohio, and 352 W.N.W. of the city of Richmond.

Barbuda, (*bar-boo'da,*) one of the Caribbean islands in the West Indies, belonging to the Leeward group; Lat. 17° 47′ N.; Lon. 62° 2′ W. *Ext.* 15 miles long and 8 broad. *Area*, about 75 sq. m. *Desc.* Low, level, well covered with woods, and generally fertile. *Prod.* Cotton, corn, pepper, and tobacco. *Pop.* 1,600.

Bar'bule, *n.* [Lat. *barbula*, from *barba*, a beard.] A very minute barb or beard.

Barby, (*bar'be,*) a town of Prussian Saxony, on the Elbe, 14 m. from Magdeburg. *Pop.* 7,211.

Bar'ca, a country of N. Africa, on the S. coast of the Mediterranean, between Tripoli and Egypt, and forming the E. division of the regency of Tripoli; Lat. between 30° and 33° N.; Lon. between 20° and 25° E. *Ext.* about 500 m. from N. to S., with a breadth of about 400 from E. to W. *Desc.* Formerly this country was believed to be nothing more than a barren desert, inhabited only by wandering Arabs; but it is now found to contain much excellent pasturage, more especially in the N. and E. The vegetable productions are the palm, the pine, the date, the olive, and the fig. There are, properly speaking, no rivers, but only streams, which are quite dry in the hot season, and generally lost in the sands of the Libyan desert. *Pop.* estimated about 1,000,000, consisting of Bedouin Arabs, with a few Jews and other foreigners in the towns. This country was the seat of the ancient five Greek cities, Arsinoe, Barca, Berenice, Apollonia, and Cyrene; all of which have passed into decay, save Berenice, which is now called *Bengazi.*

Barcarolle, (*bar'ka-rōl,*) *n.* [Fr., from It. *barcaruolo*, a boatman.] (*Mus.*) A song or melody sung by the gondoliers of Venice. Though these airs are composed for the common people, and often by the gondoliers themselves, yet they so abound in melody, that there is not a musician in all Italy who does not pique himself on knowing and being able to sing some of them. The words of these *B.* are commonly more than natural, partaking of the language employed in the conversation of those who sing them; but such as like a faithful representation of the manners of a people, and have any taste for the Venetian dialect, become passionately fond both of the poetry and music of these popular songs. *La Bionaina in Gondoletta*, and *O Pescator dell' onde*, are pleasing specimens of this species of song. — See GONDOLIER.

—A piece of instrumental music for a guitar, composed in imitation of a gondolier's song.

Barcelo'na, a city and seaport of Spain, on the Mediterranean, cap. of the prov. of Catalonia, on the edge of a fruitful plain between the rivers Besos and Llobregat, at

the foot of Monjouich (*Mons Jovis*), 315 m. E.NE. of Mudrid, and 194 N.E. of Valencia. It is divided into nearly two eqnal parts by a large strait called the *Rambla*, and has for its principal edifice a cathedral, which occupies the highest part of the old town. The harbor, though very spacious, is difficult of entrance. There are academies for jurisprudence, practical medicine, natural philosophy, history, the fine arts, and several libraries, one of which is rich in MSS. of Catalonia and Aragon. *Com. B.* is distingnished from any other Spanish town by the active and enterprising spirit of its inhabitants: its commerce is extensive, and carried on with all modern improvements. *Manf.* Leather, lace, silks, woollens, cottons, and jewelry. *Exp.* Iron, copper, arms, cork, silks, soap, paper, ribbons, laces, hats, shell-fruit, and brandies. *Imp.* Timber, hides, horns, wax, stock-fish, hemp, sugar, coffee, cocoa, and other colonial goods. Lat. 41° 27′ 7″ N.; Lon. 2° 9′ 57″ E. The foundation of this ancient city is assigned by tradition to as early a period as 400 years before the building of Rome. Hamilcar Barcas, the Carthaginian, is said to have restored it B. C. 200; and from him it received the name of *Barcius*. The Carthaginians were expelled B. C. 206; and it belonged to Rome from B. C. 146 until A. D. 411, when it was taken by the Goths. The Moors captured it in 718, and Charlemagne in 801. In 1137 it was annexed to Aragon. It became a great centro of commerce in the 15th century; and the first bank of exchange and deposlt in Enrope was established here in 1401. *B.* has since that period sustained several sieges. The French took it on the 7th Aug., 1697; it was restored by the treaty of Ryswick, and again taken on the 9th Oct., 1705; by the Earl of Peterborough on the 13th Sept., 1706; and by the Duke of Berwick, after a long siege, 12th Sept., 1714. The French captured it on their invasion of Spain, 28th Feb., 1808. An insurrection occnrred here on the 13th Nov., 1842, and the city surrendered 3d Dec., 1842, after a bombardment by the regent, Geu. Espartero. *Pop.* in 1897, estimated at 270,000.

Barcelo'na, in *New York*, a post-village of Westfield township, Chautauqua co., on Lake Erie, at the mouth of Chautauqua Creek, 57 m. S.W. of Buffalo.

Barcelo'na, New, a seaport of Venezuela, S. America, at the mouth of the Neveri, about 2 m. from the Caribbean Sea. Lat. 10° 10′ N.; Lon. 64° 47′ W. It is neither handsomely nor agreeably constructed, and the great number of hogs which are fed in the city also contribnte to engender filth and disease. Its chief exports are horses and cattle. *Pop.* abont 16,000.

Barcelone'ta, a town of Venezuela, S. America, on the Paragua, 100 m. S.S.E. of Angostura.

Bar'clay, Alexander, an English poet of the 15th century, chiefly known by his famous poem, *The Shyp of Folys of the Worlde*, partly a translation, and partly an imitation of the German *Narrenschiff*, by Brandt. It is only interesting as showing the manners and customs of the times satirized.

Bar'clay, Robert, b. at Gordonstown, Scotland, 1648. He early adopted the doctrines of Quakerism, joined the Society, and became very zealous in propagating as well as defending their tenets in England, and on the continent of Europe. In 1676, he visited Holland and Germany, where he became acquainted with Elizabeth, Princess Palatine of the Rhine, who continued to be a warm friend to *B.* and his co-religionists ever after. In the same year he published his celebrated "Apology," under the title of *Theologiæ Vere Christianæ Apologia*, 4to. Amsterdam. It was translated into English by himself, and published in 1678. It has gone through many editions, and been translated into most of the European languages. Written with much ability, with clearness of reasoning and perspicuity of expression, it also shows great ingennity in the advocacy of unpopular opinions. In 1677 he again visited Holland, in company with William Penn and George Fox. In 1682, he was appointed governor of New Jersey, with liberty of appointing a deputy. That colony he never visited. D. 1690.

Bar'clay, in *Iowa*, a post-township of Black Hawk co., 7 m. E. of Waterloo.

Bar'clay, in *Pennsylvania*, a post-village of Bradford co., 16 m. S.W. of Towanda.

Bar'clayans, *n. pl.* (*Eccl. Hist.*) See Bereans.

Bar'clay de Tolly, Michael, Prince, a celebrated Russian military commander, of Scottish descent, b. in Livonia in 1755. He commenced his military career in the campaigns against the Turks, the Swedes, and the Poles. He was wounded at Eylau, when he was made lieutenant-general. In March, 1808, he surprised the Swedes at Umea, by a march of two days over the ice which covered the Gulf of Bothnia. He was made governor-general of Finland, and in 1809, appointed minister of war. He was author of the plan of operations which was followed with signal advantage by the Russian army in the campaign of 1812. After the battle of Bantzen, 26th May, 1813, *B.* was appointed commander-in-chief of the Prnsso-Russian army; and under him Wittgenstein commanded the Russians; Blücher the Prussians; and the Grand-Duke Constantine the Imperial Guard. On the day the allies entered Paris he was created general-field-marshal. D. 1818.

Bar'claysville, in *North Carolina*, a post-office of Harnett co.

Barcok'heba, or Barcok'ecas, ("Son of a star,") a famous Jewish impostor, whose real name was Simeon, and who lived in the 2d century A. D. After the destruction of Jernsalem by Titus, the Jews, at different periods, sought to regain their independeuce; and *B.*, seeing his countrymen still impatient of the Roman yoke, resolved to attempt their emancipation. With this view he sought to sound the dispositions of his co-religionists of Egypt, Mesopotamia, Greece, Italy, and Ganl, and sent forth emissaries, who travelled over all the provinces of the Roman empire. When all was ready, *B.* solemnly announced himself as king and Messiah, and seized by surprise on many fortified places. All who refnsed to submit to him, particularly the Christians, were put to death. When the great success which at first attended his enterprise became known, great numbers of Jews, from all parts of the world, hastened to join his standard; and so formidable did this revolt become, that Julius Severus, general of the armies of the Emperor Adrian, and one of the greatest captains of the age, was compelled to act with extreme caution, and to content himself with surprising such detached bodies of the enemy as happened to be off their guard. Soon, however, the superior discipline of the Romans prevailed. The Jewish army, shut up in the fortress of Bethar, succumbed under fatigue and famine; *B.* perished miserably, and all his followers were massacred or reduced to slavery. From this period may be dated the entire dispersion of the race of Israel over the face of the earth. This war cost the conquerors much blood. It lasted for 5 years, and did not terminate till the year 136.

Bar'con, *n.* [It. *barcone*, from *barca*, a bark.] A vessel built to carry freight, much used in the Mediterranean.

Bard, *n.* [Gael. *bard;* W. *bardd*, a priest, a philosopher, a teacher; more especially a poet, from *bar*, the top, the summit.] The name under which were known the poets of the Celtic tribes, who, in battle, raised the war-cry, and in peace sang the exploits of their heroes, celebrated the attributes of their gods, and chronicled the history of their nation. Originally spread over the greater part of western Europe, they seem to have been the heralds, the priests, and the lawgivers of the free barbarians, who first occupied its ancient forests, until, by the gradual progress of southern civilization and despotism, they were driven back into the fastnesses of Wales, Ireland, and Scotland, where the last echoes of their harps have long since died away. Their early history is uncertain. Diodorus (*Lib.* v. 31.) tells us, that the Celts had bards, who sang to musical instruments; and Strabo (*Lib.* iv.) testifies that they were treated with respect approaching to veneration. The passage of Tacitus (*Germ.* 7.) is a doubtful reading. Heyne does not venture to decide whether it is *barditus*, as some who explain it to mean *bard's song*, maintain; or *baritus*, which, according to Adelung, is the true reading, and signifies merely *war-cry*. The first Welsh bards, of whom anything is extant, are Taliesin, Aneurin, and Llywarch, of the 6th century; but their language is imperfectly understood. From the days of these monarchs of the bards, we have nothing further till the middle of the 10th century, when the reputation of the order was increased under the auspices of Howel Dda. A code of laws was framed by that prince, to regulate their duties and fix their privileges. They were distributed into three classes, with a fixed allowance; degrees of rank were established, and prize-contests instituted. Their order was frequently honored by the admission of princes, among whom was Llewellyn, last king of Wales. The Welsh, kept in awe as they were by the Romans, harassed by the Saxons, and eternally jealous of the attacks, the encroachments, and the neighborhood of aliens, were, on this account, attached to their Celtic manners. This situation and these circumstances inspired them with a proud and obstinate determination to maintain a national distinction, and preserve their ancient usages, among which the bardic profession was so eminent. Sensible of the influence of their traditional poetry in keeping alive the ideas of military valor and of ancient glory among the people, Edward I. is said to have collected all the Welsh bards, and caused them to be hanged, by martial law, as stirrers up of sedition. On this incident is founded Gray's well-known ode, *The Bard*. We, however, find them existing at a much later period, but confining themselves to the humble task of compiling private genealogies. But little is known of the music and measures of the bards; their prosody depended much on alliteration; their instruments were the harp, the pipe, and the *crwth*, or lute. The bardic institution of the Irish bears a strong affinity to that of the Welsh. The genealogical sonnets of the Irish bards are still the chief foundations of the ancient history of Ireland. Their songs are strongly marked with the traces of Scaldic imagination, which still appears among the "tale-tellers," a sort of poetical historians, supposed to be the descendants of the bards. There was, also, evidently a connection of the Welsh with Armorica. Hence, in the early French romances, we often find the scene laid in Wales; and on the other hand, many fictions have passed from the Troubadours into the tales of the Welsh. In the Highlands of Scotland, there are considerable remains of many of the compositions of their old bards still preserved, the most celebrated of which are the poems of *Ossian*, q. v. Many of the finest old bardic remains may be found in the *Mabinogion* of Lady C. Guest, (London, 1850.) — See Eisteddfod.

Fig. 290. — A WELSH BARD, (11*th century*.)

—In modern parlance; a poet.

"Nor know we when to sparc, or where to strike,
Our *bards* and censors are so much alike."—*Byron.*

—[Fr. *barde;* Icel. *bardi*, a shield.] (*Antiq.*) A horse's defensive armor.

(*Cookery.*) A strip of bacon used in larding meat while roasting.

Bard, Samuel, an American physician, b. at Philadelphia, on 1st April, 1742. He studied medicine at London and Edinburgh, where he received his M.D. degree in 1765. On his return to his native country, he founded at New York a school of medicine, a public library, and a hospital for the use of the pupils. Among the latter was the illustrious Washington. In 1813, he was nominated President of the College of Surgeons at New York. D. 24th May, 1821.

Bard, in *Pennsylvania*, a village of Bedford county, in Harrison township.

Bard, in *So. Dakota*, a village of Hanson co.

Bard'ed, *a.* (*Antiq.*) Wearing defensive armor: as *barded* horses.

(*Her.*) Richly caparisoned; as, "*barded*, and richly trapped." — *Stow.*

Bardesanists, (*bar-de'sa-nists,*) *n. pl.* (*Eccl. Hist.*) A Christian sect which flourished in Mesopotamia, from A. D. 161 to 180. They were the followers of Bardesanes, of Edessa, who at one time advocated the tenets of Valentinus, the Egyptian, though he afterwards abjured them. Mosheim contends against this view, declaring that Bardesanes admitted two principles, like the Manichæans. His followers denied the Incarnation and the Resurrection, and continued to exist as late as the 5th century.

Bard'ic, *a.* Belouging, or relating to bards, or their poetry.

Bardiglione, *n.* (*Chem.*) A blue variety of anhydrous sulphate of lime, used for ornamental purposes.

Bard'ish, *a.* That which pertains to, or is composed by, a bard or bards; as, "*bardish* impostures." — *Selden.*

Bard'ism, *n.* Bardic science; the learning and maxims of bards.

Bard'ling, *n.* A little or inferior bard. (R.)

Bardolph, in *Illinois*, a post-village of McDonough co., 67 m. N.E. of Quincy.

Bard'sey, a small island of N. Wales, in the Irish Sea, near the N. point of Cardigan Bay, co. Caruarvon. Lat. 52° 45′ N., Lon. 4° 46′ W. It is accessible only on the S.E. side, where there is a small, well-sheltered harbor for small vessels. It owes its present name from having been the last refuge of the Welsh bards.

Bards'town, or **Bairds'town,** in *Kentucky*, a post-town and cap. of Nelson co., 40 m. S.E. of Louisville, and 50 m. S.W. of Frankfort. It is a handsome and prosperous place.

Bards'town Junction, in *Kentucky*, a post-office of Bullitt co.

Bare, *a.* [A. S. *bar* or *bær;* Icel. *ber;* Heb. *bar*, to open, to make evident.] Naked; without clothes or coveriug; as, a *bare* expanse. — Uncovered out of respect; as, *bare*-headed.

"Though the lords used to be covered whilst the commons were *bare*."—*Lord Clarendon.*

—Plain; simple: without ornament; unpolished. (R.)

"Yet was their manners then but *bare* and plain."— *Spenser.*

—Poor; empty; unfurnished; indigent.

"Even from a *bare* treasury." — *Dryden.*

—Threadbare; much worn.

"For it appears by their *bare* liveries, that they live by your *bare* words."—*Shaks.*

—Mere; unaccompanied; alone.

"It was a *bare* petition of a state
To one whom they had punished."—*Shaks.*

—Raw; excoriated; as, a *bare* wound.

—*n.* Substance; surface; body. (R.)

—*v. a.* To lay open; to strip off a covering; to make naked.

"The turtle on the *barèd* branch,
Laments the wounds that death did launch." — *Spenser.*

Bare, the old preterite of *bear;* now written *bore.*

Bare'bone, *n.* [From *bare* and *bone.*] One so lean that the bones appear; a thin, attenuated person.

"Here comes lean Jack, here comes *barebone*."—*Shaks.*

Bare'bone, or BAR'BONE, PRAISE-GOD, a member of the legislative body assembled by Cromwell in 1653, after the dissolution of the Long Parliament. The royalists facetiously distinguished him by calling the convention *Barebone's Parliament.* At the time when General Monk was in London, *B.* headed the mob who presented a petition to parliament, against the recall of Charles II. — It is said that there were three brothers of this family, each of whom had a sentence to his name, viz: "Praise-God Barebone;" "Christ-came-into-the-world-to-save Barebone," and "If-Christ-had-not-died-thou-hadst-been-damned Barebone." The parent of this hopeful family could scarcely have carried his fanaticism further in christening his children.

Bare'boned, *a.* So lean that the bones are visible.

Bare'faced, *a.* With the face bare or uncovered.

"Your French crowns have no hair at all, and then you will play *barefaced.*"—*Shaks.*

—Shameless; impudent; glaring.

"It is most certain, that *barefaced* bawdry is the poorest pretence to wit imaginable."—*Dryden.*

Bare'facedly, *adv.* Openly; shamefully; without reserve or disguise.

"Though only some profligate wretches own it too *barefacedly.*" *Locke.*

Bare'facedness, *n.* Effrontery; assurance: audacity.

Bare'foot, *a.* With the feet bare; having on neither shoes nor stockings.

(*Eccl. Hist.*) An appellation given to certain monks and nuns, who abstain from wearing any covering on the feet, or who, instead of shoes, wear only *sandals.* They do not constitute a separate order in the Roman Catholic Church, but are to be found as a higher grade of ascetics among most of the orders of Carmelites, Franciscans, Augustines, Capuchins, &c.

Barèges, (*ba-rāj',*) a village of France, dep. Hautes Pyrénées, on the frontier of Spain. It is celebrated for its sulphurous and thermal waters, the heat of which varies from 73° to 120° F. These highly esteemed spas are greatly celebrated for their efficacy in all scrofulous diseases, tumors, cutaneous eruptions, rheumatisms, contractions of the muscles or tendons, chronic wounds, or indolent ulcers.

Barèges, *n.* (*Com.*) The name given, from the above village, (though, in reality, the seat of manufacture is at Bagnères de Bigorre,) to mixed tissues adapted for women's dresses. *B.* are usually a mixture of silk and worsted; an inferior kind being composed of cotton and worsted. They vary in color, and are sometimes light in tint, with printed patterns. All are of a slight fabric for summer wear. The best are still manufactured in France.

Bar'egine, GLAIRINE, ZOOGENE, PLOMBIERINE, *n.* (*Chem.*) A gelatinous organic deposit at the hot wells of Barèges, and other places, destitute apparently of organization, and therefore probably produced by the action of water on plants. It imparts a flesh-broth flavor and odor to the water, which is much prized, and is sometimes imitated by adding animal gelatine to the sulphur-baths where *B.* is deficient.

Bare'-gnawn, *a.* Eaten bare.

"By treason's tooth *bare-gnawn* and cankerbit."—*Shaks.*

Bare'-handed, *a.* With the hands bare.

Bare'headed, *a.* With the head uncovered, whether out of respect or any other cause.

"Next, before the chariot went two men *bare-headed.*"—*Bacon.*

Bare'headedness, *n.* State or condition of being bareheaded.

Bareilly, (*ba-ri'le,*) a district of British India, forming a portion of Rohilcund, having the Kumaon hills on the N., the Ganges on the W., a portion of Oude on the E. and S., and Furruckabad, Alighur, and Moradabad on the N. and W. Lat. between 28° and 29° N. *Area,* 2,937 sq. m. *Pop.* 1,143,657.

BAREILLY, capital of the above district, stands on an affluent of the Ganges, 118 m. N.E. of Agra. Lat. 28° 23′ N., Lon. 79° 16′ E. It has several mosques, a strong quadrangular citadel, a great number of Persian and Hindoo schools, an English college, and is the head-quarters of a civil establishment and circuit court. *Pop.* 111,300.

Bare'-legged, *a.* With the legs bare.

Bare'ly, *adv.* Nakedly; poorly; merely; scarcely.

"He *barely* named the street, promis'd the wine,
But his kind wife gave me the very sign."—*Donne.*

Bare' Mountain, in *New York,* a peak in the W. part of the Highlands, in Orange co.

Bare'-necked, *a.* With the neck bare, naked, or exposed.

Bare'ness, *n.* State of being bare; nakedness; leanness; poverty; defect of clothes.

"You barely leave our thorns to prick ourselves,
And mock us with our *bareness.*"—*Shaks.*

Bar'entz, or BARENTS, WILLEM, a celebrated Dutch pilot and navigator of the 16th century, who made several voyages toward the North Pole, and discovered the Isles of Spitzbergen. Himself and crew were the first Europeans who wintered in the Polar regions. D. 1597.

Bare'poles, *a.* (*Naut.*) Applied to a ship lying to, without any sail set whatever, in a gale of wind; generally speaking, in consequence of being on a lee-shore.

Bare'-pump, *n.* A pump for drawing liquor out of a cask or other receptacle.

Bare'-ribbed, *a.* Lean.

Bares'ville, in *Ohio,* a village of Monroe co.

Bare'ville, in *Pennsylvania,* a post-village of Lancaster county.

Bare'-worn, *a.* Worn to a condition of bareness.

Bar'-fee, *n.* (*Eng. Law.*) A fee taken by the sheriff, time out of mind, for every prisoner who is acquitted.

Bar'field, in *Arkansas,* a village of Mississippi co.

Barfleur, (*bar'floor,*) a small town of France, dep. of La Manche, 15 m. from Cherbourg. It is now a place of little importance, but it is noteworthy as being the port from whence it is believed that William the Conqueror set out on his invasion of England. — The cape of *B.,* 18 m. E. of Cherbourg, has a lighthouse 271 feet high.

Bar'ge, a town of N. Italy, prov. Coni, 28 m. S.S.W. of Turin; *pop.* 4,290.

Bar'ga, a town of Central Italy, prov. of Lucca, near the Serchio, 16 m. N. of Lucca. There are fine quarries of jasper in its vicinity. *Pop.* 8,569.

Bar'gain, *n.* [Fr. *barguigner,* to higgle; It. *bargagnare,* to cavil, to contend; from L. Lat. *barcaniare,* to make or start difficulties, from *barca,* the goods which a ship brings into port.] A contest or wrangling; a contest between buyer and seller; a firm and secure agreement or contract between parties.

"Give me but my price for the other two, and you shall even have that into the *bargain.*"—*L'Estrange.*

—A stipulation; an agreement of any kind; a thing bought and sold.

"I am sorry for thy misfortune; however, we must make the best of a bad *bargain.*"—*Arbuthnot.*

—A gainful or lucrative transaction. — By usage, the word *B.* has come to be taken for such transactions as are favorable to the buyer; otherwise the term is qualified as "*a bad bargain.*"

(*Law.*) *Bargain and Sale.* A contract or bargain by the owner of land, in consideration of money, or its equivalent, paid, to sell land to another person, called the *bargainee,* whereupon a use arises in favor of the latter, to whom the seisin is transferred by force of the statute of uses. All things, for the most part, that may be granted by any deed may be granted by bargain and sale, and an estate may be created in fee, for life or for years. It is a very common form of conveyance in the U. States.

Bar'gain, *v. i.* To higgle; to make a contract or agreement.

"The thrifty state will *bargain* ere they fight."—*Dryden.*

—*v. a.* To transfer anything for a consideration.

Bargainee', *n.* [O. Fr. *bargaigné.*] (*Law.*) The party in a contract who receives, or agrees to receive, the property sold.

Bar'gainer, Bargainor', *n.* (*Law.*) One who makes a bargain, or contracts with another.

Bar'gaintown, in *New Jersey,* a post-village and port of entry, in the S.E. of Atlantic co., 55 m. S.S.E. of Camden.

Barge, (*barj,*) *n.* [Fr. *barge;* Dut. *bargie,* radically the same as *bark.*] (*Mar.*) A vessel or boat of pleasure or state; usually decorated, as, the *barge* of the Lord Mayor of London.

"Plac'd in the gilded *barge,*
Proud with the burden of so sweet a charge."—*Waller.*

—A large boat used by the commander of a vessel of war.

"When I had taken my *barge* and gone ashore."—*Raleigh.*

—A flat-bottomed roomy boat for the conveyance of goods. See BOAT.

Barge'-board, *n.* (*Arch.*) A term applied to inclined projecting boards placed at the gable of a building, and hiding the horizontal timbers of the roof, as in fig. 291.

Fig. 291. — BARGE-BOARD.

Barge'-couples, *n. pl.* (*Arch.*) Two beams mortised and tenoned together for strengthening the building. The term is not much used.

Barge'-course, *n.* (*Arch.*) That part of the tiling which projects over the gable of a building, and is made up below with mortar.

Barge'man, *n.* The man who manages or steers a barge.

Barge'-master, *n.* The proprietor or owner of a barge, who carries goods for hire.

Bar'gersville, in *Indiana,* a post-office of Johnson co.

Bar'-gown, *n.* In England, the gown worn by a barrister, or member of the bar.

Bar'ham, RICHARD HARRIS, better known by his literary pseudonym of "THOMAS INGOLDSBY," B. at Canterbury, 1788. He was appointed a minor canon of St. Paul's, London, in 1821. *B.* was the author of the famous *Ingoldsby Legends,* a series of burlesque poems, which have obtained immense popularity. He also published a novel called *My Cousin Nicholas.* D. 1845.

Bar'hamsville, in *Virginia,* a vill. of New Kent co.

Ba'ri, (anc. *Barium,*) a fortified seaport and city of S. Italy, cap. of the prov. of Terra di Bari, on the Adriatic, 50 m. N.N.W. of Tarentum; Lat. 41° 7′ 52″ N., Lon. 16° 53′ 4″ E. It is a mean and ill-built place, with narrow and dirty streets. *Manf.* Cotton, glass, silk, hats, soap, &c. The port, which is encumbered with sand, only admits small vessels. *B.* is a very ancient city. It is referred to by Horace, "*Bari mœnia piscosi*" (Sat. i. 5.). In more modern times it fell successively into the possession of the Saracens and Normans. *Pop.* 50,524.

Barigazzo, (*bar'e-gats'o,*) a village of N. Italy, prov. of Lunigiana, in the neighborhood of which natural fires issue from the soil, a phenomenon similar to that of *Pietramala,* q. v.

Barile, (*bar'e-lai,*) a town of S. Italy, 3 m. from Malfi; *pop.* about 4,000.

Barilla, (*ba-ril'la,*) *n.* [Sp.] (*Chem.*) The name given to commercial alkalies, formerly imported from Alicante, Malaga, &c. It is the ash of the *Salsola* and other seaplants. It was much used in soap manufacture, but is now almost entirely superseded by the carbonate of soda obtained from common salt.

Bar'illet, *n.* [Fr.] A small cask, or something like one; a little barrel.

Bar'ing, ALEXANDER. See ASHBURTON.

Bar'ing, in *Maine,* a post-township of Washington co., on the S. side of the St. Croix river, 150 m. N.E. by E. of Augusta.

Bar'-iron, *n.* (*Metal.*) Iron wrought into malleable bars.

Bar'itone, *n.* (*Mus.*) See BARYTONE.

Barium, (*bair'e-um,*) *n.* [Gr. *baros,* heavy.] (*Chem.*) A silver-white or yellowish metal, in several respects resembling calcium and strontium; symbol Ba; atomic weight 136·9. It occurs in nature, not in the free state, but in the same forms of combination as strontium, viz., as the carbonate, $BaCo_2$, and as the sulphate, $BaSo_4$ (see BARYTA). It is prepared by the decomposition of the chloride by an electric current (see ELECTROLYSIS). It is ductile, malleable; not easily decomposed by heat; oxidizes by contact with the air, and decomposes water readily at the ordinary temperatures.

B. Chloride, $BaCl_2 + 2\,H_2O$, is made by dissolving *B.* carbonate in hydrochloric acid, evaporating and crystallizing. It is a colorless salt, crystallizing in flat four-sided tables, and dissolving in three parts of cold and two parts of hot water. Its solution forms the usual test for sulphuric acid, which it indicates by forming a white precipitate insoluble in nitric acid. *Form.* $BaCl + 2H_2O$.

B. Peroxide, BaO_2. Barium peroxide, or dioxide, a white powder closely resembling the simple oxide; is the favorite agent by which free oxygen is obtained from the air on a large scale. When barium oxide, BaO, is heated in a current of air, it takes up oxygen and becomes dioxide, BaO_2; and when, in its turn, this dioxide is heated to a temperature above 400° C. its component parts separate into barium oxide, BaO, and free oxygen, the operation being plainly represented by the equation $BaO_2 = BaO + O$. Barium peroxide is used also in the preparation of hydrogen dioxide (*q. v.*)

Bark, *n.* [Dan. *barke;* Ger. *barke;* A.S. *beorgan,* to protect, to defend.] (*Bot.*) The external coating of an exogenous or dicotyledonous stem and its branches. It is distinguished from the *rind* or *false bark* of an endogenous or of an acrogenous stem, by its mode of growth, and by the ease with which it may be separated from the wood beneath. The bark presents three distinct layers, independently of the epidermis which is common to it, with other external parts of the plant. These three layers, proceeding from within outwards, are known as the *liber,* or *inner bark;* the *cellular envelope,* or *green layer;* and the *suberous,* or *corky layer.* Some botanists apply to these three layers, respectively, the Greek terms, *endophlœum, mesophlœum,* and *epiphlœum.* The bark is connected organically with the wood by means of the medullary rays and cambium-layer. (See STEM.) It develops in an opposite direction to that of the wood; for while the latter increases by additions to the outer surface, the bark increases by additions to the inner. Each layer of the bark grows separately; the two outer layers, constituting the cellular system of the bark, rarely continue to grow after a few years, but become dead structures on the surface of the tree. The inner bark, however, continues to grow throughout the life of the individual, by the addition of annual layers on its inner surface from the cambium layer of the wood. In some trees, the oak for example, up to a certain age, these liber layers may be readily observed. (See LIBER.) The outer layers of the bark, from the distention to which they are exposed by the growth of the wood beneath, generally become cracked in various directions, and give a rugged look to the trunk, as in the elm and cork-oak. In some trees, however, as the beech, the bark always remains smooth, owing partly to the small development of cellular layers, and partly to the great distensibility of the layers. There are several kinds of bark which enter largely into commerce; being used for processes in the arts, or for medicines. These will be found noticed in separate articles, under the botanical names of the genera which include the plants producing them.

(*Med.*) Though the rinds of many trees and plants are used in medicine, all of them possessing more or less tonic properties, the word *B.* is now almost exclusively confined to that of the Cinchona tree, or Peruvian bark, and its active principle, *quinine.* — The medicinal action of all *B.* is nearly similar, though some few have a special action of their own. Taken generally, however, they act as tonics, astringents, antiseptics, and stomachics, while the Peruvian *B.* is, in addition, a febrifuge of the highest order, especially so in all fevers characterized by periodicities of action: hence its great efficacy in intermittent and remittent fevers, gangrene, typhoid fevers, and all neuralgic affections. — See CINCHONA, PERUVIAN BARK, QUININE, &c. and BARK.

—*v. a.* To strip off bark.

"The severest penalties ought to be put upon *barking* any tree that is not felled."—*Sir W. Temple.*

Bark, *n.* The peculiar noise made by a dog, wolf, &c. —*v. a.* To make the noise of dogs, when they threaten or pursue.

"In vain the herdman calls him back again,
The dogs stand off afar, and *bark* in vain."—*Cowley.*

—To clamor at; to vociferously importune; to pursue with reproaches.

"You dare patronage
The envious *barking* of your saucy tongue
Against my lord!"—*Shaks.*

Bark, *n.* [Fr. *barque;* L. Lat. *barca;* Icel. *barkr*, a light boat or skiff.] (*Naut.*) A general name applied to any small sailing-craft, barge, &c.—Specifically applied to a vessel carrying three masts, but without a mizzen-topsail; that is to say, having her fore and main-masts rigged as a *ship*, and her mizzen as a *schooner*. In this restricted sense it is more properly written *barque.*

Fig. 292.—A BARQUE.

Bar'kal, or JEB-EL-BARKAL. A singular sand-stone rock in Nubia, situated in Lat. 18° 31′ N., and Lon. 31° 46′ E., about a mile from the right bank of the Nile. It is quite isolated, perpendicular on the side facing the river, and very steep on all. It is about two miles in circumference at the base, and 400 feet in height, its summit forming a pretty broad plateau. Between it and the river are the remains of some magnificent temples, the two principal ones being known as the Typhonium, and the Great Temple, one of the largest monumental ruins of Nubia. The ancient city of Napata is supposed to have been situated in the vicinity.

Bark'-bed, *n.* (*Gardening.*) A hot-bed, formed beneath of tanner's bark.

Bark'beetle, BARK-CHAFER, *n.* (*Entom.*) See SCOLYTIDÆ; COLEOPTERA.

Bark'-bound, *a.* With the bark too adhesive or close, as is sometimes seen in trees.

Bark Camp Mills, in *Kentucky*, a post-office of Whitley co.

Bark'er, *n.* Any person who barks or makes an unreasonable clamor or noise.

"But they are rather enemies of my fame than me, these *barkers.*"—*Ben Jonson.*

—One who *barks* or strips trees of their bark.

—In England, the name is sometimes given to a person who stands at shop-doors to solicit the custom of passers-by.

Bar'ker, in *New York*, a township of Broome county.

Barker's Mill, *n.* (*Mech.*) (So called from the name of the inventor.) An early form of vertical recoil water-wheel, invented in the 17th century, in which the water moves the wheel from which it issues by its reaction or counter-pressure as it issues from the orifices.

Bar'kersville, in *New York*, a post-office of Saratoga co.

Bar'kerville, in *Massachusetts*, a thriving village of Pittsfield township, Berkshire co., 20 m. N.W. of Springfield.

Bark'ery, *n.* A tan-house.

Barkes'dale, in *Virginia*, a post-office of Halifax co.

Bark'-galled, *a.* With the bark galled or excoriated, as by thorns.

Barkham'stead, in *Connecticut*, a post-township of Litchfield co., 20 m. N.W. of Hartford. It is a prosperous place, and noted for its hardware manufactures.

Bark'ing, a town and par. of England, co. of Essex, on the Roding, 8 m. E. of London. Barking Abbey was one of the richest nunneries in England, founded in 670.

Bark'ing-bird, *n.* See CHEUCAN.

Bark'ing-irons, *n. pl.* Instruments used for barking trees.

Bark'less, *a.* Destitute of, or without, bark.

Bark'ley, in *Indiana*, a township of Jasper co.

Bark'-louse, *n.*; *pl.* BARK'-LICE. (*Zoöl.*) A species of *Aphis*, that infests the bark of trees.—See APHIS.

Barkok', MALEK-AL-DHAER-ABU-SAID, a Mameluke Sultan of Egypt, and founder of the Circassian or *Borgite* dynasty. He wrested the throne from the last of the *Baharites*, or Tartars, about 1390. In the early part of his reign of 8 years, he was harassed by many seditions and incursions; but was later distinguished as a patron of the arts and letters.

Bark'-pit, *n.* A pit filled with bark and water, in which hides are steeped in tanning.

Bark' River, in *Wisconsin*, rising in Washington co., enters Rock River in Jefferson co.

—A post-office of Jefferson co.

Bark'-stove, *n.* A glazed structure for keeping tropical plants, having a bed of tanner's bark, or other fermentable matter which produces a moist heat.

Bark'ton, in *Illinois*, a village of Saline co., 8 m. S.W. of Raleigh.

Bark'y, *a.* Consisting of, or containing bark.

"Joy so enrings the *barky* fingers of the elm."—*Shaks.*

Bar'laamites, *n. pl.* (*Eccl. Hist.*) A religious sect composed of the followers of Barlaam, a native of Calabria, and a monk of the order of St. Basil; who, in the controversy between the Greek and Latin churches, after supporting the cause of the latter, became an advocate of the former. He brought a complaint before the Patriarch of Constantinople, against the tenets of the *Hesychistæ*, or "Quietists," the name given to the monks of Mount Athos. The cause was tried, and the monks acquitted, in 1337. In 1339, Barlaam was the Emperor's ambassador to the Pope, at Avignon, for a union of the two churches. The old controversy was afterwards renewed, and to such a pitch did it proceed, that a council was held at Constantinople, 11th June, 1341, in which the monks, with Palamos at their head, were victorious. The *B.* were condemned by subsequent councils, and Barlaam himself is said to have once more joined the Latins. He D. about 1348.

Bar'le-Duc, or BAR-SUR-ORNAIN, a town of France, cap. of dep. of Meuse, on the Ornain, 128 m. E. of Paris. In one of the churches is the celebrated monument of René de Châlons, Prince of Orange, by Richier, pupil of Michael Angelo.—*Manf.* Yarn, cotton stuffs, hosiery, &c. Its *confitures de groseilles* are highly esteemed. *Pop.* 16,414.

Barle'ria, *n.* (*Bot.*) A genus of tropical plants, order *Acanthaceæ.*

Barlet'ta, a fortified seaport town of S. Italy, prov. Caserta, on the Adriatic, 33 m. N.W. of Bari; Lat. 41° 19′ 26″ N., Lon. 16° 18′ 10″ E. It is a large and well-built city, possesses a fine cathedral and many handsome public buildings. It carries on a considerable trade with other ports of the Adriatic, and the Ionian Islands.—*Exp.* Wine, oil, salt, skins, corn, &c. *Pop.* 26,474.

Bar'ley, *n.* [W. *barlys*—*bara*, bread, and *llys*, a plant; A.S. *bere;* Heb. *bar*, corn, grain.] (*Bot.*) The common name of the genus HORDEUM, *q. v.*

Bar'ley-bird, *n.* (*Zoöl.*) A name sometimes given to the siskin, to the nightingale, and to the greenfinch.

Bar'ley-brake, Bar'ley-break, *n.* (*Games.*) The name of a popular pastime, very common in England in the time of James I., and which is frequently referred to by old writers. It was played by six persons, three of each sex, who were formed into couples. A piece of ground was then divided into three parts, the centre one being called *hell.* One of the couples was stationed in this hell, and their effort was to catch either of the other couples in crossing from the one side to the other, when the couple caught had to take up their place in the centre. The couple in the centre were bound to keep together; but the others, when hard pressed, might sever. When all had been taken, the game was ended; and the last couple taken was said *to be in hell*, their punishment appearing to have consisted in kissing each other. Games of a similar kind, more or less modified, are still practised by young persons both in England and Scotland.

Bar'leycorn, *n.* A grain of barley.—The third part of an inch in length; hence the origin of the measure called a *barleycorn.*—*Sir John Barleycorn*, a jocular name given in England and Scotland to strong ale or beer which is made from barley. This is the subject of a famous old ballad bearing its name.

"Inspiring, bold *John Barleycorn*,
What dangers thou canst make us scorn!"—*Burns.*

Bar'ley-mow, *n.* The place where reaped barley is gathered and stowed together.

"Whenever by yon *barley-mow* I pass,
Before my eyes will trip the tidy lass."—*Gay.*

Bar'ley-sugar, *n.* Sugar boiled till it is brittle, (formerly with a decoction of *barley*,) and candied.

Bar'ley-water, *n.* (*Med.*) This medicinal drink is made from the pearl-barley, and may be either taken in its simple form, when cold, or flavored with some of the substances given below. As there is some art required in making barley-water properly, the following mode may be adopted with advantage. Take of—

Clean pearl-barley ..... 2 ounces.
Cold water ..... 4½ pints.

Pour half a pint of the water on the barley in a saucepan, and simmer slowly for ten minutes; pour off all the liquor remaining, and add the four pints of water to the softened barley, and boil slowly till the quantity is reduced to one-half; strain into a large jug, in which one or two slices of a lemon have been placed, with a few lumps of sugar. When cold, and properly stirred, a cupful may be taken repeatedly. The juice of a few oranges, with an ounce or two of bruised sugar-candy, or a quarter of a pound of tamarinds, may be substituted for the lemon, and when sufficiently mixed by stirring, the whole is to be again strained, to keep back the seeds, twigs, and stones, and, according to the ailment for which it is used, a wineglassful of the drink given every one or four hours. In inflammatory diseases, or cases of bleeding from the lungs or stomach, a better form of barley-water is made by adding to the two pints of boiled liquid 1 ounce of simple syrup, and 1½ drachms of the red elixir of vitriol (see DRINKS); while in cases of cough, or affections of the chest, a cool, relaxing draught, acting on the vessels of the throat and chest, is produced by adding 1 drachm of powdered nitre to each pint of barley-water, and a tablespoonful taken every hour or two. Barley-water, made as above, in which 2 ounces of gum-arabic have been dissolved, and a drachm of nitre added, makes an admirable drink in all affections of the bladder, and in cases of strangury.

Bar'low, JOEL, an American poet, B. at Reading, Conn., in 1755. In 1787, his reputation was established by the publication of his greatest poem, *The Vision of Columbus*, which he dedicated to Louis XVI. of France. In the following year he visited England, whence he crossed to Paris, attracted by the news of the revolution; there he remained for two years, attached to the Girondist party. In 1795, he was appointed American consul at Algiers, where he negotiated a treaty with the government, as well as with those of Tunis and Tripoli. On his return to the U. States, in 1808, he published an enlarged edition of his first work, and re-named it the *Columbiad.* In 1811, he was appointed minister-plenipotentiary to the French government. D. near Cracow, in Poland, 12th Dec., 1812.

Bar'low, PETER, F.R.S., a distinguished English physicist and mathematician, B. at Norwich in 1776. He was Professor of Mathematics in the Royal Military Academy at Woolwich for a period of 40 years. In 1823, he was elected a Fellow of the Royal Society, and in 1825 received from it the Copley medal for his researches in magnetism. In 1829, he was admitted a member of the French Institute. His greatest work is the *Mathematical and Philosophical Dictionary*, which at the present time is very scarce and of great value. He was also the author of an elaborate work on the *Machinery and Manufactures of Great Britain*, (1837); of a treatise on the *Force and Rapidity of Locomotives*, (1838); and of an *Essay on Magnetic Attraction*, one of the first works in which the phenomena of magnetism were distinctly enunciated. D. 1862.

Bar'low, in *Ohio*, a post-township of Washington co., about 12 m. W. of Marietta.

Barm, *n.* [A. S. *beorma;* Ger. *barme:* L. Du. *barm;* probably allied to Lat. *fermentum.*] Yeast; the scum rising upon beer, or other malt liquors, when fermenting.—See YEAST.

Bar'macide, Bar'mecide, *a.* (See BARMECIDES.) A term used to imply an imaginary or fictitious entertainment; derived from the well-known story in the *Arabian Nights' Entertainments.*—"A *Barmacide* feast." *Thackeray.*

Bar'-maid, *n.* A maid or woman who tends a bar or refreshment-counter; as, "a bouncing *barmaid.*"—*Washington Irving.*

Bar'-master, *n.* [Ger. *bergmeister*, mountain-master.] In England, the name given to an officer in mining districts.

Barmecides, (*bar'me-cides.*) (*Hist.*) An illustrious family of Khorassan, the romance of whose history is equally familiar to Europeans and Americans in the *Thousand and One Nights*, ("Arabian Nights' Entertainments,") and to Orientals in the pages of their historians and poets; and who flourished at the court of the first Abassides Caliphs. Barmec, or Barmek, the founder of the family, transmitted the honors conferred on him by the Caliph Abd-al-Malik to his son Yahia, who, becoming tutor to the famous Haroun-al-Raschid, acquired an influence over that prince; which, with Haroun's personal affection for the family, carried his sons, Fadl, or Fazl, Giaffar, Mohammed, and Mousa, to the highest dignities of the court. The virtues and munificence of the *B.* were, for a long period, displayed under favor of Haroun, as well as to the admiration of his subjects; but one of the brothers, Giaffar, having at last become an object of suspicion to the cruel and treacherous Caliph, Yahia and his sons were suddenly seized, Giaffar beheaded, and the others condemned to perpetual imprisonment. The year 802 is assigned as the date of this tragedy.

Bar'men, in Germany. See ELBERFELD.

Bar Mills, in *Maine*, a post-office of York co.

Bar'mouth, or ABER'MAW, a sea-port and bathing resort of England, in N. Wales, co. Merioneth, 55 m. W. of Shrewsbury. Its situation is most picturesque, and it is much resorted to by summer tourists.

Barm'y, *a.* Containing barm or yeast.

"And their cold stomachs with crown'd goblets cheer
Of windy cider, and of *barmy* beer."—*Dryden.*

Barn, *n.* [A. S. *berern-bere*, barley, corn, and *ærn*, or *ern*, a close place or repository.] (*Agric.*) A building in which agricultural produce is stored, to protect it from the weather, and keep it in safety. In all countries where the climate does not permit the grain to be threshed in the field and immediately put into a granary, it is necessary to protect it from the weather; and the most obvious method is, to have capacious buildings for that purpose. Accordingly, all well appointed farms have one or more of these buildings, which are often made of such dimensions as to be capable of containing the whole produce of the farm, whether hay, grain, or straw. A great saving may be effected, by the mode of stacking hay and grain in the open air, protected only by a slight covering of thatch. In consequence of this practice, barns may be made of smaller dimensions, and their principal use is to contain the grain in the straw which is intended to be threshed out immediately; so that if the barn is capable of containing a threshing-floor, and as much grain in the sheaf as is usually put in a single stack, it answers all the purposes of a larger barn; and thus the expense of the farm buildings is greatly diminished.—The shape and construction of a common barn are too well known to require a particular description. We shall therefore only give some idea of a very useful building, long since used in Holland, and perhaps not generally known in our country. The *Dutch barn* (*Fig.* 293) consists of a roof supported by strong poles like masts, A A, on which it can be raised or lowered at will. The usual form is that of a pentagon; the poles are at the angles, and kept upright by means

of a strong sill on a brick foundation, and pieces, B, acting as spurs, framed into the poles. The roof is light and covered with thatch. At each angle is a strong block of wood, with a round hole in it sufficient to let the poles pass through; these blocks are kept at any desired height by means of iron or wooden pins passed through holes made in the poles, and on which the blocks rest. To

Fig. 293. — DUTCH BARN.

raise the roof, a small jack is used, an instrument well known by its use in raising heavy wagons when the wheels are taken off. This is placed on an iron pin at some distance below the roof, and the corners are raised gradually, one after the other, at opposite angles, the pins being moved each time one hole higher. The chief use of the Dutch barn, which is susceptible of great improvement, is to contain hay, which, without obstacle to the circulation of air, may be protected from the wet, in any small quantity, as soon as made; the roof being raised as the quantity increases, and gradually lowered as it is taken off for the cattle, which is always from the top.

Barn, *n.* A young child; — a provincial word in England. See BAIRN.

Bar'nabas, (St.,) ("Son of Consolation,") or JOSEPH, a disciple of Jesus, and a companion of the Apostle Paul. He was a Levite, and a native of the isle of Cyprus, and is said to have sold all his property, and laid the price of it at the feet of the apostles, (*Acts* iv. 36, 37.) When Paul came to Jerusalem, three years after his conversion, about A. D. 38, *B.* introduced him to the other apostles, (*Acts* ix. 26, 27.) Five years afterwards, the Church at Jerusalem being informed of the progress of the gospel at Antioch, sent *B.* thither, who beheld with great joy the wonders of the grace of God, (*Acts* xi. 20, 24.) He afterwards went to Tarsus, to seek Paul and bring him to Antioch, where they dwelt together two years, and great numbers were converted. They left Antioch A. D. 45, to convey alms from this Church to that of Jerusalem, and soon returned, bringing with them John and Mark, (*Acts* xi. 28, 30; xii. 25.) While they were at Antioch, the Holy Ghost directed that they should be set apart for those labors to which he had appointed them; viz., the planting of new churches among the Gentiles. They then visited Cyprus, and some cities of Asia Minor, (*Acts* xv. 2-14,) and after three years absence returned to Antioch. In A. D. 50, he and Paul were appointed delegates from the Syrian churches to consult the apostles and elders at Jerusalem, respecting certain questions raised by Jewish zealots; and they returned after having obtained the judgment of the brethren of Jerusalem. At Antioch, *B.* was led to dissimulation by Peter, and was, in consequence, reproved by Paul. While preparing for a second missionary tour, Paul and *B.* having a dispute relative to Mark, Barnabas's nephew, they separated, Paul going to Asia, and Barnabas with Mark to Cyprus. (*Acts* xiii. 15; *Gal.* ii. 13.) Nothing is known of his subsequent history. When he gave all his estates to Christ, he gave himself also, as his life of generous self-devotion and missionary toil clearly shows. He was a beloved fellow-laborer with Paul, somewhat as Melancthon was with Luther.—The festival of St. Barnabas is celebrated in the Roman Catholic Church on the 11th of June.

EPISTLE OF ST. *B.* (*Theol.*) This apocryphal epistle lays greater claim to canonical authority than most of the other uncredited writings. It is cited by Clemens Alexandrinus, Origen, Eusebius, and Jerome, who admit it to be the work of Barnabas, but declare that it ought not to be esteemed of the same authority as the canonical works. It is published by Archbishop Wake among his translations of the works of the Apostolical Fathers, in the preliminary dissertation to which he gives the arguments adduced to prove it to be the work of St. *B.* It is, however, generally believed to have been written by some converted Jew in the 2d century, and seems to have been addressed to the unconverted Jews. It is divided into two parts. In the 1st part the writer shows the unprofitableness of the old law, and the necessity of the incarnation and death of Christ. He cites and explains allegorically certain passages relating to the ceremonies and precepts of the law of Moses, applying them to Christ and his law. The 2d part is a moral instruction, under the notion of two ways, — the *way of light*, under which is given a summary of what a Christian is to do that he may be happy forever; and the *way of darkness*, with the different kinds of persons who shall be forever cast out of the kingdom of God.

GOSPEL OF ST. *B.* (*Theol.*) An apocryphal work also ascribed to *B.* It relates the history of Christ very differently from the Evangelists, and is believed to be a forgery of some nominal Christians, and afterwards altered and interpolated by the Mohammedans, the better to serve their purpose. It corresponds with those traditions which Mohammed followed in the Koran.

Bar'nabee, *n.* A name of the insect LADY-BIRD, *q. v.*

Bar'nacle, *n.* [Fr. *barnâchê;* from Lat. *perna*, a sea-muscle; Gael. *bairneach*, a limpet.] A shell-fish. See BALANUS, and ACORN-SHELL. — A species of wild goose. See BERNACLE.

—*pl.* (*Farriery.*) An instrument consisting of two branches, joined at one end with a hinge, to put upon a horse's nose, to confine him for shoeing, bleeding, or dressing; a horse-twitcher.

—*pl.* A cant word, used in England, for a pair of spectacles; probably because, as they were once made, they clasped the nose in the manner of the *B.*, or horse-twitcher.

Bar'nard, HENRY, LL.D., an American writer, b. at Hartford, Conn., in 1811. He graduated at Yale College, and became chiefly known by his laborious efforts and many publications in behalf of the public-school system. His *School Architecture, Normal Schools in the United States*, and *Education and Employment for Children in Factories*, are among the best known of his works.

Barna'to, BARNEY, a famous London and South African speculator, who enhanced his notoriety by committing suicide, jumping from the deck of the steamer *Scot*, bound from Cape Town to Southampton, June 14, 1897. Little is known of the early life of this eccentric but extraordinary man. His real name is believed to have been Barnett Isaacs, and he was born in London, about 1840, of Jewish parentage, and is said to have received instruction from a private tutor instead of attending school. When about 20 years of age he went to South Africa to seek his fortune, and started his career there, according to some, by exhibiting a trick donkey. He began to deal in diamonds, and in five years had earned enough to buy shares in the mines. In another five years his profits were so great that he had money to invest in the gold fields. He was twice elected to the Cape Legislature, but he cared less for politics than for money-getting, in which he succeeded so well that he came to be called "the richest man in the world," and is said at one time to have controlled financial interests worth $500,000,000. About 1895 he went to London, and so boomed "the Kaffirs"—shares of the comparatively new gold mines of the Transvaal—that every man, woman and child that had money to invest bought "Kaffirs," and *B.* was known as the "Kaffir King." The stock of the Barnato Bank, capitalized at $12,500,000, went up to $45,000,000, the $5 shares selling for $23; and *B.* almost dominated the whole financial world. He had a wife and three children, and lived in grand stylo in London. In the fall of 1895 he is said to have sent $75,000 to the Lord Mayor for distribution among the London poor. For some time previous to his death he had been in impaired health. While walking with a friend on the deck of the *Scot*, when off the Azores, he suddenly plunged overboard. His body was recovered and taken to London for burial.

Barnave, (*bar'nâhv,*) ANTOINE PIERRE JOSEPH MARIE, a distinguished French orator, and a zealous adherent and early victim of the revolution, was B. at Grenoble, 1761. He was the son of a rich *procureur*. He was chosen a deputy of the *tiers-état* to the assembly of the states-general, and showed himself an open enemy to the court. The constituent assembly appointed him their president, Jan., 1791. After the flight of the king, he was almost the only one who remained calm. He defended Lafayette against the charge of being privy to this step, and, after the arrest of the royal family, was sent, with Petion and Latour-Maubourg, to meet them, and to conduct them to Paris. The sight of their misfortunes, and the profanation of the royal dignity, seemed to have made a profound impression on his mind. He treated his captives with the respect due to their rank and misfortunes, and from this moment a visible change in his principles was observed. He defended the inviolability of the royal person, and painted the fatal disasters which threatened the state; but from this moment his influence continually declined, and he was entirely given up by the revolutionary party. When the correspondence of the court fell into the hands of the victorious party, Aug. 10, 1792, they pretended to have found documents which showed him to have been secretly connected with it, and he was guillotined Nov. 29, 1793.

Bar'negat, in *New Jersey*, a post-town of Union township, in the S. of Ocean co., on Double Creek, 1 m. from Barnegat Bay, and 14 S. of Tom's River. This place is largely interested in navigation, and the coasting trade to the south of the U. States.

Bar'negat Bay, in *New Jersey*, on the E. confine of Ocean co., reaches N. from Barnegat Inlet to the entrance of Metetecnuk river, and is about 23 m. long, and from 1 to 4 broad. It forms the embouchure of Toms, Metetecunk, and Forked rivers, and Kettle and Cedar creeks.

Bar'nerville, in *New York*, a post-office of Schoharie co.

Barnes, ALBERT, an American divine and commentator on the Scriptures, was born near the village of Rome, Oneida co., N. Y., on the 1st of Dec., 1798. He graduated at Hamilton College in 1820, studied theology at Princeton, was ordained to the work of the ministry, and, in 1825, was installed pastor of the First Presbyterian Church in Morristown, N. J. From this place he was transferred, in 1830, to the ministerial charge of the First Presbyterian Church in Philadelphia, an office which he continued to hold until compelled to relinquish it, by a permanent disorder of the eyes, in 1867. He has been widely known as an eloquent and successful preacher, but, in particular, as the author of *Notes, Critical, Explanatory, and Practical*, on all the books of the New Testament, and on the Prophecies of Isaiah and Daniel, and the Book of Job, in the Old. These works have been so generally adopted as text-books in Bible-classes and Sunday-schools, that more than 400,000 copies of the *Notes on the New Testament* have been sold in the United States, and an almost equal number, it is supposed, in Great Britain. They have been translated into foreign languages,—into French, Welsh,—and, partially at least, into some of the dialects of the Oriental nations. Mr. Barnes has also contributed to the press a variety of sermons, addresses, essays, reviews, &c.; a work upon slavery, in which the Biblical argument for that institution is examined with ability and fairness, and a *Treatise on the Evidences of Christianity in the Nineteenth Century*, containing the substance of a course of lectures delivered at the Union Theological Seminary, N. Y., in the winter of 1866. His *Commentary on the Book of Psalms*, which appeared in 1869, he announced, from age and failing vision, to be the close of his long labors in the department of religious literature, to which he has devoted so much time and study. It is a singular circumstance, that all the "Notes" referred to, amounting to some 15 or 20 volumes, and requiring, of necessity, a vast degree of research and patient industry, have been written before nine o'clock in the morning, to avoid trespassing upon the daily professional pursuits of the author, — a memorable instance of what one man can accomplish, by system, resolution, and an earnest purpose. D. 1870.

Barnes, DAME JULIANA, Abbess of the Benedictine Monastery of Sopewell, near St. Alban's, England. She flourished in the 15th century, and was the author of a celebrated work entitled *The Boke of St. Alban's*, from its having been printed in that monastery in 1486. It is a learned treatise on hawking, hunting, and coat-armor, and is now of extreme rarity and value.

Barnes, ROBERT, a learned divine, and one of the earliest preachers and martyrs of the English Reformation. He was chaplain to Henry VIII., and being accused of heresy, his life was placed in jeopardy. He, however, escaped to Germany, where he became a disciple of Luther and his theology. On his return to England, he was again prosecuted for his religious opinions, and, without a trial, was burned at the stake, in Smithfield, London, on the 30th of July, 1540. Of his works, the *Confession at the Stake* was translated by Luther, and circulated throughout Germany.

Barnes, WILLIAM, D.D., a learned English philologist and divine, B. 1810. He is the author of *A Philological Grammar, grounded upon English, and formed from a comparison of more than Sixty Languages: being an Introduction to the Science of Grammars of all Languages, especially English, Latin, and Greek; An Anglo-Saxon Delectus; Notes on Ancient Britain and the Britons, &c.*

Barnes, in *Ohio*, a post-office of Richland co. D. 1886.

Barnes, in *Pennsylvania*, a village of Sheffield township, Warren co.

Barnes' Corners, in *New York*, a post-office of Lewis co.

Barnes' Cross Roads, in *Alabama*, a post-office of Dale co.

Barnes' Store, in *Mississippi*, a post-office of Tishemingo co.

Barnes'view, in *Missouri*, a village of Clark co., about 2 m. E. of Wyaconda River.

Barnes'ville, in *Georgia*, a prosperous twp. and vill. of Pike co., 40 m. N.W. of Macon.

Barnes'ville, in *Kansas*, a post-village of Bourbon co.

Barnes'ville, in *Maryland*, a post-village of Montgomery co., 38 m. N.W. of Washington, and 4 E. of the Potomac river; in *Mo.*, a p. o. of Clinton co.; in *Ohio*, a p. v. of Belmont co., 50 m. E. of Zanesville; in *Pa.*, a p. o. of Schuylkill co.; in *Va.*, a p. o. of Charlotte co.

Bar'net, in England. In Hertfordshire, 11 m. S. W. of London. Here in 1471 was fought the famous battle of *B.* bet. the rival houses of York and Lancaster, the latter were routed, their leader, Warwick, the King Maker, killed, by which event, Edward IV. was firmly established on the throne.

Bar'net, in *Pennsylvania*, a township of Forest co.

Bar'net, in *Vermont*, a post-township of Caledonia co., about 20 m. E. by N. of Montpelier, at the confluence of the Passumpsic and Connecticut.

Bar'net, in *Illinois*, a township of De Witt county.

Bar'nett's Mills, in *Virginia*, a village of Fauquier co., on the Rappahannock, 93 m. N. by W. of Richmond.

Barneveldt, (*bar'na-velt,*) JAN VAN OLDEN, Grand Pensionary of Holland, B. in 1549. He had scarcely reached his 20th year when he was called to the office of councillor and pensionary of Rotterdam; and such was the opinion even then entertained of his eminent abilities and integrity, that he was allowed an important share

in the management of those transactions with France and England, by which the United Provinces sought to maintain themselves against Spain, whose yoke they had just thrown off. His conduct in the high office of Grand Pensionary of Holland and W. Friesland, which he afterwards filled, not only secured the independence, but restored the trade and improved the finances of the United Provinces. After the election of Maurice of Nassau to the dignity of Stadtholder, *B.* became the champion of popular liberties, and opposed with determination the ambitious designs of the new prince. He was so far successful as to have a truce of 12 years concluded with Spain, in opposition to the views of the Stadtholder; and such was the popularity of that measure, that he must have had the advantage over his rivals, if their respective claims had come to be submitted to any assembly of the States; but about this time, the fanaticism of two sects, the Arminians and the Gomarists, raged throughout Holland, and the Grand Pensionary was involved in the ruin of the former. After the condemnation of the Arminians by the Synod of Dort, *B.* was adjudged to death as a traitor and heretic, by 26 deputies named by Maurice. The sentence was carried into effect in 1619.

Bar'ney, JOSHUA, an American commodore, B. at Baltimore, 1759. Being one of fourteen children, he entered on board a pilot-boat when only 11 years of age. When the American provinces came to an open rupture with England, *B.* adopted the national cause, and was appointed master's mate on a sloop of war called the Hornet, which was sent forthwith to the Bahama Islands, to seize upon some warlike stores which had been collected there; which object was successfully accomplished. On his return from this expedition, he joined a small squadron of row-galleys employed in the Delaware, and so signalized himself by his bravery and good conduct, as to obtain, when scarcely seventeen, the commission of lieutenant in the United States navy. After this, Lieutenant Barney was for some time constantly employed on board small vessels of war, and exhibited great zeal and activity in the performance of his duty. In the course of four years he was twice taken by the English and exchanged; and in 1780, when not yet twenty-one years of age, he had married, and was again in active service on board the United States ship Saratoga. This vessel captured several British vessels; and Barney, being placed as prize-master on board one of these, which was in an almost sinking condition, was again captured by an English 74-gunship, and sent as a prisoner to England. Having escaped from the prison in which he was confined, and having spent some weeks in London, he embarked for Ostend, visited France and Spain, and reached his home in March, 1782. He was immediately appointed to command a small ship of war, one of a squadron fitted out for the protection of trade in the Delaware. While thus employed, Barney was attacked by two ships and a brig belonging to the British navy, and by a combination of stratagem and bravery, succeeded in capturing and securing one of the ships. For this gallant action he received the thanks of the legislature of Pennsylvania, accompanied by a gold-hilted sword; and his prize being fitted out and commissioned in the American navy, he received the command. Commodore Barney was afterwards sent with despatches to Dr. Franklin at Paris, and returned to America with a British passport, bearing despatches which announced the signing of preliminary articles of peace between England and America. At this time, the commodore was only twenty-five years of age, and the public having no further occasion for his services, he embarked in commercial speculations connected with the sea, but was unsuccessful. In the course of these pursuits, he visited France in 1794, and in the following year received a commission as captain in the French navy. He afterwards obtained the rank of *chef-de-division*, and served as commander of the French squadron in the West Indies. On his return to France, he resigned his commission, and received the grant of a pension for life, which, however, he would never touch. Returning home, he again engaged, with no better success than before, in commercial undertakings, and after a time retired to the cultivation of a farm. When the war between England and America broke out in 1812, Barney immediately fitted out a privateer, in which he made some valuable prizes, and was shortly afterwards appointed by his government to the command of a flotilla, to be employed for the protection of Chesapeake Bay. This duty he performed successfully against a British force numerically superior to his own. While engaged in this service, Commodore Barney, finding that a British expedition had landed, and was in full march for Washington, left his flotilla in charge of his lieutenant, and joined the land forces with 400 of his men. The hostile forces met at Bladensburg, but the conflict was carried on, as far as the Americans were concerned, by Barney only and his sailors. They stood their ground against fearful odds, until their ammunition was exhausted, when the commodore was obliged to order a retreat. In withdrawing, he fell from weakness caused by a wound in the thigh, and was found in this situation by the enemy, by whom he was treated with kindness, and carried in a litter to the town of Bladensburg. The corporation of Washington voted him a sword. After a short mission in Europe, he returned to this country, and D. in Pittsburg, Dec. 1, 1818; every honor was paid to his memory. *B.* was a remarkably handsome man, an able, thorough seaman, and a most acute and spirited officer.

Barn'hardtite, *n.* (*Min.*) A compact massive mineral. Lustre metallic. Color bronze-yellow, streak grayish-black, slightly shining. Fracture conchoidal, uneven. Brittle. Tarnishes easily, giving pavonine tints, or becoming pinchbeck-brown.—*Comp.* Sulphur 30·5, copper 48·2, iron 21·3. = 100. B.B. it gives sulphurous flames, and fuses easily to a magnetic globule. It occurs in N. Carolina with other copper ores, at Barnhardt's land, &c., and in California.

Barn'hart's Mills, in *Pennsylvania*, a post-village of Butler co.

Barns'borough, in *N. Jersey*, a P.O. of Gloucester co.

Barns'ley, a town of England, in the W. Riding of the co. of York, on the Dearne, 155 m. N.W. by N. of London, 34 m. S.W. of York, and 9 S. of Wakefield. It is a thriving and busy place, situate in the centre of a large mining district. *Manf.* Linens and steel-wares. *Pop.* 20,017.

Barn'stable, in *Massachusetts*, the most E. county of the State, possessing an area of about 290 sq. m. It includes the peninsula of Cape Cod, and a number of islands. Soil generally light and sandy. Large quantities of salt are extracted here from the sea-water. *Cap.* Barnstable.

BARN'STABLE, a port of entry and cap. of the above co. It is seated on the S. side of a bay of the same name, opening on Cape Cod Bay, 65 m. S.E. of Boston, and 28 S.E from Plymouth. On the bar at the entrance to the bay there is a depth of water of from 6 to 7 feet. *B.* is extensively busied in shipping transactions and the fisheries, and possesses a large number of vessels, principally coasters.

Barn'staple, a seaport-town of England, co. Devon, on the Taw, 172 m. W. by S. of London. *B.* possesses a large shipping-trade. *Pop.* about 4,000.

Barn'stead, in *New Hampshire*, a post-township of Belknap co., 15 m. N.E. of Concord.

Barn'ston, or BARN'STON CORNERS, a village and township of Lower Canada, in Stanstead co., 14 m. E. of Stanstead.

Bar'num, PHINEAS TAYLOR, a well-known American showman, who has acquired the sobriquet, by his own admission, of "Prince of Humbugs," was B. at Bethel, Conn., in 1810. He early manifested an aversion to work of the ordinary kind. After an unsuccessful attempt in the newspaper line, he took a share in the management of a strolling theatre. Subsequently he obtained possession of an old negress, whose proprietors represented her as having been the nurse of George Washington; she was said to be 160 years of age. *B.* adopted the story, and by means of his tact as a showman, and by dint of the most astonishing "smartness," he induced thousands in every city in the U. States to flock to see the early guardian of the great Liberator. On the other side of the Atlantic, pathetic pictures were drawn by the anti-slavery orators of the degradation thus cast on the memory of the great General of the Republic. After the death of his old negress, *B.* bought the American Museum in New York, and soon brought it into high repute and prosperity. His next great "card" was General Tom Thumb; but his most enterprising speculation was the engagement of Jenny Lind for a series of concerts in the U. States, Canada, and Cuba, by which he claimed to have netted $350,000. On his return to the U. States, he was elected president of a bank, became largely interested in real estate in Bridgeport and its vicinity, and promoted agriculture and thrifty enterprise generally, with all the zeal of a public-spirited and benevolent citizen. In 1855, he published his *Autobiography*, a candid and amusing relation of the innumerable artifices by which he attained his notoriety. In 1856 his fortune became impaired by disastrous business complications, and in 1857–8 he gave lectures in London, and some of the provincial cities of England, on his methods of obtaining notoriety as a stepping-stone to making money, &c.; drawing crowded audiences, and replenishing his treasury. In 1868 he was an unsuccessful candidate to Congress for Connecticut; and in 1870 he resumed his old occupation of travelling showman. *B.*'s unparalleled career closed in 1891.

Bar'numton, in *Missouri*, a post-office of Camden co.

Barn'well, in *South Carolina*, a S.W. district, bordering on the Savannah River, which divides it from Georgia; *area*, 1,550 sq. m. It is drained by S. Edisto River, and also by the head-waters of the Salkehatchie. *Surface*, hilly. *Soil*, fertile about the river-bottoms. *Cap.* Barnwell Court-House.

BARNWELL, or BARNWELL COURT-HOUSE, a post-village, and cap. of the above district, near the Salkehatchie River, 55 m. S.S.W. of Columbia. It lies in a flourishing cotton country, and has a considerable trade.

Barn'-yard, *n.* A yard close to, or surrounding, a barn. —*a.* Anything belonging to a barn-yard, as a *barn-yard* fowl.

Baroach, or **Broach,** (BARIGOSHA,) a maritime dist. of Hindostan, in the British prov. of Gujerat, presidency of Bombay, chiefly between Lat. 21° 25′ and 22° 20′ N., and Lon. 72° 50′ and 73° 23′ E.; having N. Kairah dist., E. Baroda, S. Surat, and W. the Gulf of Cambay. *Area*, 1,600 sq. m. Cotton is the principal product. Three-fourths of the population are Hindoos; the rest Mohammedans. *Pop.* about 250,000.

BAROACH, (anc. *Barygaza*, "water of wealth,") cap. of the above district, on the N. bank of the Nerbudda, 25 m. north of Surat. Lat. 21° 46′ N.; Lon. 73° 14′ E. Town poor and mean; streets narrow and dirty; climate hot and unhealthy. *Com.* Cotton, grain, and seeds. *B.* was taken by storm by the British, in 1772. *Pop.* abt. 25,000.

Baroc'cio, or **Baroz'zi,** FEDERIGO, a famous painter of the Roman school, B. at Urbino, flourished in the 16th century. Mengs censures him for always representing objects as if they were seen in the air, between transparent clouds, and for endeavoring to make the most opposite colors harmonize merely by means of the light. He is not free from mannerism. Among his best works are the *Flight of Æneas, or the Conflagration of Troy*, engraved by Agostino Carracci, and to be found in the former gallery Borghese; the *Descent from the Cross*, at Perugia, and a burying piece, engraved by Sideler. D. 1612.

Baroche', PIERRE JULES, a French statesman, B. at Paris, 1802. He was called to the bar in 1823, and soon acquired professional distinction. In 1847, he was elected member of the Chamber of Deputies for the dep. of Charente-Inférieure, where he steadily opposed the ministry of Guizot. He signed the *Acte d'Accusation*, drawn up by Odillon Barrot, on the 23d Feb., 1848, in which they were accused of violating the rights of citizens, and of systematic corruption. In May of the same year, *B.* was appointed Procureur-Général of the court of Paris, in which office he used repressive measures against the Democratic press, and conducted various state prosecutions with an energy and ability which made him an object of intense dislike to the radical party. On the 2d Dec., 1851, *B.* was nominated President of the Council of State; a position in which he exhibited much ability, tact, and capacity for work, combined with firmness of character. He subsequently filled the offices of Minister of Foreign Affairs (1860), and that of Minister of Justice (1863). *B.* was made a Senator in 1864, and died in 1870.

Baroco, (*ba-ro'ko,*) *n.* (*Logic.*) The name given to a somewhat strange syllogistic mode of reasoning. A syllogism in *baroco* has the first proposition universal and affirmative; but the second and third, particular and negative, the middle term being the predicate in the first two propositions; as BA, every man is a biped; RO, every animal is not a biped; CO, therefore, every animal is not a man.

Baro'da, an inland dist. of Hindostan, prov. of Gujerat, between Lat. 21° 23′ and 22° 46′ N., and Lon. 73° 12′ and 74° 8′ E. *Area*, abt. 12,000 sq. m. This is a fine, fertile, and picturesque country. *Prod.* Cereals, sugar, tobacco, flax, oil, opium, cotton, hemp, and fruits. The numerous villages appear more in the European style than the Indian. *Inhab.* More than half are Coolies; the wilder tracts are peopled by Bheels; the remainder of the population are a race of Rajpoots, Hindoo Banians, and a few Mohammedans around Baroda city. From 1802, *B.* was under British protection, until 1820, when it was restored to the Guicowar.

BARODA, a walled city, cap. of the above dist., and of the Guicowar's dominions, and the seat of a British resident, 78 m. N.N.E. of Surat; Lat. 22° 21′ N., Lon. 73° 23′ E; 45 m. N.N.W. of Baroach, and 230 from Bombay. In the vicinity are many gardens and groves, the latter adorned with the remains of Mohammedan mosques and tombs. *Pop.* abt. 140,000.

Bar'ograph, *n.* [Gr. *baros*, weight, and *graphein*, to write.] (*Meteor.*) An instrument for recording automatically the variations of atmospheric pressure.

Baro'ko, *n.* (*Logic.*) See BAROCO.

Bar'olite, *n.* (*Min.*) See WITHERITE.

Barol'ogy, *n.* [Gr *baros*, weight, and *logos*, discourse.] The science of weight or gravity. (R.)

Baromacrom'eter, *n.* [Gr. *baros*, weight, *makros*, length, and *metron*, a measure.] An instrument for measuring the length and weight of a new-born infant.

Barom'eter, *n.* [Fr. *baromètre;* Gr. *baros*, weight, and *metron*, measure.] (*Meteor.*) A measure of weight. Specifically, an instrument for measuring the weight or pressure of the atmosphere, and indicating the changes of pressure. — The *B.* is one of the most important instruments of meteorology, its object being to measure the *weight* of the *superincumbent column of air*, and so to enable the inquirer to note its variations. In common estimation, this instrument is a *weather-glass*, prognosticating the occurrence of rain, &c., &c.—It does not, however, give any direct indication, except the one now specified: the probabilities of rain, &c., are inferences only, and dependent for their degree of accuracy on the mode by which very imperfect meteorological theories have been able to connect the other phenomena of the atmosphere with its weight. — The invention of the *B.* was, in some degree, owing to an accident. Some workmen, employed by the Duke of Florence to prepare a sucking-pump for a deep well, found, to their surprise, that, notwithstanding the utmost care in forming and fitting the valves and piston, the water would not rise higher than 18 palms, or about 32 Eng. ft. For an explanation of this unexpected difficulty, they applied to the illustrious Galileo, then passing the evening of his life at his villa near Arcetri; but this philosopher was not yet prepared with the true answer. In that age, the doctrine of a *plenum* was an axiom in philosophy; and the ascent of water in the barrel of the pump was universally ascribed to nature's horror of a *vacuum*. Galileo, either fearing to encounter further persecutions by propounding opinions at variance with the prejudices of the times, or pre-occupied by the prevailing metaphorical modes of expression, evaded the difficulty by saying that the power of nature to overcome a vacuum was limited, and did not exceed the pressure of a column of water 32 ft. in height. That he was himself little satisfied with this explanation, is evident from the circumstance, that, previously to his death, which happened soon after, 1642, he earnestly recommended his pupil, Torricelli, to undertake the investigation of the subject, which the infirmities of advanced age no longer permitted him to prosecute. Torricelli, suspecting the true cause of the suspension of the water, namely, the weight of the atmosphere, happily conceived the idea of trying the experiment with mercury. He perceived, that, if the weight of the atmosphere forms a counterpoise to a column of water of 32 ft., it must also counterpoise a column of mercury of

about 28 inches in height, the weight of mercury being about 14 times greater than that of water. Having, accordingly, procured a glass tube, of about 3 ft. in length and ¼ inch in diameter, hermetically sealed at one end, he filled it with mercury; and covering the open end with the finger, he immerged it in an open vessel containing mercury. On bringing the tube to the vertical position, and removing the finger, the mercury instantly sank, leaving a vacuum at the top of the tube, and after making several oscillations, stood in the tube at the height of about 28 inches above the surface of that in the vessel. On covering the mercury in the vessel with a portion of water, and raising the tube till the lower end came into contact with the water, the mercury all ran out, and the water rushed up to the top of the tube. This experiment, called after its author the *Torricellian experiment*, demonstrated that the mercury was sustained in the tube, and the water in the barrel of the pump, by exactly the same counterpoise, whatever the nature of it might be. Torricelli died shortly after, in the flower of his age, without completing his great discovery; but the fame of his experiment was soon carried into other countries, and the subject engaged the attention of the most eminent philosophers; among others the celebrated Pascal. After a variety of ingenious experiments on the subject, all of which tended to establish the pressure of the atmosphere, it at length occurred to Pascal, that, if the mercurial column was really supported by atmospheric pressure, it must be affected by the weight of the superincumbent mass of air, and consequently be diminished at considerable elevations. In order to verify this conjecture, he requested his brother-in-law, Perier, to try the experiment on the *Puy de Dôme*, a lofty conical mountain. At the foot of the mountain, Perier filled two tubes, and observed the mercury in each to stand at precisely the same height, nearly 28 English inches. Leaving one of them under the care of a person to watch its rise and fall, he carried the other to the top of the mountain; and on repeating the experiment there, the mercury stood at the height of only 24·7 English inches. At two intermediate stations in his descent, the mercury was observed successively to rise, and at the foot of the mountain it stood at exactly the same height in the tube as at first. This experiment was decisive; the result of it was communicated to Pascal at Paris, who, after confirming it by similar observations made successively on the ground, and at the top of a glass-house, and the belfry of a church, proposed the *B.* as an instrument for measuring the height of mountains, or the relative altitude of places above the surface of the earth.—The *B.* had been but a short time invented, before it was observed that the height of the mercurial column is subject to variations connected in some way with the changes of weather. But the variations are confined within a limited range, scarcely exceeding three inches in all, and often, for many days together, do not exceed a few hundredths of an inch. It therefore was considered desirable to render these minute oscillations more apparent, by increasing their range; and, accordingly, of the numerous forms which the *B.* has received, or which have been suggested, the greater part have been proposed with a view to this purpose. The most remarkable or useful constructions are the following, the descriptions of which will be readily understood, with the assistance of the diagrams: *Fig.* 294, 4, is the *Cistern Barometer*, and is merely the inverted tube of Torricelli, already described. The tube must be about 34 inches long. When placed in the cistern, the mercury sinks till the column between the two surfaces, *m* and *n*, just counterbalances the pressure of the air. The space above the mercury, *a m*, is, or ought to be, a perfect vacuum, or only filled with the vapor of mercury. In this *B.*, as the diameter of the cistern is generally much greater than that of the tube, almost the whole effect of the rise or fall is perceived in the variation of the upper surface at *m*. For, supposing the section of the cistern 20 times greater than that of the tube, and that the height of the column, *m n*, suffers a diminution of one inch, it is evident that, as all the mercury which goes out of the tube passes into the cistern, when it falls at *m* it must rise at *n*, but less in proportion as the section of the cistern exceeds that of the tube. In the case supposed, therefore, the alteration of the level at *m* will be 20 times greater than at *n*; that is to say, there will be a fall of 20-21 of an inch at *m*, and

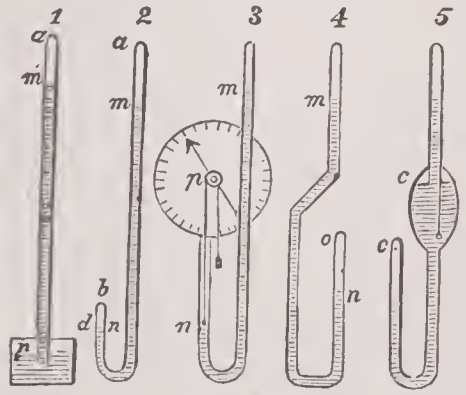


Fig. 294.

a rise of 1-21 of an inch at *n*.—*Fig.* 294, 2, is the *Siphon Barometer*, which was also proposed by Torricelli, as being more convenient than the former. It is merely a tube hermetically sealed at the upper end, having the lower, or open end, bent upwards in the form of a siphon. The variations in this are only half as great as in the cistern *B.*; for the tube being of the same width throughout, a diminution of the column, *m n*, amounting to one inch, will be marked by a fall of half an inch at *m*, and a rise of half an inch at *n*. This inconvenience may, however, be remedied by having the lower branch blown into a wide bulb; but as it is very difficult to procure the bulb to be thrown into a perfectly regular shape, this enlargement of the bulb is found to give rise to inaccuracies. *Fig.* 294, 3, is the *Wheel Barometer*, proposed by Hooke. A small weight floats on the surface of the mercury in a siphon, which is very nearly counterpoised by another weight, connected with the former by a string passing over a pulley, *p*. When the mercury rises at *n*, the exterior weight descends and turns the pulley. An index attached to the axle of the pulley shows on a dial, the quantity of revolution. This *B.*, though very commonly met with, is a mere toy, and indicates neither the absolute height of the mercurial column, nor its variations, with sufficient accuracy to be of the slightest use for any philosophical purpose whatever. Even as a weather-glass, it is the worst of all the common forms of the *B.*—It has been proposed to enlarge the scale, by inclining the upper part of the tube so as to form a considerable angle with the perpendicular. By this contrivance the scale is increased in the proportion of radius to the co-sine of the angle of inclination; but the friction on the sides of the tube is greatly increased, and it is very difficult to determine the exact plane of the top of the column, which requires to be read off on a vertical scale. This construction is easily conceived without a diagram.—We shall notice two other forms of the barometer, proposed with a different view from that of enlarging the scale. *Fig.* 294, 4, is a modification of the siphon barometer, proposed by Gay-Lussac. It differs from the common form in this respect, that, after the tube has been filled, the short branch is hermetically closed at the top, and the communication with the atmosphere takes place through a small capillary hole, drilled laterally through the tube at *o*, so fine, that, though it admits the air to pass freely, it prevents the passage of the mercury. The *B.* is thus rendered very convenient for carriage; but notwithstanding the promising appearance of this *B.*, it has been found, particularly in travelling, that a portion of air will frequently insinuate itself through the mercury. In order to prevent the possibility of the accident, an ingenious modification has been made. It consists in causing the part of the tube to terminate in a very fine point, and to penetrate to some depth into the other part, *c o*, to which it is joined at *c*, in the manner represented in *Fig.* 294, 5. Now if an air-bubble from the end, *o*, which communicates with the atmosphere, should find its way through the bent capillary tube, it will pass along the sides of the bulging part, and instead of penetrating to the vacuum at *a*, will be arrested at *c*, whence it is easily expelled by reversing the barometer.—None of the contrivances which have been described for increasing the range of the oscillations, have been found to succeed well in practice. It is found to be decidedly better to apply minute divisions than to attempt to enlarge the scale; accordingly, experimenters now adhere to one or other of the two ancient forms, the cistern barometer and the siphon barometer. The height of the column in the siphon barometer is conveniently measured by means of a movable scale attached to the frame which supports the tube; by means of a tangent screw, the scale is raised or lowered till its zero coincides exactly with the surface of the mercury in the lower branch: and with the assistance of a vernier, the height can be read off to the hundredth or two hundredth of an inch, with sufficient precision. The scale of the cistern barometer is usually fixed, and the bottom of the cistern is raised or lowered by a screw, till the surface of the mercury in it coincides with the zero of the scale; but the scale may be movable, and its zero brought to coincide with the surface of the mercury in the basin, as in the former case. In order to determine when this coincidence takes place, various expedients may be had recourse to. The most usual is to place on the surface of the mercury a float carrying a vertical needle, some point on which answers to a fixed point on the scale, and the coincidence obtains when the two points are brought into the same level. Another contrivance to effect the same purpose was employed by Fortin, a celebrated French artist. An ivory needle is attached to the scale, pointing downwards, and having its point exactly in the same level with the zero of the scale. The image of the needle is clearly reflected from the surface of the mercury in the cistern, and the cistern is raised or lowered till the point of the needle and its image precisely coincide.—In order to construct a good barometer, it is indispensably necessary that the mercury be perfectly free from impurities, and carefully purged of air; this is obtained by boiling it. The particles of air and moisture which cling obstinately to the sides of the tube, must also be expelled by heat; the mercury must then be introduced slowly and continuously in a hot state, and while the tube continues hot. It is important that the diameter of the tube be not very small; for it is found that the mercury moves with more freedom in a tube of considerable width, the oscillations following the atmospheric changes with more promptitude than in one of smaller dimensions; besides which, there is less disturbance from capillary attraction. The interior diameter should in every case exceed one-fourth of an inch.—The value of the *B.* as a scientific instrument depends on the purity of the mercury, and the total exclusion of atmospheric air. By proper care, it is, perhaps, possible to expel every particle of air from the mercury and the interior of the tube, when the *B.* is made: but it seems doubtful if, by any means whatever, it can be preserved for a considerable length of time in this state. The most carefully constructed *B.* are liable to a slow and gradual deterioration, by the intrusion of air, which has been supposed to insinuate itself between the metal and the tube, and not through the mercury. To obviate this inconvenience, Prof. Daniell conceived the ingenious idea of fixing to the open end of the tube of the cistern *B.* a substance having a greater affinity than glass to mercury. "I caused," says he, "a small, thin plate of platinum to be made, about the third of an inch in length, and of the diameter of the glass tube; this was carefully welded to its open end, so that the *B.* tube terminated in a ring of platinum. The tube was filled and boiled as usual, and the infiltration of air was completely prevented by the adhesion of the mercury, both to the exterior and interior surface of the platinum guard. I have no doubt that a mere ring of wire welded, or even cemented upon the exterior surface of the glass, which would be a much easier and less expensive operation, would be a sufficient protection, as the slightest line of perfect contact must effectually arrest the passage of the air.—In all barometric observations there are, in general, two essential corrections to be made, one for the capillarity or depression of the mercury in the tube, and the other for temperature. Pure mercury in a glass tube always assumes a convex surface. The following are the corrections for tubes of different diameters, according to the theory of Mr. Toony.

DIAM. OF TUBE. *Inches.*	DEPRESSION. *Inches.*	DIAM. OF TUBE. *Inches.*	DEPRESSION. *Inches.*
·10	·1403	·40	·0153
·15	·0863	·45	·0112
·20	·0581	·50	·0083
·25	·0407	·60	·0044
·30	·0292	·70	·0023
·35	·0211	·80	·0012

These corrections, which must always be applied to cistern *B.*, show that wide tubes ought to be preferred; in fact, when the diameter of the tube exceeds half an inch, they may be safely omitted. In siphon *B.* having both branches of the same diameter, the depression is equal at both ends; consequently the effect is destroyed, and no correction is required. This is a considerable advantage; for notwithstanding the most elaborate calculations, some uncertainty must always remain with regard to the exact amount of the capillary repulsion.—The correction for the temperature, which is the most important, depends on the expansion of the mercury, and the expansion of the scale on which the divisions are marked. If we make $a =$ the height of the thermometer in degrees above the freezing-point, $x =$ the fractional part of its bulk which mercury expands for one degree of heat on Fahrenheit's scale, $y =$ the fractional part of its length by which the scale increases, $h =$ the observed height of the *B.*; then the height which would have been observed, had the thermometer stood at the freezing-point, is $h - h\,a\,(x - y)$.—The expansion of mercury in part of its bulk is ·0001001. The scale is generally of some mixed metal of which the expansion is not very well ascertained; supposing it to be equal to that of copper, the expansion would be ·0000096; therefore it will be sufficiently accurate to neglect the temperature of the scale, and assume that of the mercury to be ·0001. Hence the following practical rule for reducing an observed height to the corresponding height at the temperature of the freezing-point; "subtract the 10,000th part of the observed altitude for every degree of Fahr. above 32." Suppose the thermometer 54° and the *B.* 30 inches, the correction will be $(54-32) \times 30 \times ·001 = ·066$, to be subtracted from 30 inches. In order to find the value of this correction, a thermometer must be attached to the barometer and observed at the same time. *Cause of the variations of the B.*—Various theories have been proposed to account for those frequent atmospherical changes which cause the rise and fall of the *B.*, but none of them can be regarded as very satisfactory. Whatever tends to increase or diminish the vertical pressure will obviously cause the *B.* to rise or fall: but the vertical pressure may be increased either by an influx of winds and the accumulation of air at any place, or by a diminution of the elasticity of the atmosphere. The presence of heat or of moisture augments the elasticity, and consequently reduces the weight of the vertical column. During the prevalence of northerly and easterly winds the *B.* stands high, the elasticity being diminished by the cold. But the real difficulty consists in explaining why the variations of the *B.* should be greater in the high latitudes than between the tropics, and why they should exceed in all cases the quantities which calculation might assign. The only mode, perhaps, of removing the difficulty is to take into consideration the comparative slowness with which any force is propagated through the vast body of the atmosphere. An inequality may continue to accumulate in one spot before the counterbalancing influence of the distant portions of the aërial influence can arrive to modify the result. In the higher latitudes, the narrow circle of air may be considered as in some measure insulated from the expanded ocean of atmosphere; and hence, perhaps, the variations of the *B.* are concentrated there, and swelled beyond the due proportion.—*Uses of the Barometer.* The *B.* is an instrument of great importance in astronomy, its indications forming an essential element in determining the amount of atmospheric refraction. It is also, on account of its application to the measurement of altitudes, indispensable in all researches connected with the climate. The purpose for which it is most commonly sought after, is to prognosticate the state of the weather. On land

this is perhaps the least important of its applications, but the case is widely different at sea. — No certain rules can be laid down for prognosticating the state of the weather from the *B.* The following are probably of as general application as any that can be given. It is always to be remembered that what the *B.* actually shows is the present pressure of the atmosphere; and that its variations correspond to atmospherical changes which have already taken place, the effects of which may follow their cause at a greator or less interval. — 1. After a continuance of dry weather, if the *B.* begins to fall slowly and steadily, rain will certainly ensue; but if the fine weather has been of long duration, the mercury may fall for two or three days before any perceptible change takes place, and the more time elapses before the rain comes, the longer the wet weather is likely to last. — 2. Conversely, if after a great deal of wet weather, with the *B.* below its mean height, the mercury begins to rise steadily and slowly, fine weather will come, though two or three wet days may first elapse; and the fine weather will be more permanent in proportion to the length of time that passes before the perceptible change takes place. — 3. On either of the two foregoing suppositions, if the change immediately ensues on the motion of the mercury, the change will not be permanent. — 4. If the *B.* rises slowly and steadily for two days together or more, fine weather will come, though for those two days it may rain incessantly, and the reverse; but if the *B.* rises for two days or more during rain, and then on the appearance of fine weather begins to fall again, that fine weather will be very transient, and *vice versâ*. — 5. A sudden fall of the *B.* in the spring or autumn indicates wind; in the summer, during very hot weather, a thunderstorm may be expected; in winter, a sudden fall, after frost of some continuance, indicates a change of wind, with thaw and rain; but in a continued frost, a rise of the mercury indicates approaching snow. — 6. No rapid fluctuations of the *B.* are to be interpreted as indicating either dry or wet weather of any continuance; it is only the slow, steady, and continued rise or fall that is to be attended to in this respect. 7. A rise of the mercury late in the autumn, after a long continuance of wet and windy weather, generally indicates a change of wind to the northern quarters, and the approach of frost. — There are many forms of the mercurial *B.*, but they are all modifications of the siphon and cistern, therefore scientifically unimportant. — After the description and appliances of the mercurial *B.*, we will now describe, after the late Mr. James W. Queen, the *Aneroid B.*, an instrument which was invented by M. Viti, of Paris, for ascertaining the variations of the atmosphere without the use of any liquid. Its action depends on the effect produced by the pressure of the atmosphere on a metallic box, from which the air has been exhausted and then hermetically sealed. An index, traversing a dial, records the changes in the weight or *pressure* of the atmosphere on a *given* surface — we will suppose a square inch. Though for purely scientific purposes the aneroid is at present far removed from competition with the mercurial *B.*, it nevertheless has some advantages in its extreme sensibility and its portability. Much has been urged against its variations from temperature; in a range from 20° to 80°, these seldom exceed a tenth of an inch; and it must be borne in mind, that, if the mercurial *B.* be subjected to the same range, it will be equally affected; only in the latter case the cause of the variation is satisfactorily established, and its exact amount for every degree of temperature accurately determined. From the circumstance of gas being (perhaps for the first time) introduced into an instrument, with a view to effect a correction for variable temperatures, and from its being an invisible agent, a short explanation may be required in verification of its being adequate to produce the results asserted. Even at the present time, no table has been calculated in order to show the loss sustained by elastic bodies when in a state of tension. Perhaps no instrument, although made for the express purpose, could exhibit an experiment more satisfactory for the proof of this point than the aneroid. We are enabled to use it as a pyrometer by applying the heat of a lighted taper to the spring S, (*Fig.* 295,) without communicating that heat to the vacuum vase. A table of direct expansion would cause us to conclude that, as the spring S would, on being heated, become longer, it would raise the lever, C, higher; but the experiment above adverted to produces a contrary result, (for the spring, S, losing its elastic power through heat, is forced down by the atmospheric pressure on the vacuum-vase,) and proves that the loss of elastic force is greater than that of direct expansion. The hand of the aneroid indicates this, by moving toward the right, or "Set Fair." We might further suppose that an increase of heat, expanding the metal of which the vacuum-vase was made, would proportionately increase its capacity; whereas, the contrary is actually the case; — a conclusion which is proved by heating the vacuum-vase alone. It must be admitted that the metal diaphragms have become both larger and weaker by an increase of temperature, whence the capacity of the vacuum-vase would be rendered greater; but it must be also remembered, that the atmospheric pressure on the surfaces, amounting to a force of 44 lbs., brings the upper and lower diaphragms, thus weakened by heat, closer together, so that the cavity of the vacuum-vase has in fact become smaller. This brings us to the subject of compensation accomplished by gas. On the capacity of the vacuum-vase being diminished by heat, as has been just shown, the gas contained within it is, by the same cause, expanded; and resisting the compressing force of the atmospheric weight upon the diaphragms, keeps them separated at a due distance, and effects the compensation. — The atmospheric pressure being about 15 lbs. to the square inch, and the vacuum-vase being 2½ inches in diameter, this surface gives for its product a pressure of about 73 lbs. on the vase; though from many causes this amount of atmospheric pressure is considerably reduced. In order to ascertain the actual weight produced by the atmosphere upon the surface of the vacuum-vase, recourse was had to an experiment affording positive demonstration. The hook of a steelyard, or spring weighing machine, was attached to the upper part of the vase by the pin K, and, on being pulled up to the point parallel to the top of the vase, showed the weight of 44 lbs.; which is, therefore, proved to be the force by which the lever C is kept on its fulcrums, B B, and on the top of the spring S. — It is hoped that the principle of the aneroid has, from the foregoing explanations, been made sufficiently intelligible; and, if so, it will be an easy task to describe the remainder of the mechanism. We will now refer to the perspective drawing of the interior of the machine: — D D, vacuum-vase; C C, lever, to the end of which is attached a vertical *rod*, 1, which merely serves to connect the lever, C C, with the levers 2 and 3. These levers are connected by a bow-piece, 4. The two square-headed screws at *e b* admit, by screwing or unscrewing them, such an alteration of the distance of leverage, as to allow the hand of the aneroid to move over a space corresponding with the scale of a standard mercurial barometer. To the end of the lever, 3, is attached a light rod, terminating with a piece of fine watch-chain, which is attached to a small roller. On the axis of this roller the hand of the aneroid is firmly fixed, and kept in its position by means of a flat spiral spring, the outer coil of which is seen attached

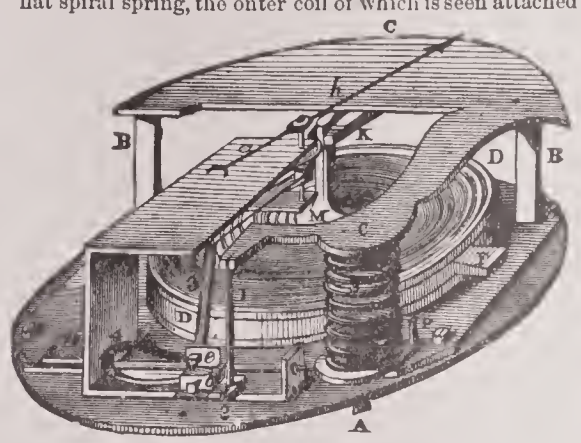


Fig. 295. — ANEROID BAROMETER.

to the axis. This flat spiral spring, which is always in a state of tension, maintains a pressure against the force of the levers, and keeps the hand of the aneroid in obedience to the indications of the vacuum-vase. Were it not for this spring, the hand, *h*, would remain stationary at the point to which it had been propelled.

Barometʹric, Barometʹrical, *a.* Pertaining or relating to the barometer.

Barometʹrically, *adv.* By means of a barometer.

Barometʹrograph, *n.* [Gr. *baros*, weight, *metron*, measure, and *graphein*, to write.] An instrument for self-inscribing, upon paper, the variations of atmospheric pressure, obtained from minute to minute. In this newly invented contrivance, the records are continuous and comparable, and are produced by the variations of the *aneroid barometer*. The pressure of the atmosphere affects four metallic boxes, having their upper and under faces undulated; a vacuum is made in each of them separately, and they are attached together in one series, so that for an equivalent of pressure the movement is four times greater than it is for one box only. A very strong flat steel spring acts upon the barometric boxes in an opposite direction to the atmospheric pressure. This spring controls the indicating lever by means of a connector, which receives the action from the extremity of the spring, and communicates it to the lever at a point very close to its axis, whence it follows that a considerable multiplication of movements is the result. The indications of the movements of the lever are registered in the following simple manner: a cylinder is revolved by the regular movement of an ordinary pendulum timepiece; it makes a complete revolution in one week, and carries a glazed paper, which has been smoked black by means of a candle. At the extremity of a lever is a very fine spring, pointed at the end, which rests upon the cylinder and traces a white line upon the black ground. At the end of each week the paper is changed for a fresh one, the old one being prevented from having its record destroyed by being coated with varnish. The barometrical arrangement of this instrument is far less liable to error than the ordinary aneroid, where so many movements and accessories are required to translate the changes of the barometric box to the indicating needle on the face of the instrument.

Barʹometz, *n.* (*Bot.*) See CIBOTIUM.

Barʹon, *n.* [Fr. *baron*; A. S. *baron, beorn*; O. Fr. *ber*; Provençal, *bar*.] (*Her.*) In the feudal system of the Middle Ages, the title *B.*, derived from the Latin *varo*, which signifies a *man*, and, sometimes, a *servant*, was given, at first, to the immediate tenant of any superior. In old records, the citizens of London are so styled. The family of Montmorency, in France, called themselves, *premiers barons de la Chrétienté*. This title was introduced by William the Conqueror into England, from Normandy, and used to signify an immediate vassal of the crown, who had a seat and vote in the royal court and tribunals, and, subsequently, in the house of peers. It was the second rank of nobility, until dukes and marquises were introduced, and placed above the earls, and viscounts also set above the barons. In Germany, the ancient barons of the empire were the immediate vassals of the crown. They appeared in the imperial court and diet, and belonged to the high nobility. But these ancient feudatories were early elevated to the rank of counts or princes. The modern barons only form a rank of lower nobility after the counts. — In England, *B.* is the lowest grade of rank in the House of Lords. The coronation robes of a *B.* differ from those of the other peers in having but two rows of spots on the mantle; and the parliamentary robes, in having but two guards of white fur, with rows of gold lace. The right of wearing a coronet was first conferred on *B.* by Charles II. It is adorned with 6 pearls, set at equal distances, of which 4 are usually shown. A *B.* is styled "Right Honorable," and his children enjoy the prefix of "Honorable." — In England, too, the four puisne judges of the Court of Exchequer bear the title of baron, and the chief judge that of *Lord Chief Baron of the Exchequer*. They are addressed as "My Lord," but have no seat in the House of Lords, unless by being previously made a member of the peerage. — *Barons of the Cinque Ports*. Formerly members of the House of Commons, elected, two for each, by the seven Cinque Ports, *q. v.*

Baron and Femme. (*Law.*) A term used in the old English law-books for husband and wife.

Baron of beef. (*Cookery.*) Two sirloins of beef joined together by a part of the backbone.

Baron, MICHEL, (*baʹrong,*) a French comedian, B. 1653, and long attached to Molière's company. For nearly 30 years he played with the greatest success, and retired from the stage, in 1691, without any apparent reason. In 1720, however, he again returned, and was received with immense enthusiasm, playing, with great success, even the most youthful parts. In 1729 he was taken ill, while on the boards, and died shortly after. Although his merit in his profession was very great, yet his vanity was equal. This will appear from a saying of his, "That once in a century we might see a Cæsar, but that 2,000 years were not sufficient to produce a Baron;" and he was about to refuse the pension granted him by Louis XIV., because the order for it was worded, "Pay to the within-named Michael Boyrun, called *Baron*," &c. He wrote also some plays, printed in 3 volumes after his death.

Barʹonage, *n.* [Fr. *baronnage*.] (*Her.*) The whole body of barons or peers. — The dignity or estate of a baron. — The land from which a baron derives his title.

Barʹoness, *n.* (*Her.*) A baron's wife or lady.

Barʹonet, *n.* (*Her.*) Literally, "a little baron;" specifically, a dignity or degree of honor next below a baron, and above a knight. They bear the prefix "Sir" before their name, and the term *Bart.* (contraction of baronet) as a postfix; as, "Sir Walter Scott, *Bart.*;" their wives are styled *Lady*, or *Dame*. This dignity differs from that of a knight, inasmuch as the title is hereditary, while that of the latter rank exists only for one person's lifetime. The order of *B.* was instituted, or, as some assert, adopted, because the title existed previously in Ireland, by James I., in 1611. The rank of *B.* exists but in Great Britain. It is the lowest of the hereditary titles; but a *B.* has no robes, coronet, or distinctive badge whatever, except in the case of Scottish *B.*, who, in 1629, were granted the privilege of wearing an orange riband and badge.

Barʹonetage, *n.* The collective body of baronets.

Barʹonetcy, *n.* The condition or rank of a baronet.

Baroʹnial, *a.* Pertaining to a baron.

Baronius, CESARE, (*bă-roʹne-us,*) an Italian cardinal, B. 1538. He was elected Superior-General of the order of the Oratory in 1583, and became librarian of the Vatican and confessor of Clement VIII. His great work is the *Annales Ecclesiastici*, in 12 vols. folio: a work of immense research, which occupied him 30 years, and has passed through many editions. D. 1607.

Barʹons' War. (*Hist.*) The name given to an internecine war in England, which originated in the refusal of Henry III. to ratify the statutes enacted at Oxford, in the "Mad Parliament," June 11, 1258. The matter was referred to the arbitration of Louis IX. of France, who decided, at a council held at Amiens, that the statutes should be annulled 23d Jan., 1264. The barons, with Simon De Montfort at their head, took up arms, and totally defeated the king at Lewes, May 14th. A parliament assembled at London, 20th Jan., 1265. Disputes arose among the barons, and a second great battle was fought at Evesham, 4th Aug., in the same year, in which the king was victorious, and De Montfort slain. The barons, who continued to oppose the royal authority, took refuge in Kenilworth Castle, but were compelled by famine to surrender, in Nov., 1266. The war was still carried on, and Prince Edward (afterwards Edward I.) reduced the Isle of Ely, their last stronghold, 25th July, 1269.

Barʹony, *n.* [Fr. *baronnie*.] The lordship, honor, or fee of a baron. A territorial division in Ireland, synonymous with the English *hundred, rape*, or *wapentake*; and the U. States *county*.

Barʹoscope, *n.* [Fr. *baroscope*, from Gr. *baros*, weight, and *skopein*, to view.] An instrument to show the weight of the atmosphere; a barometer; a weather-glass.

Baroscopʹic, Baroscopʹical, *a.* Belonging to, or determined by, the baroscope.

Baroselʹenite, *n.* [Gr. *baros*, weight, and *selene*, lustre.] (*Min.*) A native sulphate of baryta, or heavy spar.

Barosʹma, *n.* (*Bot.*) A gen. of plants, ord. *Rutaceæ*. The leaves of several species, such as *B. crenata, crenulata*, and *serratifolia*, are used in medicine for their aromatic, stimulant, antispasmodic, and diuretic properties.

The plants yielding them are natives of the Cape of Good Hope, and are known in commerce as Buchu-leaves. They contain a peculiar bitter principle called *Diosmin* or *Barosmin*, and a powerfully scented volatile oil.

Barouche, (*ba-rōōsh'*,) *n.* [Fr. *barouche;* Ger. *barutsche;* Lat. *birotus* — *bis*, double, and *rota*, a wheel.] Originally, a two-wheeled carriage; now used to denote a four-wheeled carriage, with a falling top and seats, as in a coach.

Barouchet, (*ba-rōō-sha'*,) *n.* A description of light barouche.

Baroz'zio, JACOPO. See VIGNOLA.

Bar'-post, *n.* A post placed in the ground to hold the bars of an entrance into a field.

Barque, *n.* (*Naut.*) See BARK.

Barquesimeto, (*bar'kais-e-mā'to,*) a town of South America, in Venezuela, 92 m. W.S.W. of Valencia, and 90 m. N.E. of Truxillo. Lat. 9° 55′ N.; Lon. 69° 25′ W. In 1807, it contained 15,000 inhabitants; but it suffered severely from the terrible earthquake of 1812, which scarcely left a house entire, and buried 1,500 people in the ruins.

Barr, in *Indiana*, a flourishing township of Daviess county.

Bar'ra, *n.* (*Com.*) A Portuguese measure of length less than a yard.

Bar'ra, one of the Hebrides islands on the N.W. coast of Scotland, being the most S. of the outer Hebrides, or group forming what is called the Long Islaud; *pop.* about 2,000. — See HEBRIDES.

Bar'ra, a town of S. Italy, 3 m. from Naples, and filled with villas belonging to the residents of that city; *pop.* 8,993.

Barraboo', or **Baraboo',** in *Wisconsin*, a river rising in the N.W. portion of Sauk co., and falling into the Wisconsin River, a short distance below Portage city.

Barraboo', in *Wisconsin*, a post-township of Sauk county.

Bar'racan, *n.* [Fr. *barracan*, or *bouracan;* L. Lat. *barracanus;* Ar. *barrakān.*] (*Com.*) A strong thick stuff resembling camlet, used for exterior clothing.

Bar'rack, *n.* [Fr. *baraque;* obs. Gael. *barrachd*, a hut or booth, from *barrach*, top branches of trees.] A cabin, booth, or hut; specifically, a building for lodging soldiers, especially when in garrison. (Chiefly used in the plural.)

—In the U. States, this name is applied to the Dutch barn or out building, with a movable roof, for storing hay or grain. — See BARN.

Bar'rack-master, *n.* A title given in England to the superintendent of soldiers' lodgings.

Barrackpoor', a seat of the British governor-general of India, and a military cantonment, in a beautiful and healthy spot, on the E. bank of the Hooghly, 16 m. N. of Calcutta. There is here a noble park, four miles in circumference, laid out in the European style, with gardens, an aviary, and a menagerie.

Bar'racksville, in *W. Virginia*, a post-village of Marion co., 70 m. S.E. of Wheeling, on the Baltimore and Ohio railroad.

Bar'raclade, *n.* [Dn. *baar:* O. Dn. *baer*, naked, bare, and *p eail*, garment, *i. e.* cloths undressed or without a nap.] (*Com.*) A home-made woollen blanket without nap.

Barracoon', *n.* [Sp. *barraca.*] A depôt or warehouse for slaves, or an enclosed yard for the keeping of slaves before shipment. (Used principally on the W. coast of Africa.)

Barracon'ta, *n.* (*Zoöl.*) A large species of pike, inhabiting the W. India seas.

Bar'rage, *n.* (*Com.*) A linen stuff interwoven with worsted flowers.

Bar'randite, *n.* (*Min.*) A spheroidal mineral, concentric in structure. Lustre between vitreous and greasy. Color pale-blnish, reddish, greenish, or yellowish-gray. Streak yellowish to bluish-white. Translucent to opaque. *Comp.* Phosphoric acid 40·63, alumina 12·61, sesquioxide of iron 26·16, water 20·60 = 100. B.B. splits open and becomes darker in color; moistened with sulphuric acid, tho flame blnish-green. It is soluble in hot mnriatic acid. It is found in Bohemia.

Bar'ras, PAUL FRANÇOIS JEAN NICOLAS, COMTE DE, B. in Provence, 1755, of an ancient family, served as second lieutenant in tho regiment of Languedoc until 1775. He made, about this time, a voyage to the Isle-de-France, the governor of which was one of his relations, and entered into the garrison of Pondicherry. On his return, he gave himself np to gambling and women, and dissipated his fortune. The revolntion broke out. He immediately showed himself an opponent of the court, and had a seat in the *tiers-état*, while his brother was sitting in that of the nobility. July 14, 1789, he took part in the attack upon the Bastille, and Aug. 10, 1792, upon the Tuileries. In 1792 he was elected a member of the National Convention, and voted for the unconditional death of Louis XVI. He was sent, in 1793, to the south of France, and commanded the left wing of the besieging army under Dugommier, and it was here that he first met Napoleon Bonaparte, then captain of artillery. The patriotic reputation of *B.* was so well established, that he and Fréron were the only representatives not denounced by the popular societies. Robespierre, however, was no friend of his, and often wished to arrest him. *B.*, knowing this, became one of the principal actors of the 9th Thermidor, and put himself at the head of the troops which surrounded Robespierre at the Hôtel de Ville. In 1794 he was named one of the "Committee of Public Safety," and became a great enemy to the members of the Mountain. In February, 1795, he was elected president of the Convention, and, in that capacity, declared Paris in a state of siege, when the assembly was attacked by the populace. Afterwards, when the Convention was assailed, Bonaparte, by *B.*'s advice, was appointed to command the artillery; and that general, on the 13th Vendémiaire (Oct. 5, 1795), decisively repressed the royalist movement. For his services, *B.* was now named one of the Directory, and took a prominent part in the changes which that body underwent until Napoleon's *coup d'état* on the 18th Brumaire (Nov. 9, 1799), which effectually overthrew the power of *B.* and his colleagues. His life, from this date, was, generally speaking, one of retirement. He died in Paris, 1829. Napoleon said of him: "The passion with which he spoke would make one imagine he was a resolute, determined man; but he was not so, — he had no decided opinion on any subject connected with government."

Bar'rator, *n.* [O. Fr. *barat*, deceit, cozenage; Icel. *baratta*, a contest.] An encourager of litigation or law-suits: a wrangler.

"To turn *barrator* in thy old days, a stirrer-up of quarrels amongst thy neighbours." — *Arbuthnot.*

(*Marit.*) A ship-master who is guilty of fraud in the management of a ship, to the injury of his owners and underwriters; one who makes away with a ship.

(*Scots Law.*) A judge who accepts a bribe for uttering judgment.

Bar'ratous, *a.* (*Law.*) Tainted with barratry.

Bar'ratously, *adv.* (*Law.*) In a barratrous method.

Bar'ratry, *n.* [Fr. *baratterie.*] (*Law.*) The offence of *frequently* inciting and stirring up suits and quarrels, either by law or otherwise; the punishment for which is fine and imprisonment.

(*Mar. Law.*) An unlawful or fraudulent act, or very gross and culpable negligence, of the master or mariners of a vessel in violation of their duty, and directly prejudicial to the owner.

Barre', ISAAC, b. 1726; d. 1802. A British colonel and member of Parliament (1761–90), famous for his opposition to the Stamp Act and North's American policy.

Bar're, in *Massachusetts*, a post-township of Worcester co., 55 m. W. of Boston, drained by the Ware River. It is a prosperous place, possessing important cotton and woollen manufactures, &c.

Barre, in *New York*, a township of Orleans co., 44 m. N.E. of Buffalo.

Barre, in *Pennsylvania*, a township of Huntingdon county.

Barre, in *Vermont*, a post-township of Washington co., 6 m. S. by E. of Montpelier, and watered by affluents of the Onion River.

Barre, or **Bar'ree,** in *Wisconsin*, a township of La Crosse co., about 7 m. N.E. of La Crosse.

Barre Centre, in *New York*, a post-village of Barre township, Orleans co., 254 m. W. by N. of Albany.

Barre Forge, in *Pennsylvania*, a post-office of Huntingdon co.

Barre Mills, in *Wisconsin*, a village of La Crosse co.

Barre'ah, a town of Hindostan, prov. Gujerat, cap. of a small independent principality, 75 m. E.N.E. of Cambay; Lat. 22° 44′ N.; Lon. 74° E.

Barreau', *n.* [Fr.] (*French Law.*) The name given to the class of advocates, admitted to plead at the bar. The *B.* of Paris selects every year from among its members a council, and a president called *bâtonnier*, which are tho ruling spirits of tho corporation. The rules are established by the vote of the council and enforced by it, under the control of the presiding officer. The rules affecting the French advocates are very strict, and not easily evaded. Not only swindling, or any other criminal act, is punished, but every unprofessional and illegal action is severely dealt with. Hence an advocate who indulges in any commercial speculation would incur tho penalty of a public admonition, or exclusion. The title and dignity of the member of the council of the order of advocates is held in high esteem, and is the aim of tho most talented and ambitious lawyers.

Barreges'. See BARÈGES.

Bar'rel, *n.* [W and Fr. *baril;* It. *barile;* Sp. *barril;* Gael. *baraill*, from W. *bar*, a bar, a rail.] A round wooden cask protected or secured by bars or hoops.—The quantity which a barrel holds. — Of wine measure, the English barrel contains 31½ gallons; of beer measure, 36; of ale, 32: and of vinegar, 34 gallons.

—Anything long and hollow; a cylinder; a tube; as the *barrel* of a gun.

Barrel of a Boiler. (*Mach.*) The cylindrical part of a boiler which contains the flues.

Barrel of the Ear. (*Anat.*) See TYMPANUM.

Bar'rel, *v. a.* To put in a barrel; to pack in a barrel.

Bar'rel-bellied, *a.* Having a large belly.

Bar'rel-bulk, *n.* (*Com.*) A measure used in estimating capacity, as of a vessel for freight; equal to 5 cubic feet.

Bar'rel-or'gan, *n.* (*Mus.*) The common hand-organ, containing a barrel with pins, whose revolution opens the key-valves, and produces the music.

Bar'ren, *a.* [Goth. *ohairan*, unbearing: O. Fr. *baraigne, brehaigne*, unfruitful; from Celt. *brah*, a spout, and *anc*, without.] Not bearing; unfruitful; unprolific; applied to animals and plants. — Unproductive: sterile: as, a *barren* country, a *barren* ground. — Scanty; dull; unmeaning; as, *barren* reveries, *barren* ignorance.

Bar'ren, *n.; pl.* BAR'RENS. A term applied in the W. and S. of the U. States to elevated lands or plains on which grow small trees, but not timber; as pine-*barrens*, oak-*barrens*. They are not necessarily sterile, but often very fertile.

Bar'ren, in *Indiana*, a post-village of Harrison co.

Bar'ren, in *Kentucky*, a S. county, with an area of abt. 100 sq. m. *Surface*, undulating and hilly, with a tolerably fertile soil. Sulphur and salt springs are numerous throughout the county. *Cap.*, Glasgow. *Population* in 1895, 21,424.

Bar'ren, in *Tennessee*, a post-village of Williamson co.

Bar'ren, or **Big Barren River,** in *Tennessee*, rises in Smith and Jackson counties, in the N. of the State. Traversing Kentucky, it takes a course W. and N.W. until it enters Greene River (after a course of 100 m.) in the N.W. end of Warren co. It is navigable for steamers up to Bowling Green, a distance of 30 m.

Bar'ren Creek Springs, in *Maryland*, a district of Wicomico co.

Bar'ren Hill, in *Pennsylvania*, a village of Montgomery co.

Bar'ren Island, an island in the Bay of Bengal, E. of the Andaman islands, with a volcanic mountain, 1,848 feet high, which is frequently in eruption.

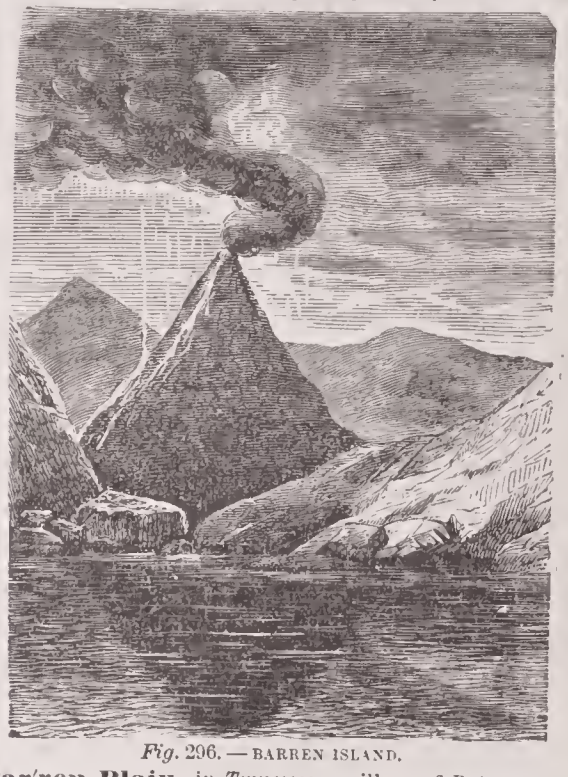


Fig. 296. — BARREN ISLAND.

Bar'ren Plain, in *Tennessee*, a village of Robertson co., 32 m. from Nashville.

Bar're Plains, in *Massachusetts*, a village of Worcester co.

Bar'renly, *adv.* Unfruitfully; unproductively.

Bar'renness, *n.* The state or quality of being barren, unprolific, or unfruitful; want of offspring; without the power of procreation.

"I pray'd for children, and thought *barrenness*
In wedlock a reproach." — *Milton.*

—Scantiness; lack of matter; want of resources; incapacity.

"Though the accidents are not the same, which would have argued him of a total *barrenness* of invention." — *Dryden.*

—Defect or poverty of emotion, feeling, or sensibility.

"The greatest saints sometimes are fervent, and sometimes feel a *barrenness* of devotion." — *Bishop Taylor.*

Bar'ren-spir'ited, *a.* Having a poor spirit.

Bar'ren-wort, *n.* (*Bot.*) The popular name of the genus EPIMEDIUM.

Bar'ret, or **Bar'ret-cap,** *n.* [Fr. *barrette;* It. *berretta:* L. Lat. *barretum.*] (*Mil.*) A kind of cap, or headpiece, formerly worn by soldiers.

Bar'retsville, in *Georgia*, a village of Lumpkin co., 110 m. N.N.W of Milledgeville.

Bar'rett, in *Pennsylvania*, a township of Monroe county.

Bar'rett, in *Kansas*, a post-village of Marshall co.

Bar'rett's Station, in *Missouri*, a post-office of St. Louis co.

Bar'rettsville, in *West Virginia*, a village of Hampshire co.

Bar'reville, in *Illinois*, a post-village of McHenry co., 46 m. N.W. of Chicago.

Bar'ri, or **Bar'ry,** GIRALDUS. See GIRALDUS CAMBRENSIS.

Barricade, (*băr-re-kaid'*,) *n.* [Fr. *barricade*, from *barre*, a bar.] That which bars out, blocks up, obstructs, or defends.

"There must be such a *barricade* as would greatly annoy, or absolutely stop, the currents of the atmosphere."—*Derham.*

(*Mil.*) A hastily constructed fortification, made of *chevaux-de-frise*, trees, earth, stones, &c., in order to obstruct the progress of an enemy.

(*Mar.*) A strong wooden railing, fixed on stanchions, extending across the front of the quarter-deck of a ship of war, during a naval engagement. A *B.* is sometimes strengthened with a lining of hammocks, &c., confined in a close rope-netting, to serve as a screen against musketry.

(*Hist.*) Barricades, constructed of the first materials that came to hand, were used in popular insurrections during the Middle Ages. Paris has obtained notoriety as the city in which they have been most frequently employed. In 1358, its streets were barricaded against the Dauphin. The first "Battle of the Barricades" took place on the entry of the Duke of Guise into Paris, 12th

May, 1588.—It was followed, during the war of the Fronde, by another contest of a somewhat similar character, 26th Aug., 1648, when Anne of Austria ordered the arrest of three popular members of the Parliament.—In July, 1830, the elder branch of the Bourbons, and in Feb., 1848, the Orleans branch of the same family, were driven from the French throne, after a struggle at the barricades. General Cavaignac, in defence of the Provisional Government, waged a fearful contest with the insurgents, who had erected barricades, 23d, 24th, 25th, and 26th June, 1848, in which he was at length victorious. The killed and wounded amounted to 15,000, and about 8,000 of the rebels were taken prisoners. The recurrence of such events in the French capital has now been rendered well-nigh impossible by the widening of the narrow streets, alleys &c.—Barricades have also been erected, during popular outbreaks, at Berlin, Vienna, and other cities on the continent of Europe.

Barricade', *v. a.* To temporarily fortify a place or passage; to stop up an avenue; to obstruct; to secure.

"Now all the pavement sounds with trampling feet,
And the mixt hurry *barricades* the street."—*Gay.*

Barricad'er, *n.* A person who erects a barricade.

Bar'rie, in prov. of Ontario, a flourishing town, cap. of Simcoe co., on a branch of Lake Simcoe, 64 m. N.N.W. of Toronto.

Barrier, (*băr're-ur,*) *n.* [Fr. *barrière;* from *barre,* a bar.] (*Fort.*) A sort of palisade, or stockade, to fence in any place, and obstruct the assaults of an enemy; a barricade.

"Safe in the love of heav'n, an ocean flows
Around our realm, a *barrier* from the foes."—*Pope.*

—A fortress, or other strong place, erected on the frontier of a country.

"The Queen is guarantee of the Dutch, having possession of the *barrier.*"—*Swift.*

—That which bars, obstructs, defends; any defence or impediment to approach or attack.—A bar to denote a limit, or line of separation of any place; a bounday.

"Pris'ners to the pillar bound,
At either *barrier* plac'd."—*Dryden.*

Bar'rier Gate, the gate which closes the opening through a barrier.

Bar'rier Reef, (THE GREAT,) a very remarkable and dangerous coral-reef, extending like a sea-wall, or rampart, for 1200 miles along the N. and E. coast of Australia, and lying at an average distance of 60 miles from the land. A few openings and passages occur, here and there, along the dangerous continuity; but the navigation through these openings is very hazardous, though, once inside the reef, the water is calm, and the passage perfectly clear. This coral-chain has been very disastrous to the mariner, and much property and many lives have been lost on its sharp obstructions.

Bar'riers, (BATTLE OF THE,) was fought under the walls of Paris, 30th March, 1814, when the allied army, after an obstinate contest, gained a victory which led to the capitulation of Paris, and the abdication of Napoleon I.

Bar'ring-out, *n.* An act of boyish rebellion in schools, wherein the school-room doors are barred or closed against a schoolmaster or usher.

Bar'rington, in *Illinois,* a post-township of Cook co., 35 m. N.W. of Chicago.

Bar'rington, in *New Hampshire,* a post-township of Stafford co., 30 m. E. of Concord.

Bar'rington, in *New York,* a post-township of Yates co., on Crooked Lake, 54 miles S.E. of the city of Rochester.

Bar'rington, in *Rhode Island,* a post-township of Bristol co., 8 m. S.E. of Providence, and watered by Palmer's River.

Bar'rington Centre, in *Rhode Island,* a post-office of Bristol co.

Barringto'nia, *n.* (*Bot.*) A genus of plants, ord. *Barringtoniaceæ,* consisting of small trees conspicuous for their beauty. *B. speciosa,* the Moordilla, a native of Ceylon, has dark, glossy leaves, and white flowers delicately tinted with crimson.

Barringtoniaceæ, (*băr-ring-to-ni-ai'se-e,*) an order of plants, alliance *Grossales.* This small order, including only 28 species divided in 10 genera, so much resembles the *Myrtaceæ,* q. v., that some botanists place them in this last order. The fruit of the *Carega arborea* is edible; while that of the *Gustava braziliana* is emetic, and produces an intoxicating effect upon fish.

Bar'rister, *n.* [From BAR, q. v.] In England, an advocate or counsellor-at-law, who has been admitted to plead at the bar. The privilege of conferring the rank or degree of *barrister-at-law* is exclusively enjoyed by the Inns of Court, which are the Inner Temple, the Middle Temple, Lincoln's Inn, and Gray's Inn. The possession of this rank (or of the higher degree of *serjeant*) constitutes an indispensable qualification for practising. In the U. States, the degree of *B.,* though not formally abolished, has for a long time fallen into disuse.

Bar'rot, ODILLON. See ODILLON BARROT.

Bar'row, a river of Ireland, and, next to the Shannon, the most important in that island. It rises in the Slievebloom Mountains, in Queen's co., and after a course of about 90 m., falls into the estuary of Waterford harbor, of which it forms the right arm. It is navigable for large ships as far as New Ross, and for barges up to Athy, 60 m. from the sea.

Bar'row, ISAAC, D.D., F.R.S. An eminent English mathematician and divine, B. 1630. In 1760, he was appointed Master of Trinity College, in Cambridge University, on which occasion William III. said that he had given that office to the most learned man in England. *B.* was noted for his wit, as well as learning. On one occasion at court, he met the witty, but profane, Lord Rochester, *q. v.,* who thus banteringly accosted him, "Doctor, I am yours to my shoe-tie." *B.* seeing his drift, ceremoniously returned his salute with, "My lord, I am yours to the ground." Rochester replied, "Doctor, I am yours to the centre;" which was capped by *B.* with, "My lord, I am yours to the antipodes." Upon which Rochester, disdaining to be foiled by a musty old piece of divinity, as he used to call *B.,* exclaimed, "Doctor, I am yours to the lowest pit of h—l." On which, *B.,* turning on his heel, retorted, "There, my lord, I leave you."—Not only as a mathematician, but as a divine, *B.* ranks among the first of England's worthies. Among his works, we may mention *Lectiones Mathematicæ,* which are esteemed as perfect models in the hands of those who are attached to sound geometrical reasoning. The best edition of his theological works is that published at London, in 8 vols. 8vo. 1830. D. 1677.

Bar'row, SIR JOHN, LL.D., F.R.S., an eminent English author and traveller, B. 1764. His principal works are, *Travels in South Africa; Travels in China;* and *Voyages of Discovery and Research within the Arctic Regions.* D. in 1848.

Bar'row, *n.* [A.S. *berewe,* from *beran,* to bear, to carry.] A small vehicle which bears or carries a load; a small hand or wheel carriage; as, a hand-*barrow,* a wheel-*barrow.*

(*Salt Manuf.*) A wicker case into which the salt is put to drain.

—*n.* [Skr. *barâha, warâha,* a hog.] A hog, more particularly one that is castrated.

—*n.* [A.S. *beorg, beorh,* from *beorgan,* to shelter, to keep, to preserve.] A hill or hillock; a small mountain; a place of defence or refuge; a heap; a sepulchral mound.

(*Archæol.*) A name given to large artificial mounds of earth raised over the graves of warriors, and men of renown, in bygone ages. Barrows are considered to be the most ancient sepulchral monuments in the world.—See TUMULUS.

Bar'rowdale, in *South Carolina,* a village of Fairfield district, 25 m. N. of Columbia.

Bar'row's Straits, in British N. America, forms the connecting channel between Baffin's Bay on the E., and the Polar Sea on the W. It lies in a direction parallel to the equator, between Lat. 73° 45′ and 74° 40′ N., and is considered to terminate at Wellington Channel, in Lon. 91° 47′ W.; the mouth in Baffin's Bay being nearly on the 80th meridian. It is therefore about 200 m. in length from E. to W., and between 60 and 70 m. in average width. Both shores are broken by a great number of inlets; that of the Prince Regent, on the S., is of very considerable extent. It was found by Sir James Ross to terminate in a great gulf, called by him Boothia. The water of this strait is very deep, the soundings frequently giving upwards of 200 fathoms, and very often no bottom can be found.

Bar'rulet, *n.* (*Her.*) The fourth part of a bar.

Barr's Store, in *Ill.,* a twp. of Macoupin co.

Bar'ry, Bar'rulv, *n.* (*Her.*) The division of the field or charge by horizontal lines, as in *Fig.* 287.—*Barry-bendy* is when the shield is divided into four, six, or more

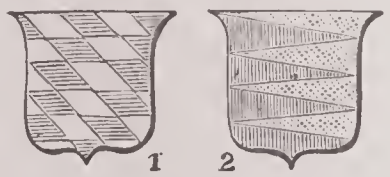


Fig. 297.

equal parts, by diagonal lines, the tincture of which it consists being varied interchangeably, (*Fig.* 297, 1.)—*Barry-pily* is when the shield is divided by diagonal lines, the colors being interchanged, (*Fig.* 297, 2.)

Bar'ry, SIR CHARLES, R.A., an eminent English architect, B. 1795. His principal work is the building of the Houses of Parliament, in London. This building has excited much controversy, and, also, hostile criticism. But whatever differences of opinion may exist as to its want of originality, or monotony of design, the great beauty of this magnificent pile is unquestionable. D. 1860.

Bar'ry, JAMES, a distinguished English painter, B. 1741. After holding for 15 years the professorship of the Royal Academy, he was expelled in consequence of disputes with the members. His principal work is a series of pictures painted in the Adelphi for the Society of Arts. They represent *Orpheus subduing the Thracians; A Greek Harvest-Home; Victors at Olympia; Triumph of the Thames,* &c. D. in poverty, 1806.

Bar'ry, MARIE JEANNE GOMARD DE VAUBERNIER, COMTESSE DU, the famous mistress of Louis XV., king of France, and daughter of a commissioner of the customs at Vaucouleurs, known as *Gomard de Vaubernier,* was born in 1746, and, after the death of her father, entered the service of a milliner at Paris; afterwards belonged to the establishment of the notorious Gourdan, where she was known by the name of *Mlle. Lange,* and became the mistress of the Count du Barry, who built high hopes upon her charms. He managed to make her known to the king, and she soon took the place of the Marchioness de Pompadour. The king deemed it necessary to find her a husband, and she fell to the lot of the Count Jean du Barry, a brother of the one above mentioned. The Countess du Barry was now publicly introduced at Court. She soon governed all France; caused the ruin of the Duke de Choiseul, whose haughty spirit would not bend before her; promoted the Duke d'Aiguillon, and assisted him to take revenge on the parliament, which was, in 1771, driven from Paris, and afterwards entirely suppressed. Yet we ought not to ascribe to her the evils of which she was only the instrument in the hands of intriguing counsellors. She herself loved pleasure more than intrigue. After the death of the king, she was banished to an abbey near Meaux, and, afterwards, received permission to reside in her beautiful pavilion near Marli. She lived quietly, during the revolution, until Robespierre's dominion. But her riches, and her connection with the Brissotists, caused her ruin. She was placed at the bar of the revolutionary tribunal, condemned to death, and executed, December 6, 1793.

Barry, JOHN, a Com. U.S.N., B. in Ireland, 1745, D. 1803.

Bar'ry, in *Ills.,* a thriving city of Pike co., 83 m. W. of Springfield; *pop.* (1897) about 1,600.

Bar'ry, in *Maryland* a post-office of Frederick co.

Bar'ry, in *Michigan,* a S.W. central county having an area of 576 sq. m. It is watered by the Thornapple river and by Fall and Muddy creeks. *Surface,* diversified and rolling; presenting many small lakes, prairies, and belts of forest timber. *Soil,* fertile. *Cap.* Hastings. *Pop.* in 1890, 23,783.

—A township of the above co.

—A village of Jackson co., on Sandstone Creek, 82 m. W. of Detroit, and 6 from Jackson.

Bar'ry, a S.S.W. co. of *Missouri,* touching Arkansas. has an area of 703 sq. m. *Rivers.* White and King's rivers, and Flat Creek. *Surface,* hilly, and interspersed with forest and prairie, with a generally productive soil. Limestone is abundant, and lead-mines exist. *Cap.* Cassville.

—A post-village of Clay co., 17 m. N.W. of Independence.

Bar'ry, in *Ohio,* a post-village of Cuyahoga co., 15 m. E.S.E. of Cleveland.

Bar'ry, in *Pennsylvania,* a post-township of Schuylkill co., 8 m. N.W. of Pottsville.

Bar'ryton, in *Alabama,* a village of Choctaw co., 133 m. S. by W. of Tuscaloosa, and near the Tombigbee River. It was formerly the cap. of Washington co.

Bar'rytown, in *New York,* a post-village and station on Hudson River Railroad, in Dutchess co., 50 m. S of Albany.

Bar'ryville, in *Iowa,* a post-office of Delaware co.

Bar'ryville, in *Michigan,* a post-office of Barry co.

Bar'ryville, in *New York,* a post-village of Sullivan co., 197 m. from New York city.

Bar'ryville, in *Ohio,* a post-village of Stark co., 130 m. N.E. of Columbus.

Bars, *n. pl.* (*Manege.*) The upper part of the gums, between the tusks and grinders, which bear no teeth, and to which the bit is applied, and by its friction the horse is governed.

Bar'sabas, JOSEPH, surnamed the "Just," was one of Christ's early disciples, and probably one of the seventy. He was one of the two candidates nominated to fill the vacancy left by Judas Iscariot in the apostleship. (*Acts* i.)

Bar'sac, a village of France, dep. Gironde, on the Garonne, 11 m. S.E. of Bordeaux. It is famous for its white wines; they are of the same class, and sell for about the same price as those of Sauterne. *Pop.* 3,284.

Barsa'nians, *n. pl.* (*Eccl. Hist.*) See SEMIDULITES.

Barse, *n.* (*Zoöl.*) See BASS.

Bar'-shoe, *n.* (*Farriery.*) A kind of horse-shoe, having a bar across the usual opening at the heel, to protect a tender frog from injury.

Bar'-shot, *n.* (*Mil.*) A double-headed shot, consisting of a bar with a half ball, or round head at each end, used, principally, in naval warfare for destroying the masts, spars, and rigging of an enemy's ship.

Bar-sur-Aube, (*bar'soor-ōbe,*) a town of France, dep. Aube, cap. of an arrond., on the river Aube, 28 m. E. of Troyes. It is pleasantly situated, but an ill-built town. *Manf.* Cotton, serges, and hosiery. The neighboring vineyards produce excellent white and red wines. An obstinate battle took place here on the 24th May, 1814, between the French under Mortier, and the Allies under Prince Schwartzenberg, ending in the repulse of the latter. *Pop.* 5,199.

Bar-sur-Seine, (*bar'soor-sain,*) a town of France, dep. of Aube, 18 m. from Troyes. *Manf.* Wine and brandy. *Pop.* 3,311. A severe engagement took place here on the 25th May, 1814, between Napoleon I. and the Allies.

Bart, JEAN, a celebrated French seaman, *B.* at Dunkerque, 1651. His father was a seaman, and was killed in a naval action. Jean, yet a boy, left home and went to Holland, where he served under the celebrated Admiral de Ruyter, and became a thorough seaman. Great courage, activity, and bodily strength, gave him the superiority over most of his comrades. When Louis XIV. declared war against Holland in 1672, *B.* refused the offers made to retain him in the Dutch service, and returned to Dunkerque. He there entered on board a privateer, which was very successful in its cruise, and much of the success was attributed to *B.* His share of the prizes having brought him a considerable sum of money, he fitted out a sloop, with two guns and thirty-six men, and having met a Dutch man-of-war in the Texel, he boarded, took, and brought her into Dunkerque. He next joined several speculators who fitted out a ten-gun ship, and gave him the command of it. Being equally successful in this cruise, he was intrusted with the command of a small squadron of five ships, with which he did great injury to the Dutch, taking both their merchantmen and their armed vessels; and among others a thirty-six gun frigate, which, after a desperate fight, he carried into Dunkerque. His name now became known at court, and Louis XIV. sent him a gold medal and chain, with the rank of lieutenant in the royal navy. In the war against Spain, *B.* had the command of a frigate in the Mediterranean, and made many prizes. When the war broke out between France and England in 1689, *B.* and the Chevalier de Forbin commanded two ships of

war; and while they were escorting a fleet of merchantmen, they were attacked by two English frigates. After a desperate fight, the two French ships were taken and carried into Plymouth. Bart and Forbin escaped soon after by filing the bars of the window of their prison; and, with the connivance of the surgeon, who was a Frenchman, and of two cabin-boys, who waited on them, they obtained a boat, in which they crossed over the Channel to France. On their return, the king made them both captains. In 1690, *B.* took the command of a forty-gun ship, and joined the Brest fleet under Admiral de Tourville; he contributed materially to the advantage obtained by the French, off Dieppe, over the English and Dutch allied squadrons, on the 10th July. The following year, *B.* obtained from the Minister of Marine the command of a squadron of small vessels, which he had recommended to be fitted out at Dunkerque, as better calculated to do injury to the enemy. He sailed out of Dunkerque, passing through the English blockading squadron, and went into the North Sea, where he made numerous prizes; he landed also on the coast of Scotland, where he plundered several villages. After the defeat of the French at the battle of La Hogue, at which he was not present, *B.* sailed from Dunkerque with three frigates, made a descent on the English coast near Newcastle, and plundered and burnt some villages. On his return homeward, he fell in with a Dutch fleet of merchantmen under convoy of several men-of-war. He made straight for the admiral's ship, according to his custom, but was repulsed; he, however, succeeded in taking many of the merchant-vessels. In 1694 he attacked another Dutch fleet under Rear-Admiral Vries, boarded the admiral's ship and took her, after having mortally wounded the admiral himself with his own hand. This was one of the most desperate fights in which *B.* was ever engaged. By this victory he recovered from the Dutch a fleet of 300 vessels laden with corn from the Baltic, and bound to France, which country was then suffering under a severe dearth. A medal was struck to commemorate this event, and Louis XIV. granted letters of nobility to *B.* and his descendants. In 1697 *B.* was commissioned to take to Poland the Prince of Conti, one of the candidates for the Polish crown, vacant by the death of John Sobieski; but the Elector of Saxony was proclaimed King of Poland before the Prince of Conti's arrival. The peace of Ryswick, in 1697, having put an end to the war, *B.* retired to live with his family. He D. at Dunkerque, 1702. He was one of the boldest and most successful seamen that France has ever produced. He was rough in his manners and illiterate, but clever, indefatigable, and frank in his disposition. His eldest son, François, became a vice-admiral, and died in 1755.

Bart, in *Pennsylvania*, a post-township of Lancaster co., 14 m. S.E. of Lancaster.

Bart'enstein, a town of Prussia, prov. E. Prussia, on the Alle, 34 m. S.E. of Königsberg; *pop.* 5,164.

Bar'ter, *n.* [O. Fr. *barator*; It. *barattare*.] Traffic by exchange of commodities; a trucking. — *B.* is the exchanging of one commodity directly for another, without the employment of money or any other medium of exchange. This is the usual mode of exchange among savage or uncivilized races, and it is likewise generally adopted by civilized nations in trading with savages; thus the traders with the North-American Indians purchase skins by bartering guns, powder, axes, and the like. The term seems to be derived from the Italian word *barattare*, which signifies to cheat as well as to barter. A system of *B.* can only exist in the earliest commercial state of a people; for as commercial intercourse extends, the necessity of a standard of value becomes apparent, not only to facilitate operations, but to prevent that species of over-reaching which necessarily attends *B.* The exchanges of a civilized people among themselves, or with other countries, are principally carried on by means of bills of exchange: so that the actual money payment in a country by no means represents the amount of its commercial transactions. In some parts of England, particularly in the mining districts, wages are paid in articles of consumption instead of money; and this is termed "trucking," from the French word *troc*, which signifies barter. It is, however, illegal.

—The thing given in exchange.

—*v. i.* To cheat or wrangle in bargaining; to exchange; to traffic by exchanging one commodity for another.

> "As if they scorn'd to trade and *barter*,
> By giving or by taking quarter."—*Hudibras.*

—*v. a.* To give one thing for another in commerce.

> "To those who at the market-rate,
> Can barter *honor* for estate."—*Prior.*

Bar'terer, *n.* One who barters.

Bart'fa, or **Bart'feld,** a town of Hungary, co. Sarosch, on the Topo, at the foot of the Carpathian Mountains, 15 m. N.N.E. of Zeben. Lat. 49° 16′ 10″ N.; Lon. 21° 18′ 51′ E. *Pop.* 5,850.

Barth, a seaport town of Prussia, prov. Pomerania, on the Binnen-See, which connects with the Baltic, 17 m. W.N.W. of Stralsund. It carries on some trade in corn, lumber, and shipbuilding. *Pop.* 6,332.

Barth, *n.* (*Prov. Eng.*) A shelter for cattle.

Barth, Heinrich, a German explorer, born at Hamburg, in 1821. He was educated at Hamburg and Berlin, and in 1844 published a remarkable thesis on the *Commerce of Ancient Corinth*. In the next year he commenced those exploratory expeditions which have since so much increased our knowledge of African geography. The government of Morocco refused to allow him to pass through its territory, and *B.* therefore proceeded to Tunis, whence he penetrated into Sahara and crossed the vast deserts of Northern Africa to the Nile. In 1846 he crossed into Asia, and in 1848, returning to Berlin, he published an account of his *Exploratory Expedition to the Coasts of the Mediterranean in* 1845–1847. In 1849, he joined the expedition fitted out by the English government to explore Central Africa. The expedition was absent 4 years, during which *B.* travelled 12,000 miles. On his return, in 1855, he drew up a narrative of his journey under the title of *Travels and Discoveries in North and Central Africa*, published in Germany in 1855, and in England in 1857. This work is one of the most important contributions to modern geographical science, and the researches it records have placed *B.* among the most illustrious of the geographical explorers of our times. D. 1866.

Barthélemy, Auguste Marseille, (*bar-tal'le-me,*) a French poet, was B. at Marseilles, 1796. He first acquired reputation by a satirical poem against the Capuchins. His powers of satire frequently brought him in contact with the government of the restoration; and the revolution of July, 1830, found him in prison. Restored to liberty, he sang the victory of the people, along with M. Méry, in a poem dedicated to the Parisians — *L'Insurrection*, which became very popular. The later effusions of the poet's genius are war-songs celebrating the victories in the Crimea. As a writer, *B.* is held by his admirers to exhibit the vehemence of Juvenal, the bitterness of Gilbert, and the causticity of Boileau. D. 1867.

Barthélemy, Jean Jacques, the author of *The Travels of Anacharsis the Younger*, was born at Cassis, France, 1716. He received his education at Marseilles, and on its completion was admitted into the Society of Jesuits, and applied himself with success to the study not only of classical, but Oriental literature. Disgusted with his companions, he left the Jesuits, became a secular abbé, and arrived at Paris, where his erudition made him many friends. In 1747, he was elected a member of the Academy of Inscriptions; and, in 1753, keeper-in-chief of the royal medals. In 1788, he published the great work above mentioned; and in the following year the French Academy opened her doors to the learned delineator of the Greek characters and monuments. During the reign of terror he was arrested and imprisoned, but released after a few hours' detention, the Jacobins themselves being ashamed of the atrocity of such an act. On the 25th of April, 1795, he died at the ripe age of 79, passing from this world as calmly as he lived in it; only two hours before his death he was reading *Horace* in company with his nephew.

Barthélemy-Saint-Hilaire, Jules de, an eminent French philosopher and member of the Institute, B. in Paris, Aug. 19, 1805. In 1838 he was appointed to the chair of Greek and Latin Philosophy in the College of France, and was made a member of the Academy of the Moral and Political Sciences. In Feb., 1848, he became one of the chiefs of the Republican party in the Constituent Assembly. After the *coup d'état* of the 2d of Dec., 1852, and the downfall of the parliamentary system, he resigned his professorship in the College of France, but was reappointed in 1862. *B.*'s principal works are, *Politique d'Aristote* (Paris, 1848); *La Logique d'Aristote*, translated into French for the first time (1839–44). *De Vedas* (1854); *Du Bouddhisme* (1855); *Le Bouddha et sa Religion* (1866). In 1871, *B.* became the confidential secretary of President Thiers, and Minister of Foreign Affairs in 1880–81. Died Nov. 24, 1895.

Barthol'di, F. A., French sculptor. See Section II.

Bartholomew, (*bar-thol'o-mu,*) **St.,** the apostle, is probably the same person as *Nathanael*, mentioned in the Gospel of St. John, as an upright Israelite, and one of the first disciples of Jesus. The derivation of his name and descent from the family of the Ptolemies, is fabulous. He is said to have taught Christianity in the south of Arabia, and to have carried there the Gospel of St. Matthew, in the Hebrew language, according to Eusebius. Chrysostom mentions that he preached in Armenia and Natolia; and a later writer of legends says that he suffered crucifixion at Albania Pyla (now *Derbend*), in Persia. The ancient church had an apocryphal gospel bearing his name, of which nothing has been preserved. — The Catholic Church celebrates a feast in his honor, on the 24th of August.

Barthol'omew, St., (Massacre of.) In 1572, in the reign of Charles IX., many of the principal French Protestants were invited to Paris, under a solemn pledge of safety, on the occasion of the marriage of the King of Navarre, afterwards Henry IV., with the French king's sister. Though doomed to destruction, they were received with caresses, loaded with honors, and treated for seven months with every possible mark of courtesy and confidence. In the midst of their security, the warrant for their destruction was issued by their sovereign, on whose word they had relied; and in obedience to it, their countrymen, their fellow-citizens and companions, imbrued their hands in their blood. This horrible butchery began on the 24th of August, being *St. B.*'s day, on which, and the two following days, more than 10,000 Protestants, without distinction of age, sex, or condition, were murdered in Paris. A butcher boasted to the king that he had hewn down 150 in one night; and De Thou, a celebrated French historian, affirms that he had often, with the utmost horror, seen a goldsmith named Ornee, who boasted of having killed 400 with his own hands. A like carnage ensued in the provinces, where upwards of 25,000 more were destroyed by other bloodthirsty fanatics. Sully says that the number massacred throughout the kingdom amounted to 70,000. This horrid deed was, however, applauded in Spain; at Rome, solemn thanksgivings were offered to God for its success, and medals were struck at Paris in honor of it; while, as a mark of Protestant detestation, Elizabeth and the English court put on deep mourning, and received the French embassy in solemn silence. — For the causes which produced this massacre, see Condé, Guise, Huguenots.

Barthol'omew, St., one of the lesser N. Caribbean Islands in the W. Indies, belonging to Sweden, 30 m. N. of St. Kitt's; Lat. 17° 55′ 35″ N.; Lon. 62° 50′ W. It is of an oblong form, its greatest length being from E. to W., and contains about 8 sq. m. It is abundantly fertile, producing sugar, cotton, tobacco, and indigo; but it has no springs nor fresh water of any sort, except such as is supplied by the rain. Being surrounded by rocks and shoals, it is difficult of access; but its harbor, La Carenage, on the W. side of the island, is safe and commodious. Contiguous to the harbor is the cap. Gustavia. This island was settled by the French in 1648, and ceded by them to the Swedes in 1784, who, finding it unprofitable to hold, receded it to France in 1877.

Barthol'omew, in *Ark.*, a twp. of Drew co.

Barthol'omew, in *Indiana*, a S.E. central county; *area*, 400 sq. m. It is watered by the Driftwood Fork of White River, and by Flat Rock and Clifty creeks. Its N. surface is hilly, but in the other parts level, with a fertile soil. *Cap.* Columbus.

Barthol'omew, a bayou of *Louisiana* and *Arkansas*, which, rising in Jefferson co., in the latter State, takes a S. course into Louisiana, and empties into the Washita, at Washita city, in Morehouse parish.

Bartolommeo, Fra. S. Baccio della Porta.

Barthol'omew-tide, *n.* The time of the festival of St Bartholomew, August 24th.

Barthol'omites, *n. pl.* (*Eccl. Hist.*) This religious order of St. Basil, driven from Armenia in 1296, owing to the cruelties committed upon them by the Sultan of Egypt, formed an establishment at Genoa in 1307. They obtained a second house at Parma in 1318, and afterwards spread to other towns of Italy. They assumed the habit of St. Dominic, and eventually followed the rule of St. Augustine, which was confirmed to them by Innocent VI., in 1356. The *B.* gradually decreased in numbers, and were suppressed by Innocent X., in 1650.

Bar'tin, or Parthine, a town of Asiatic Turkey, in Natolia, near the mouth of the river of the same name (anc. *Parthenius*), on the Black Sea; Lat. 41° 33′ 52″ N.; Lon. 32° 14′ E. *Pop.* about 12,000.

Bar'tizan, *n.* [It. *bertesca*; O. Eng. *brottice*, from Ger. *brett*, a plank or board.] (*Arch.*) A fence or parapet of boards; specifically, a small round overhanging turret, (*Fig.* 274.) with a balistraria or very narrow window; generally projecting from the angle of a square tower, on the corner of the gable of a building, and supported on a corbel or bracket. In former times, its chief use, when thrown out near the top of a tower, seems to have been for the purpose of enabling any one on guard to keep a look-out on persons approaching the castle, from a place of shelter or safety; or, when placed over or near a gateway, for defensive purposes.

Bart'lett, John Russell, an American ethnologist, traveller, and author, B. at Providence, R. I., on the 23d Oct., 1805. He was educated at Laville Academy, N. Y., and in Canada. He passed some time in commercial pursuits, then engaged in the book-trade, and devoted himself to historical and ethnological studies. In conjunction with Albert Gallatin he founded the "American Ethnological Society," of which he was also the secretary. In 1850, *B.* was appointed, by President Taylor, U. S. commissioner to survey the boundary line between this country and Mexico, in conformity with the treaty of Guadaloupe Hidalgo. He, accordingly, organized a large corps of engineers, and with them sailed from New York in Aug. of the same year. Landing on the shores of Texas, he fitted out his expedition, which, including the officers, assistants and escort, numbered more than 300 men. With this party *B.* traversed the vast regions of prairie and desert between the Gulf of Mexico and the Pacific. In connection with the survey, he explored a large portion of Texas, New Mexico, &c. His various journeys extended over a distance of 5,000 m., and occupied nearly 3 years. The results, embracing observations in astronomy, physics, and natural history, were published first in 1854, and afterwards, in a more extended form, in 1857–8, at the expense of the American government. *B.*'s published works are, *A Dictionary of Americanisms*, 8vo, which has been translated into Dutch; *The Progress of Ethnology*, 8vo; *Reminiscences of Albert Gallatin; Personal Narrative of Explorations and Incidents in Texas, New Mexico, California*, &c., 2 vols., 8vo; *Official Despatches and Correspondence*, &c. D. 1886.

Bart'lett, William Henry, an eminent English artist and author, B. in London, 26th March, 1809. He published (1844–1855) many fine illustrated works, of which the following are the more noticeable: *Walks about Jerusalem; Forty Days in the Desert; The Nile-Boat; The Overland Route; Pictures from Sicily; The Pilgrim Fathers; Jerusalem Revisited*, &c. D. 12th Sept., 1855.

Bart'lett, in *Iowa*, a post-office of Fremont co.

Bart'lett, in *New Hampshire*, a township of Coos co., 80 m. N.E. of the city of Concord, traversed by the Saco River.

—A post-village of Carroll co. *Pop.* (1898) 1,280.

Bart'lett, in *Ohio*, a post-village of Washington co., 20 m. W. by S. of Marietta.

Bart'lett, in *Tennessee*, a post-village of Shelby co.

Bart'lett's Island, now Outer Island, in *Wisconsin*, in Lake Superior; one of the Apostle group; it is about 7 m. long, by 3 broad. Lat. 47° N.; Lon. 90° 30′ W.

Bartoli'ni, Lorenzo, a celebrated Italian sculptor, B. at Florence, in 1778. In the history of modern sculpture, while Thorwaldsen embodies the German version of the Greek ideal, and Rauch that of an intellectual classicism, *B.* impersonates the ideal of realism. His

greatest works are the bas-relief of *Cleobis and Biton;* the group called *Charity* (his masterpiece); and the statue of *Faith in God.* D. 1850.

Bartolomeo in Galdo, St., a town of S. Italy, prov. Foggia, 27 m. W.S.W. of Foggia: *pop.* 8,796.

Bar'ton, *n.* [A. S. *beretun*, courtyard, enclosure.] The demesne lands of a manor.—The manor itself.—The outhouses of a manor-house. (o.)

Bar'ton, Elizabeth, commonly called the *Holy Maid of Kent*, was used as an instrument, by the Catholics and adherents of Queen Catharine, to excite the English nation against the proposed divorce of Henry VIII. from his first wife, and the apprehended separation of the English Church from Rome, with which the king then threatened the Pope. Her delirium, in a violent nervous illness, was made use of by the parson of Aldington, Richard Masters, and by a canon of Canterbury named Bocking, to persuade her that she was a prophetess inspired by God, and destined to prevent this undertaking of the king. Her revelations, published and distributed by the monk Deering, produced such a fermentation among the people, that Henry ordered the apprehension and examination of Elizabeth and her accomplices before the Star Chamber. After they had there confessed the imposture, they were condemned to make a public confession, and to imprisonment; and, when it was found that the party of the queen were laboring to make them retract their confession, they were adjudged guilty of high treason, for a conspiracy against the king, and executed, April 30, 1534.

Bar'ton, in *Alabama*, a post-office of Colbert co.

Bar'ton, in *Indiana*, a township of Gibson county.

Bar'ton, in *Maryland*, a post-office of Alleghany co.

Bar'ton, in *Michigan*, a township of Newaygo county.

Bar'ton, in *Missouri*, a county in the W.S.W. part of the State, close upon Kansas. *Area*, 600 sq. m. The North Fork of Spring River, and a branch of the Little Osage River, water this county, the surface of which is mostly prairie. It is well timbered, and possesses coal and limestone. *Cap.* Lamar.

Bar'ton, in *New York*, a post-township of Tioga co., having a village of the same name, 25 miles E.S.E of Elmira.

Bar'ton, in *Texas*, a post-office of Anderson co.

Bar'ton, in *Vermont*, a post-township of Orleans co., 40 miles north-east of Montpelier, watered by Barton River.

Bar'ton, in *Wisconsin*, a post-village of Washington county, on Milwaukee River, 3 miles north of West Bend.

Bar'ton Creek, in *Tennessee*, a P. O. of Dickson co.

Barto'nia, *n.* (*Bot.*) See Mentzelia.

Barto'nia, in *Indiana*, a post-office of Randolph co., 8 m. S.E. of Winchester, the county seat.

Barton Landing, in *Vermont*, a prosperous post-village of Orleans co., Barton township.

Bar'ton-on-Hum'ber, a town of England, co. Lincoln, on the S. side of the Humber; *pop.* 4,276.

Bar'ton-on-Ir'well, a township of England, co. Lancaster, 7 m. from Manchester, on the Irwell. *Manf.* Flax. Collieries abound here.

Bar'ton River, in *Vermont*, a small stream of Orleans co., falling into Lake Memphremagog.

Bar'ton's Creek, in *Tennessee*, a stream flowing into the Cumberland river, in the S. part of Montgomery co.

Bar'tonsville, in *Pennsylvania*, a post-office of Monroe co.

Bar'tonsville, in *Vermont*, a post-village of Windham co., 95 m. N.W. of Montpelier, and 43 S.E. of Rutland.

Bar'ton Village, in *Vermont*, a prosperous village of Orleans co., Barton township, 43 m. N.E. of Montpelier.

Bar'tow, in *Georgia*, a county, formerly called Cass, *q. v.*

Bar'tram, John, an eminent American botanist, b. in Chester co., Penn., in 1701. He formed a Botanic garden near Philadelphia, said to have been the first establishment of the kind in the U. States; and so intimate an acquaintance had he with the vegetable kingdom, that Linnæus pronounced him "the greatest natural botanist in the world." D. 1777.

Bar'tram, William, a son of the preceding, was also a distinguished naturalist. At the request of Dr. Fothergill, he travelled through the Carolinas, Florida, and Georgia, for the purpose of making researches in natural history, and transmitted to his employer in London the valuable collections and drawings which he had made. His *American Ornithology* may be considered the precursor of Audubon's and Wilson's invaluable works. D. 1823.

Bar'tramville, in *Ohio*, a post-office of Lawrence co.

Bart'ville, in *Pennsylvania*, a P. O. of Lancaster co.

Barn, *n.* See Saguerus.

Baruch, (*bar'ruk,*) was the disciple and amanuensis of the prophet Jeremiah, and the book of his name, subjoined to the canon of the Old Testament, has been reckoned part of Jeremiah's prophecy, and is often cited by the ancient fathers as such. It is said, in the preface to the book, to have been written by *B.* at Babylon, by the appointment of the king and the Jews, and in their name; that it was afterwards read to them for their approbation, and then sent to Jerusalem, with a collection of money, to Joachim the high-priest, and to all the people. The Jews rejected this book, because it did not appear to have been written in Hebrew; nor is it in the catalogue of sacred books given us by Origen, Hilary, Rufinus, and others. St. Cyril of Jerusalem, however, and the Laodicean Council, held in 364, mention *B.* among the canonical books of Scripture, and join it with the prophecy of Jeremiah.

Bar'walde, or Bar'enwald, ("Forest of the Bears,") a town of Prussia, prov. of Brandenburg, on a lake, 32 m. N. of Frankfort-on-the-Oder; *pop.* 4,416.

Bar'-way, *n.* A passage into a field composed of bars made to take out of the posts.

Bar'wood, *n.* See Baphia.

Bary'ta, Barytes, Oxides of Barium, *n.* [Gr. *barus*, heavy.] (*Chem.*) A grayish-white porous alkaline earth, discovered by Scheele in 1774. Sp. grav. about 4·00. Its taste is harsh, and more caustic than lime, acting on the stomach as a violent poison. It turns vegetable blues green, and is a non-conductor of electricity. B.B. it fuses, and penetrates the charcoal, an effect probably occasioned by the presence of water, as it has since been found, when anhydrous, to fuse only by the strongest heat of a forge. When sulphuric or chlorohydric acid is poured on baryta, it becomes red-hot. When water is poured on it, baryta is slaked like quicklime with the evolution of heat; the mass becomes white and swells; if more water is added, so as to dilute it completely, the baryta crystallizes, on cooling, as a hydrate (BaOHO), and it then absorbs carbonic acid from the air, and must, therefore, be preserved in closely stoppered bottles. It dissolves in 20 parts of water, forming baryta-water, much used as a chemical reagent. Boiling water dissolves half its weight of baryta, and deposes, on cooling, four or six-sided prismatic crystals, containing 10 equivalents of water. *Form.* BaO.

Salts of B.—1. They are generally white or colorless, and crystalline. 2. The soluble salts of baryta give a white precipitate by sulphuric acid and alkaline sulphates, insoluble in nitric acid. 3. Ammonia does not precipitate baryta, while soda and potash do. 4. Yellow prussiate gives no precipitate. 5. The soluble salts of baryta are poisonous. 6. B.B. salts of baryta communicate a green tinge to the flame. 7. Sulphate of lime in solution precipitates baryta salts immediately. 8. Chromate of potash precipitates alkaline, and neutral solutions of salts of barium, yellow; insoluble in alkalies and acetic acid: while no precipitate occurs with strontium and lime salts.

Hydrous Chloride of B. Spec. grav. 3·049 (Karsten). Commonly colorless tables, referable to the right prismatic system. Taste, pungent and disagreeable; poisonous: not altered in the air, decrepitating on being heated, but not liquefying; by ignition it fuses, but does not decompose. *Form.* $BaCl_2H_2O$. The *anhydrous chloride*, which results from igniting the hydrate, is a white mass, with a sp. grav. of 3·70 to 4·15. When heated in contact with steam, it gives out chlorohydric acid, and becomes alkaline. *Form.* BaCl. It may be prepared by dissolving the native or artificial carbonate of baryta in chlorohydric acid, and crystalliziug. It is principally used for testing and precipitating sulphuric acid in solutions.

Carbonate of B., found native as *Witherite*. It is used as the source of many baryta salts. It is a dense white powder, falling as a precipitate when a soluble carbonate is added to a solution of baryta salt. It is nearly insoluble in water, but dissolves readily in acetic, nitric, hydrochloric, and several other acids. *Form.* $BaOCO_2$.

Nitrate of B. is formed by dissolving the carbonate of baryta in very dilute nitric acid, and evaporating and crystallizing. It forms white, translucent octahedra, which are anhydrous. It is soluble in 8 parts of cold and 3 parts of boiling water. It is used principally in the preparation of baryta, for chemical purposes, and for detecting acids in analysis. *Form.* $BaONO$.

Sulphate of B., Heavy Spar, Barytine, is an orthorhombic mineral. Lustre vitreous, inclining to resinous; sometimes pearly. Streak white, color white; also inclining to yellow, gray, blue, red or brown, dark brown. Transparent to translucent; opaque. Sometimes fetid, when rubbed. Optic-axial plane branchy-diagonal. Sp. grav. 4·44. It occurs in nature amorphous, and artificially in a white powder; 1 part is soluble in 43,000 parts cold water (*Kirwan*); oil of vitriol dissolves it by boiling, but it is again precipitated on the addition of water (*Withering*). When heated, it decrepitates from the conversion of hygroscopic water between its plates into steam. B.B. it fuses into an opaque white globule—a temperature of 35° Wedgwood being required. When made into a paste with flour and water, and ignited, it phosphoresces in the dark, from the sulphide formed by heat probably again uniting with oxygen, and becoming sulphate. An Italian shoemaker, named Vincenzo Casciarolo, first observed that the Bologna stone (found at the foot of Mount Paterno), a variety of heavy spar, when ignited, became luminous in the dark (*Lemery*). Sulphate of barytes is found along with galena in the graywacke formations, and likewise in the coal series, and in the old red sandstone conglomeration. It is used to mix with white lead in painting, but is of no value, as it is transparent, and thus injures the white lead. To render it fit for this purpose, it is ground by millstones, and then by stones and water, into a fine powder. The powder is digested in sulphuric acid in iron pots, with the application of heat to remove iron. The sulphuric acid is washed out by water and decantation, and the powder dried into cakes, like magnesia, over a flue. It is frequently mixed with ochre, chrome-yellow, &c., according to the color required. *Form.* $BaOSO_3$.

Baryt'ic, *a.* Relating to baryta.

Barytocal'cite, *n.* (*Min.*) A monoclinic mineral. Lustre vitreous, inclining to resinous. Color white, grayish, greenish, or yellowish. Streak white. Transparent-translucent. Fracture uneven. *Comp.* Carbonate of baryta, 66·3, carbonate of lime, 33·7 = 100. It is found in England, in the sub-carboniferous or mountain limestone.

Bar'yton, *n.* (*Mus.*) A stringed instrument of music, invented in 1700, but now entirely disused.

Bar'ytone, Bar'itone, *n.* [Fr. *baryton;* Gr. *barys*, heavy, grave, and *tonos*, tone, sound.] (*Mus.*) A grave, deep sound, or male voice. Specifically, a tone of the voice, the compass of which lies between the bass and tenor. It is the lowest but one of the six registers into which the human voice is divided, and is the commonest kind of male voice. The *mezzo-soprano*, or middle female voice, corresponds with it, an octave higher.

(*Greek Gram.*) A word which has no accent marked on the last syllable, the grave accent being understood.

—*a.* (*Mus.*) Pertaining to, or noting, a grave, deep sound, or male voice.

Bary'tum, *n.* (*Min.*) See Barium.

Bas, or **Batz,** a small island in the English Channel, belonging to France, and situated off the N. coast of the dep. of Finistère; length 3 m., breadth about 2. It has a lighthouse, in Lat. 48° 45′ N., and Lon. 4° 1½′ W. *Pop.* 1,276.

Basaiti, (*ba'sa-e-te.*) Marco del Friuli, an early Venetian painter, who flourished in the 15th and 16th centuries. He was a good colorist, and in some respects was the rival of Giovanni Bellini. His *Christ in the Garden*, and *Calling of St. Peter and St. Andrew*, are his finest pictures; both of them are now in the Academy of Fine Arts at Venice. D. 1519.

Ba'sal, *a.* Pertaining to the base: constituting the base.

Basal Plane. (*Crystallog.*) One parallel to the lateral or horizontal axis.

Basalt', *n.* [Fr. *basalte;* Lat. *basaltes;* Ethiop. *basal*, iron.] (*Geol. and Min.*) A close-grained, hard, black, or dark-brown rock, of igneous origin, occurring both in the trap and the volcanic series: sp. grav. 2·87 to 3·. It is one of the dolorites or augitic lavas, and consists essentially of augite and felspar, the former being in excess. It often contains crystals of the olive-green mineral olivine, grains of magnetic iron, and other bodies. Masses of basalt are frequently found divided into columns or prisms, with three, five, or more sides. That this columnar structure is the result of contraction on consolidation, is shown by the prisms usually

Fig. 298.—THE ISLE OF STAFFA.

being at right angles to the greatest extension of the mass,—that is to say, being vertical in an horizontal bed, and horizontal in a vertical dyke,—proving that the fissuring commenced at the cooling surfaces, and struck thence directly toward the centre of the mass. Sometimes it is found that the two sets of prisms thus originating at each surface did not exactly fit when they met in the centre. At other times, however, the prisms proceed uninterruptedly from side to side, the two sets either having coalesced, or one surface having cooled before the other, and given rise to divisions that were carried right across the mass. In addition to these prismatic joints, other irregular joints, more or less nearly at right angles to the prisms, also occur; and in very regular columnar basalt the columns are articulated, or separated, at regular or irregular intervals, into short blocks, by divisions, which are sometimes quite flat, and sometimes curved into concave and convex surfaces, forming an approach to the ball-and-socket joint. The origin of this structure is explained by the celebrated observations of Gregory Watt. If a mass of basalt be melted in a furnace and allowed to cool again, the following results are observed:—If a small part be removed and allowed to cool quickly, a kind of slag-like glass is obtained, not differing in appearance from obsidian; if it cool in larger mass, and more slowly, it returns to its original stony state. During the cooling, small globules make their appearance, which increase by the successive formation of external concentric coats, like those of an onion; and the simultaneous obliteration of the previously formed internal coats, so that, ultimately, a number of solid balls are formed. As these balls continue to increase in size, their external coats at length touch, and then they mutually compress each other. Now in a layer of equal-sized balls, each ball is touched by exactly six others, and if all be squeezed together by an equal force acting in every direction, each ball will necessarily be converted into a regular hexagon. The same result will also follow from an equal expansive force acting from the centre of each ball, or from the tendency to indefinite enlargement in their concentric coats. Thus, each spheroidal mass, under favorable circumstances, will assume the form of a short hexagonal pillar. If there are many layers of balls, each ball resting directly and centrically on the one below it, a long column of

these hexagonal joints will be formed, and the top and bottom of each joint will be flat, convex, or concave, according to variations in the amount and direction of the pressure at the ends of the columns. There is no apparent reason why, in a cooling mass of basalt, the balls should be arranged so that their centres should be in straight lines, and that the hexagonal joints should form straight continuous pillars, rather than separate discontinuous pavements. This, however, is probably the result of the simultaneous tendency of the mass to split into prisms on consolidation. The pillars of basalt are usually from six to eighteen inches in diameter, and vary in length from five or six to 100 or 150 feet. Basalt is rarely, if ever, found as an underlying rock, but generally occurs as a dyke or as an overlying mass. The most celebrated plateau of basalt is that in the north-east of Ireland, covering almost the whole county of Antrim. This entire mass is 300 or 400 feet in thickness, and 50 miles long by 30 wide. The basalt occurs in three or four sheets, in many places beautifully columnar, and interstratified with beds of volcanic ash, or "ochre," as it is called. One of the columnar beds dips gradually into the sea on the north coast, and is known as the Giant's Causeway. Many of the Hebrides, or Western Isles, of Scotland, are almost wholly composed of trap rocks. Of these, Staffa is the most celebrated, on account of a deep chasm or recess situated in a magnificent group of vertical columnar basalt. (*Fig.* 299.)

Fig. 299.— FINGAL'S CAVE.
(Viewed from within.)

and which has been produced by the incessant action of the surge on the base of the cliff. The Isle of Staffa itself is a complete mass of columnar basalt, (*Fig.* 298.) It is intersected by one deep gorge, which divides the higher and more celebrated columnar portion from the other divisions of the island. The arrangement of the basaltic columns in Fingal's Cave was long regarded as the masonry of a race of giants. The vaulted arch presents a singularly rich and varied effect; in some places it is composed of the ends of portions of basaltic pillars, resembling a tessellated marble pavement; in others, of the rough surface of the naked rock; while in many, stalactites mingle with the pillars in the recesses, and add, by the contrast of their colors, to the pictorial effect, which is still further heightened by the ever varying reflected light thrown from the surface of the water that fills the bottom of the cave. The depth of the water is nine feet, and a boat can therefore reach the extremity of the cave in tolerably calm weather; but when the boisterous gales of that northern clime drive into the cavern, the agitated waves dashing and breaking against the rocky sides, and their roar echoing with increased power from the roof, it presents to the eye and ear such a scene of grandeur as bids defiance to any description.

Basalt'ic, *a.* [Fr. *basaltique.*] Pertaining to basalt; formed of, or containing, basalt.

Basal'tiform, *a.* Columnar; in the form of basalt.

Basal'tine, *n.* (*Min.*) A column of basalt.

Ba'san, *n.* See BASIL.

Bas'anite, *n.* [Fr.; Lat. *basanites*, lapis; Gr. *basanos*, the touchstone.] (*Min.*) A grayish-black species of schistose hornblende, called also Lydian-stone. It is composed principally of silica, occurs in beds, in trap-rock, &c., and owes its color to carbon, according to Humboldt; sp. grav. 2·58 to 2·64. It is used for testing the purity of gold. The gold is rubbed on the stone, and the mark is touched with aquafortis. The amount of copper contained in the gold may be easily guessed at by the change of color the streak undergoes.

Bas-bleu, (*bä-bluo'*,) *n.* [Fr.] A lady of literary tastes or acquirements; a blue-stocking.

Bas-chevalier, (*bä-shev'a-lēr'*,) *n.* [Fr.] A knight of inferior rank to a knight banneret.

Basch'kirs. See BASHKIRS.

Bas'cinet, Bas'inet, Bas'net, *n.* [O. Fr. *bassinet*, from *bassin*, a basin.] An ancient light, basin-shaped helmet, worn generally without a visor. — See HELMET.

Bas'co, in *Illinois*, a post-office of Hancock co.

Bas'cobel, in *Georgia*, a village of Jackson co., 80 m. N. of Milledgeville.

Bas'com, HENRY BIDLEMAN, D.D., an eminent American author and divine, b. at Haucock, N. Y., 1796. He entered the ministry of the Methodist Episcopal Church in 1813, and after various professional appointments was, through the influence of Henry Clay, elected chaplain to Congress. In 1827, *B.* was appointed President of Madison Coll., Unioutown, Penn., but resigned in 1829, when he became agent of the American Colonization Society. In 1832 he was elected Professor of Moral Science and Belles-Lettres in Augusta Coll., Ky. In 1838, *B.* had conferred on him the degree of D.D. In 1839, he became president of Louisiana Coll.; and, subsequently, of the Transylvania University, Ky. In the general conference of 1844, when the separation between the Methodist churches North and South occurred, he drew up the protest of the Southern members against the action of the conference as regarded slave-holding, and in the next year was a member of the convention of Louisville by which the organization of the Southern Episcopal Church was agreed upon, and was the author of the report disseminated by that body. In 1846 he was appointed editor of the *Southern Methodist Quarterly Review.* In 1849, he was elected bishop. His principal works are, *Lectures on Infidelity; Lectures and Essays on Moral Science*, &c. A collection of his *Posthumous Works*, edited by Rev. T. N. Ralstoon, was published at Nashville, 1855, in 2 vols. 8vo. D. 1850.

Bas'com, in *Ohio*, a post-village of Seneca co., 45 m. S. by E. of Toledo.

Bas'cule, *n.* [Fr.] The arraugement of the counterpoise in bascule bridges.

Bas'cule Bridge, *n.* A kind of drawbridge, with a counterpoise, swinging up and down, and usually with a pit behind it, in which the counterpoise falls or rises as the bridge rises or falls.

Base, (*bais,*) *a.* [Fr. *bas*, low; It. *basso;* Lat. *bassus;* Gr. *bathys*, deep.] Deep or grave in sound. Generally written BASS, *q. v.*

—Low in place, degree, or station; of humble birth; lowly.

"Though poor in fortune, of celestial race;
And he commits the crime who calls him *base*."—*Dryden.*

—Illegitimate by birth; born out of wedlock.

'Why bastard? wherefore *base*?"—*Shaks.*

—Low in value or esteem; usually applied to metals.

"A guinea is pure gold, if it has nothing but gold in it, without any alloy or *baser* metal."—*Watts.*

—Without dignity of sentiment; mean, vile, worthless, despicable, disingenuous.

"*Base* is the slave who pays."—*Shaks.*

—Unclassical; unrefined; as, "*Base* Latin."—*Fuller.*

Base, *n.* [Fr.; Lat. *basis;* Gr. *basis*, from *bainō*, to step.] That on which one steps; foot; bottom; foundation.— The place from which racing or tilting is started; the goal.

(*Games.*) An old rustic play, called also, in England, *prison-bars*, and *prisoner's-base.*

(*Arch.*) That part of a column on which the shaft is placed, consisting generally, in the five orders of architecture, of a square plinth and mouldings, formed of tori, scotiæ, and astragals (see *Fig.* 222), in various combinations, between the plinth and the bottom of the shaft. The height of the whole base, including plinth and mouldings, is about half the diameter of the shaft at its lowest or broadest end. The Greek-Doric column is the only form of pillar that has no base. In Gothic architecture, the base became higher and more varied in form than in examples of orders of the classic period.

(*Bot.*) The part opposed to the *apex;* as, "the *base* of a leaf."

(*Chem.*) A term usually applied to those bodies which are capable of uniting with acids to form salts, and are replaced by other bases. For example, ammonia (NH_3), when neutralized by sulphuric acid ($HOSO_3$), constitutes the base of the *salt* sulphate of ammonia (NH_3SO_3HO). When we add to this salt caustic potash (KO), the smell of ammonia is evident; in other words, the base ammonia is replaced by the base potash, and instead of the salt sulphate of ammonia, we have now formed sulphate of potash ($KOSO_3$). The term base, in this case, is used instead of the older term *alkali*, a name which only applies to certain bases. But each of the bases and acids possesses likewise a base. Instead, however, of employing this expression in such instances, it is now usual to speak of the *radical* or root of a base or acid. Hence we have *basic* and *acid radicals.* In ammonia, nitrogen is the radical of that base or *basic radical;* and in sulphuric acids, sulphur is the radical of that acid, or *acid radical.* Some bodies are both base and acid formers, hence they have been sometimes termed *amphigene bodies*, (*both formers.*) These are oxygen, sulphur, selenium, and tellurium; and the salts formed by them are thence called amphide salts. A *basic* or *sub-salt* is a compound consisting of an acid and a base, in which the base preponderates over the acid. Thus, corrosive sublimate consists of 1 atom chlorine and 1 atom mercury ($HgCl$), and is an equisalt, or neutral salt; while calomel consists of 2 atoms mercury and 1 atom chlorine (Hg_2Cl), and is a *sub-salt*, or *basic salt*, or *disalt.* — Bases are divisible into *inorganic* and *organic bases.* The inorganic bases consist of *metallic* bases and *oxymetallic* bases. Thus, in chloride of potassium (KCl), potassium is the metallic base; while in sulphate of potash (KO,SO_3) the base is an oxymetallic one, viz. potash. — *Organic Bases.* A class of organic substances, many of them existing ready formed in plants, which, like inorganic oxymetallic bases, unite with acids, form salts, and are capable of being replaced by other bases, particularly the inorganic bases. From the circumstance that many organic bases have recently been formed artificially in the laboratory, they have excited a good deal of attention, and perhaps younger chemists have been too much carried away with the novelty of the subject to the neglect of more important though less striking departments of the science. The fact that the alkaloids or organic bases contain nitrogen in small quantity, had early attracted the attention of chemists. Berzelius supposed that they might be conjugate compounds of ammonia, with an organic body; methylamine (C_2NH_5), for example, he would have considered a compound of an organic body, C_2H_2 with NH_3, or ammonia. Liebig, on the other hand, conceived that these bases were all formed on the type or model of ammonia (NH_3), in which the third atom of hydrogen was capable of being replaced by an organic substance; that atom being removable under various circumstances; whence it may be viewed as an amide of hydrogen ($H.NH_2$). Agreeably to this view, methylamine will not be C_2H_2,NH_3, but NH_2,C_2H_3, or ammonia, in which the third atom of hydrogen is replaced by methyl, a gas which can be isolated by another process. This idea has been fully confirmed by further researches; and it has been shown that an infinite series of alkaloids or organic bases may be artificially formed upon the models of ammonium (NH_4), ammonia (NH_3), amide (NH_2), imide (NH), and nitryle, Nx_3, where the whole of the hydrogen is replaced by organic substances. — In the artificial preparation of many alkaloids the general principles are as follows: — 1. Certain of them are produced by the action of ammonia on an organic body, frequently an oil; oil of mustard with ammonia becomes *thiosinnamine;* others of this class are urea, furfurine, fucusine, amarine, melamine, ammiline, lophine, aniline. 2. Alkaloids formed by reduction by sulphuretted hydrogen; aniline, tolnidine, naphthalidine. 3. By distillation with potash; quinoleine, auiline, conisine, nicotine. 4. By dry distillation of organic bodies; aniline, picoline, petinine, nicotine, lophine. 5. By decomposition of a nitrogenous acid, aniline. 6. Removal of sulphur from a sulphuretted alkaloid, as sinnamine, from thiosinnamine. 7. Removal of sulphur from an essential oil, as sinapoline from oil of mustard. 8. Alteration of natural alkaloids by oxidation, as narcogenine, from narcotine.

(*Dyeing.*) A substance used as a mordant, *i.e.*, that has an affinity for both the cloth and the coloring-matter.

(*Math.*) The *base* of a figure means, properly, its lower line, if it be a plane figure, or its lowest surface if it be a solid. In trigonometrical operations, the base is a line carefully measured between two points readily accessible, from which, by measuring *angles* alone afterwards, we may obtain the length of lines not observed. Upon the accuracy of the measurement of the base depends, therefore, the value of the whole series of operations.— What is called the *base-line*, in measuring the length of a degree of latitude, is the length marked off between the points, the inclination between the verticals at which is to be answered.

(*Zoöl.*) That part or extremity of anything by which it is attached to another of higher value or signification. *Dana.*

(*Mil.*) *Base of Operations*, or *Basis.* A term in tactics, first introduced into military language by Henry von Bülow, who labored to reduce war to mathematical principles, and to give more certain rules to the commander. By *basis*, he understands a tract of country well protected by fortresses, and from which the operations of the army proceed. The line upon which these operations are executed he calls *line of operation;* the fortresses from which the operations begin, the *subject;* the point to be first carried, the *object.* Bülow thought magazines indispensable; the security of the line of operation against all attacks from the side seemed to him likewise indispensable; and he laid down the principle, that both the lines, drawn from the ends of the basis to the object, ought to meet there in a right or an obtuse angle, the last being preferable. This theory has been acted on, more or less, by generals in all ages, and its neglect has generally been attended with suffering and defeat. It may be nevertheless objected that Napoleon I. owed his greatest glory to campaigns in which he entirely disregarded the basis; as those of 1805 and 1809, against Austria, and his previous campaigns in Italy; but one single great and decisive battle lost would have punished severely his neglect of this principle. And, moreover, there is one rule still more important than those of tactics — to act according to the circumstances and the character of the enemy, and to bring on decisive results by energetic measures, rather than to moulder away in inaction.

Base, *v. a.* To place on a basis; to found; — to lay the base or foundation.

Base'-ball, *n.* (*Games.*) An athletic game, derived from the English game of *rounders*, much played throughout the U. States, and generally preferred to cricket. A *B.B.* ground should be a level area of fine turf about 600 feet in length by 400 in breadth, at one end of which a square of 90 feet is marked out. An iron plate is fixed at the *home base*, or lower angle of the square; while canvas bags filled with sawdust, and attached to posts sunk in the ground, indicate the other angles. Nine players constitute a side, one side taking the bat and the other the field. The *batsman* stands at the home base, having the *pitcher* opposite to him, at the distance of 45 feet, and the *catcher* behind. A player is also stationed at or near each of the 3 canvas bags, known as the 1st, 2d, and 3d bases, and which are respectively on the right, opposite to, and on the left of the batsman. Besides these, there is a short field behind the pitcher, and a right, centre, and left field at a considerable distance in the rear of the 2d base, with duty of catching or stopping the balls and returning them to the pitcher or to the baseman. A captain, who is generally the catcher, assigns the places of the players on his side, and directs the game. When the batsman has struck the ball, or has struck at and missed the ball 3 times, he starts for the

first base, and is succeeded by player after player until 3 are put out, when the side occupying the field take their places at the bat, and in like manner play their innings. When he succeeds in reaching the home base, untouched by a ball in (not thrown from) the hands of an adversary, and after successively touching the 1st, 2d, and 3d bases, he is entitled to score one run. Nine innings are played on each side, and the party making the greatest number of runs wins the game. The bat in common use is a round stick, of ash or other hard wood, or of white pine or willow, from 30 to 40 inches in length, and from 2 to 2¼ inches in thickness at the lower end, whence it tapers gradually to the handle. Players adopt different styles of batting, some holding the bat inclined over the shoulder, and others hitting from below as in cricket, while many attempt modifications of either method.—The game above described is commonly known as the New York game, and differs in several particulars from that called Massachusetts game, which is generally played in New England. In the latter, the batsman stands in the middle of one of the sides of a square of 60 feet, the 4 angles of which are marked by 4 stakes representing the bases, the 1st base being on his right, and the 4th or home base on his left. The ball is thrown, not pitched or tossed by the thrower, who stands 35 feet in front of the batsman, and a player is put out if the ball from the stroke of his bat is caught without having first touched the ground, or, technically speaking, "on the fly," by an adversary, if 3 balls are struck at and missed and caught each time by the catcher, or if while running the bases he is struck by the ball thrown by an adversary. The putting a player out by striking him with the ball, which was the practice in the original game of baseball, was discarded in revising the New York game, on account of the severe accidents which sometimes resulted. —The baseball championship is now played for under the auspices of the National League, a combination made in 1891 of the American Association, founded in 1882, and the original National League, organized in 1876. The ball is delivered by the pitcher with great swiftness, an underhand throw being generally employed. The high speed attained enables a skillful player to send the ball with a twist or curve that is apt to deceive the batsman. This effect is determined by the manner in which the ball leaves the hand of the pitcher, who gives it a rotary motion on its axis, and the resistance of the air. While the simplicity of this game forms one of its chief attractions, to excel in playing it demands great endurance, strength, and agility, with good throwing and running powers, plenty of nerve and courage, quick perception, thorough control of temper, and presence of mind in critical moments of the game.

Base'-born, *a.* Born out of wedlock; born of low parentage; vile; mean.

> "But see thy *base-born* child, thy babe of shame,
> Who, left by thee, upon our parish came." —*Gay.*

Base'-court, *n.* [Fr. *basse-cour.*] The lower court; the back-yard; the farm-yard.

> "My lord, in the *base-court* he doth attend,
> To speak with you." —*Shaks.*

Base'less, *a.* Without a base; having no foundation or support.

Base'-line, *n.* (*Persp.*) A line drawn at the extremity of the principal visual ray, and perpendicular to it.—(*Surveying.*) A principal line, measured with the greatest precision, on which a triangle or a series of triangles may be constructed, whereby other positions may be determined.

Basel'la, *n.* (*Bot.*) A genus of plants, ord. *Basellaceæ, q.v.*

Basella'ceæ, *n. pl.* (*Bot.*) An order of plants, alliance *Ficoidales.* DIAGNOSIS. Distinct sepals, no petals, fruit enclosed in a membranous or succulent calyx, a single solitary carpel, and an erect seed.—They are climbing, herbaceous, or shrubby plants, somewhat succulent. This small order, including 12 species in 4 genera, closely resembles the Scandent Chenopods, from which it has been separated principally on account of the colored calyx, which scarcely opens. The species are all tropical.

Base'ly, *adv.* In a base manner; meanly; dishonorably. —In bastardy; illegitimately.

Base'ment, *n.* [Fr. *soubassement.*] (*Arch.*) The lowest story of a building, forming the base of a private house or public edifice.

Base'-mind'ed, *a.* Of a low spirit or mind; mean.

Base'ness, *n.* The quality of being base; lowness of mind; worthlessness; meanness.

> "Such is the power of that sweet passion,
> That it all sordid *baseness* doth expel."—*Spenser.*

—Of inferior value; as, "the *baseness* of his metal." *Swift.*

—Bastardy; illegitimacy of birth.

> "Why brand they us
> With base? with *baseness?* bastardy?" —*Shaks.*

—Depth of sound; as, "the *baseness* or trebleness of tones." *Bacon.*

Bas'enet, *n.* See BASCINET.

Base'-plate, *n.* The foundation-plate of heavy machinery, as of the steam-engine; the bed-plate.

Base'-ring, *n.* (*Mil.*) A projecting band of metal adjoining the base of a breech-engine.

Base'-spir'ited, *a.* Of inferior courage; contemptible; mean; cowardly.

Base'-string, *n.* The string of an instrument which produces the lowest note.

Base'-vi'ol, BASS-VIOL, *n.* (*Mus.*) See VIOLONCELLO.

Basham's Gap, in *Alabama,* a post-office of Morgan co.

Ba'shan, in *Ohio,* a post-office of Meigs co.

Bashan, (*bā'shan.*) (*Anc. Geog.*) A rich, hilly district, lying E. of the Jordan, and between the mountains of Hermon on the N., and those of Gilead and Ammon on the S. The country takes its name ("fat," "fruitful") from its soft and sandy soil. It is celebrated in Scripture for its stately oaks, fine breeds of cattle, and rich pasturage. Modern travellers describe the country as still abounding with verdant and fertile meadows, valleys traversed by refreshing streams, hills crowned with forests, and pastures offering an abundance to the flocks that wander through them. *B.* was assigned, after the conquest of Og and his people, to the half-tribe of Manasseh. From *B.* came the Greek name Batanæa, in modern Arabic *El-Bottein.* But this latter only included its S. part. The ancient *B.* covered the Roman provinces named Gaulonites, Trachonites, Auranites, Batanæa, and Ituræa.

Bashaw', *n.* See PASHA.

Bash'ee, Bash'i, or **Bat'anes Islands,** a cluster belonging to the E. Archipelago, 5th division, lying due N. of Luzon (Philippines), between Lat. 20° and 21° N. They are rocky, and 5 in number, with 4 small islets. Dampier visited them, and called the largest Grafton Isle; it is about 13 leagues in circuit, and has good anchorage on the W. side. It produces fine yams, sugar-cane, plantains, and vegetables; besides hogs and goats in plenty. Good water is found in abundance close to the beach. Gold in considerable quantities is washed down by the torrents in the Bashee Island, which the natives work into a thick wire and wear as an ornament. Iron is the favorite medium of exchange. The natives are civil, inoffensive, and sociable. The Spanish gov. resides on Grafton Island. *Pop.* 1890 *abt.* 85,000.

Bash'ful, *a.* [Fr. *baisser,* to lower, to be ashamed.] Downcast; having a demure look; in a shy or shame-faced manner; sheepish.

> "Our author anxious for his fame to-night,
> And *bashful* in his first attempt to write."—*Addison.*

Bash'fully, *adv.* Modestly; in a shy or sheepish manner.

Bash'fulness, *n.* The quality of being bashful; shame-facedness; excessive modesty.

> "Such looks, such *bashfulness,* might well adorn
> The cheeks of youths that are more nobly born."—*Dryden.*

Bash'i Bazouks', *n. pl.* (*Milit.*) A body of irregular troops in the service of the Turkish Sultan. They are principally of Asiatic races, and formed a contingent of the Turkish army during the Russian War, 1853–56. As light cavalry they are considered excellent, far surpassing the Cossacks in courage and powers of endurance. Dr. William H. Russell, in describing these "wild cavaliers," says: "It would have been difficult to find more picturesque-looking scoundrels if the world was picked for them from Scinde to Mexico. Many of them were splendid-looking fellows, with fine sinewy legs, beautifully proportioned muscular arms, and noble, well-set heads of the true Caucasian mould; others were hideous negroes from Nubia, or lean, malignant-looking Arabs, with sinister eyes and hungry aspect; and some were dirty Marabout fanatics from Mecca, inflamed by the influence of their *hadji,* or pilgrimage."

Bash'kirs, Baseh'kirs, or **Bash'keers,** a Tartar tribe of Russia, where they occupy a portion of the govts. of Orenburg, Perm, and Viatka. These people are in Asia generally called *Istiuks* or *Ischtiuks,* and they live principally in tents, and on the produce of the chase, troubling themselves but little with agriculture, except in winter, which they pass in their villages. It is in their territory that the rich gold and platina mines exist. They are Mohammedans and pay no taxes, but all are held under military service to guard the frontier. Their number is about 200,000, of whom 70,000 are enrolled on the same footing as the Cossacks of the Don.

Bas'hyle, *n.* (*Chem.*) See BASYLE.

Bas'ic, *a.* (*Chem.*) Pertaining to, or serving as, a base. See BASE.

Bas'ifier, *n.* (*Chem.*) That which converts into a salifiable base.

Bas'ify, *v. a.* (*Chem.*) To convert into a salifiable base.

Basil, (*bāz'il,*) Emperor of the East. See BASILIUS.

Bas'il, *n.* [Ger. *bügel,* from *biegen,* to bend, to curve, to inflect.] (*Carp.*) The slope or angle of a joiner's tool or instrument.

—*v. a.* To grind or form the edge of a tool to an angle.

Bas'il, *n.* [Fr. *basilic;* It. *basilico;* from Gr. *basilikos,* royal, from *basileus,* a king.] (*Bot.*) See OCIMUM.

Bas'il, *n.* [A corruption from Eng. *basan.*] The skin of a sheep after being tanned.

Bas'il, in *Ohio,* a village of Liberty township, Fairfield co., 12 m. N. by W. of Lancaster.

Bas'ilar, Bas'ilary, *a.* [Fr. *basilaire;* from Lat. *basis.*] Situated at, or belonging to, the base.—(*Anat.*) The name given to several parts, which seem to serve as bases to others, as the sacrum.

Basil'ians, *n. pl.* (*Eccl. Hist.*) The name of an order of monks, founded by Basil, surnamed the Great, Bishop of Cæsarea, A. D. 370. He had retired in 358 into a desert in Pontus, and there erected a monastery. He afterwards instituted several other establishments, placing them under rules of his own creation. This order was introduced into the Western Church in 1057, and was reformed by Pope Gregory XIII., in 1569. It is said to have furnished 14 popes, 1,805 bishops, 3,010 abbots, and 11,085 martyrs. It likewise boasts of several emperors, kings, and princes, who embraced its rule.—See BASIL, ST.

Basil'ic, Basil'ica, *n.;* *pl.* BASILICS. or BASILICÆ. [Gr. *basili-kē,* from *basilikos,* royal, from *basileus,* a king.] Originally, a term applied to the palace of a king. It was afterwards used to denote large buildings, erected in Rome and other cities of the Roman empire, for the administration of justice. They also served the purpose of an exchange, in which merchants transacted their business, being generally built in the immediate neighborhood of the forum. The following was the method of construction generally adopted. A large central space, about twice or three times as long as it was wide, was surrounded with columns, on which a roof, called the *testudo,* was supported. On either side of this space porticos were added, covered with a roof sloping from the columns of the testudo, and supported on the outer side by another row of smaller columns, at a distance of about one-third of the breadth of the central space from those that held the main roof; a wall was afterwards substituted for the outer columns of the portico, to afford shelter to those within the building. The portico was divided into two parts by a floor, the upper part forming a gallery for the accommodation of those who were looking on at what was passing below, or perhaps for the exposure of commodities for sale, or for carrying on some handicraft trade. There was a vestibule, or large porch, at one end, and at the other a tribunal for the administration of justice, with a semicircular recess, or apse, for the judge's seat, with *chalcidica,* or chambers, for the use of the judge, counsel, &c., on either side of it. Basilicæ were unknown in Rome until about B. C. 200. The best example we have of the old *B.* or hall of justice, is that at Pompeii, built on the S.W. side of the forum. It is to Constantine that the first Christian churches, known by the name of *B.,* are to be referred. They bore a very complete resemblance to the antique *B.,* both in plan and proportion; but the cruciform, emblematic of Christianity, soon operated to the most essential changes in their shape. The intersection of the crossing aisles produced a centre, which it was natural to enlarge and make principal in the composition; and the invention of domes, supported on pendentives, enabled the architects to give size and dignity to the centre, without interrupting the vista of the aisles. The church of St. Sophia, at Constantinople, was the first example of this form. Its best points were copied in the 10th century, by the Venetians, in the church of St. Mark. This is the first in Italy which was constructed with a dome supported on pendentives; and it is also this which first gave the idea, which has been imitated in St. Peter's, at Rome, of accompanying

Fig. 300.—CHURCH OF ST. MARK. (VENICE.)

the great dome of a church with smaller and lower domes, to give it a pyramidical effect.—Modern *B.* exist in Italy, which are applied, as the ancient were, to civil purposes. The most celebrated is that at Vicenza, after the design of Palladio, and called *Il Palazzo della Ragione.* In England the *Town Hall,* and in France the *Palais de Justice,* correspond, in some respects, to the modern Italian Basilicæ.

Basil'ic, Basil'ical, *a.* [Lat. *basilicus.*] In the manner of a church, cathedral, or other public building. (*Anat.*) Pertaining to certain parts, which the ancients supposed to have an important function in the animal economy.

Basilic vein.—A large vein of the arm proper, running along the *inner* side of the arm, and lying directly over the humeral artery. The *median basilic* is a short branch vein, running obliquely across the top of the fore-arm, in the bend of the elbow-joint, and joining the great basilic in the same manner that the median cephalic joins the cephalic on the *outer* side of the arm. For the illustration of these four veins, see figure to article BLEEDING.

Basil'ica, *n.* (*Law.*) A collection or digest of the *Corpus Juris* of Justinian, translated from the original Latin into the Greek language, under the superintendence of the Greek emperors of Constantinople, and chiefly of Basil, or Basilius I., whose reign commenced A. D. 867, and ended in 886.

Basil'ican, *a.* Basilical; belonging to, or resembling, a basilica.

Basilicata, in S. Italy. See POTENZA.

Basil'icon, *n.* [Gr. *basilikos,* royal.] (*Pharm.*) The name sometimes given to an ointment, composed of 5 parts resin, 8 parts lard, and 2 parts yellow wax. It is

much used as a stimulant dressing to blistered surfaces, with a view to keep up the discharge; and as a vehicle for other stimulating substances, such as savin and cantharides, or Spanish flies. In the Pharmacopœia it is called *ceratum resinæ*. It was formerly prepared with yellow wax, pitch, resin, and olive-oil, and was hence named *unguentum tetrapharmacum*, "the ointment with four drugs."

Basilid'ians, *n. pl.* (*Eccl. Hist.*) The name of a religious sect founded by Basilides, a Gnostic of Alexandria, who died A. D. 130. The two great dogmas which formed the ground-work of his system were those of emanation and dualism. He held that the unrevealed God evolved out of himself the several attributes which express the idea of absolute perfection, being the intellectual powers, the mind, the reason, the thinking powers, wisdom, might, and, lastly, the moral attributes. These seven powers, which he regarded as living, self-subsistent, and ever active, together with the primal ground out of which they were evolved, constituted the first *ogdoad*, or octave, the root of all existence. Each of these spiritual essences proceeded to evolve out of itself continually numberless gradations of existences, each lower one being still the impression, the *antitype*, of the immediate higher one. As he had in his system seven homogeneous natures in each gradation of the spiritual world, so he is said to have held that there were 365 such regions or gradations of the spiritual world, answering to the days of the year. One grand idea of this system was, that, in different degrees, and under different forms of application, one law pervades all stages and kinds of existence: and that everything, from the highest to the lowest, is governed by a single law. How he accounted for the existence of evil does not seem clear; but he held that everywhere, as rust deposits itself on the surface of iron, darkness and death cleave to the fallen seeds of light and life, — the evil to the good, the ungodlike to the godlike! — without, however, the original essence being thereby destroyed. The whole course of this present world he considers as intended for such an end; that the godliko may be cleansed from all impurities, and restored to their original purity. He considered the development of the human race as a process of purification, which was to be perfected by Christianity. His great aim was to lead men to consider the whole universe as one temple of God. Faith in the justice and goodness of God rose in his mind above everything else; and when he was perplexed with difficulties, his last words ever were, "I will say anything sooner than doubt the goodness of Providence." The development of this system led Basilides and his followers into many erroneous opinions, particularly with respect to the character and mission of Christ, whom he did not regard as the Redeemer; and held that he differed from other men only in degree, and, like the rest, himself stood in need of redemption.

Basil'ikon Do'ron, or Royal Gift, *n.* (*Lit.*) The name of a treatise composed by James I. of England, and published at Edinburgh in 1599, and at London in 1604. It is divided into three books, and contains precepts on the art of government, addressed by the king to his son, Prince Henry. This work is now but a literary curiosity.

Basilis'cus. See Zeno, (Emperor.)

Basilisk, (*bas'i-lisk*,) *n.* [Fr. *basilic;* Lat. *basilicus;* Gr. *basiliskos*, from *basileus*, a king.] The cockatrice, a fabulous serpent, with a white spot on its head resembling a royal diadem. It was supposed by the ancients to have been able to kill with its breath or sight only. According to Galen, its color inclined to yellow, and it had three small eminences on its head. Ælian says, that its poison is so penetrating as to kill the largest serpents with its vapor only; and that it will kill a man by merely biting the end of his stick. The sound of its hissing is enough to frighten away all other kinds of serpents. According to Pliny, the *B.* is able to kill all those who look upon it. It was also called a *cockatrice*, from the belief that it was generated from a cock's egg brooded upon by a serpent. All these details are put forth by Matthiolus, Galen, Dioscorides, Pliny, and Erasistratus. The absurdity of all the statements has, since that time, been thoroughly exposed.

(*Zoöl.*) The animal now recognized by the name of *B.* is a reptile, family *Ignauidæ*, of a very singular shape,

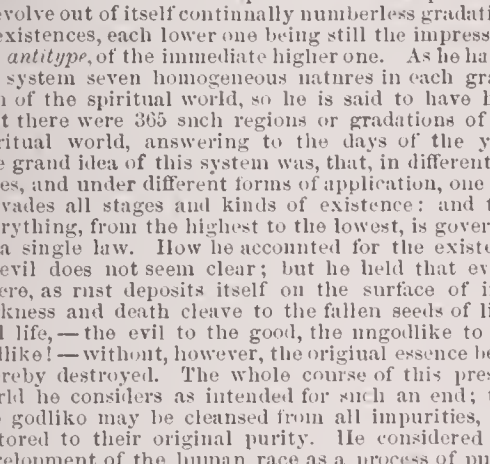


Fig. 301. — basilisk, (*Basiliscus mitratus.*)

being distinguished by a long and broad wing-like process or expansion along the back and upper part of the tail, and furnished at certain distances with interval radii analogous to those in the wings of the *draco*, or flying lizard. This process is capable of being either dilated or contracted at the pleasure of the animal; and the occiput, or hind part of the head, is elevated into a very conspicuous pointed hood or hollow crest. Notwithstanding its formidable appearance, however, the Basilisk is a perfectly harmless reptile, residing principally among trees, where it feeds on insects, &c. The general color of this animal is a pale cinereous brown, slightly varied on the back and sides with different shades of brown and blue, and silvery white on the belly. It is possessed of great activity, and from its peculiar structure can adapt itself to the watery element without inconvenience. It is most common in the tropical parts of South America.

Basil'ius I., or Basil, The Macedonian, Emperor of the East, was of low origin, but obtained employment at the court of the Emperor Michael III., became his chamberlain, murdered his rival Bardas, was associated in the empire, then murdered Michael, and succeeded him in 867. Though he had risen by a series of crimes, he governed wisely, made many reforms in the administration and in the army, and compiled a body of laws called the *Basilica*, which, augmented by his son and successor, Leo the Philosopher, were in force till the fall of the empire. *B.* deprived Photius of the See of Constantinople, and restored Ignatius; but on the death of the latter he recalled Photius. He successfully carried on war with the Saracens. D. 886.

Basil'ius II., Emperor of the East, was son of Romanus II., and with his brother, Constantine, was first associated in the empire by John Zimisces, and succeeded him in 976. His long reign was a series of wars with his rivals, Bardas, Selernus, and Phocas, with the Saracens, and with the Bulgarians. In 1014, after a great victory over the latter, having 15,000 prisoners, he had 99 out of every 100 deprived of their eyes, and thus sent home. This horrible cruelty caused the death of Samuel, king of the Bulgarians. The war ended in 1019, by the complete conquest of Bulgaria. D. 1025.

Bas'il, (Oil of.) (*Chem.*) An aromatic, ethereal oil, distilled from the root of the *Ocymum basilicum*. It deposits a stearoptene in 4-sided pyramids. Very soluble in hot water, it is again deposited in cooling. Its alcoholic solution reddens vegetable blues. Sulphuric acid turns it red.

Basilosau'rus, *n.* (*Pal.*) See Zeuglodon.

Bas'il, St., surnamed The Great, bishop of Cæsarea, in Cappadocia, where he was b. about 326. He was studying at Athens in 355, and there became the friend of Gregory, afterwards bishop of Nazianzero. After extensive travels, *B.* retired to the desert of Pontus, and there founded an order of monks. He succeeded Eusebius in the See of Cæsarea in 370, and by his opposition to Arian doctrines greatly offended the Emperor Valens. His constitution being much impaired by the austerities of a monastic life, he D. 380. — See Basilians.

Bas'il-weed, *n.* (*Bot.*) A plant of the genus Calamintha, order *Lamiaceæ*.

Ba'sin, or Bason, *n.* [Fr. *bassin;* Ger. *becken*, from *biegen*, to bend, curve, or inflect.] A hollow vessel or dish of circular form, used for various household purposes.

> "Let me attend him with a silver *basin*,
> Full of rose-water, and bestrewed with flowers."— *Shaks.*

—Anything hollow or concave resembling a basin; a pond; a small bay; an outer dock for shipping.

> "The spacious *basins* arching rocks enclose,
> A sure defence from ev'ry storm that blows."— *Pope.*

(*Arts and Manf.*) A vessel used by glass-makers for forming concave glasses. — An iron mould used by hatters. — The scale of a balance, &c.

(*Phys. Geog.*) It is applied to any collection of water, as seas, lakes, and rivers; and comprehends, in every case, all the countries which are drained by the waters which run into such sea, lake, or river. — The term is still more frequently applied to the drainage of a river; as, "The *basin* of the Mississippi." The character of a country, its climate, soil, and productions, frequently change from the basin of one river to that of another; and when in the basin of one river such changes are observed to occur, the formation of the basin commonly presents some point or place where the change begins to be sensible, and may consequently be indicated with some degree of certainty. Therefore, the true basis of the geographical knowledge of a country, is the study of the different basins into which it is divided.

(*Mar.*) The *basin of a dock* is a place where the water is confined by double flood-gates, or a caisson, and thereby prevented from running out at ebb-tide. The use of it is to contain ships either before they enter, or after they come out of the dock in which they are repaired. *B.* also implies some part of a haven which opens from a narrow channel into a spacious receptacle for shipping.

(*Geol.*) Any dipping or disposition of strata toward a common centre, which has resulted from the upheaval and subsidence of the earth's crust. The tertiary formations often occupy limited areas, and fill up the basins of the older strata; hence the use of such phrases as *London basin*, *Paris basin*, a *coal-basin*, or *coal-fields*, &c.

Ba'sined, *a.* Enclosed in a basin.

Bas'inet, *n.* Same as *bascinet*, q. v.

Ba'sing, a parish of England, in Hampshire, 2 m. from Basingstoke. During the Civil War, its magnificent castle, built by William Paulet, first Marquis of Winchester, Lord Treasurer to Queen Elizabeth, was heroically defended for two years by John, the fifth marquis, against the Parliamentary troops. On the 14th Oct., 1645, it was at last taken by storm by Cromwell, who, after plundering it of its rich treasures of art, burned it to the ground. *Pop.* of par. about 2,000.

Ba'singstoke, a town and par. of England, in Hampshire, 45 m. W.S.W. of London; *pop.* 5,134.

Ba'sin Harbor, in *Vermont*, a village and port of Addison co., on Lake Champlain, 20 m. S. of Burlington.

Ba'sin Knob, in *Missouri*, a village of Johnson co., 115 m. W. by N. of Jefferson city.

Basin Mountain, a picturesque peak of the Adirondack group, in Essex co., N. Y. It has an altitude little short of 5,000 feet.

Basioceratoglos'sus, *n.* (*Anat.*) A name given to a part of the hyoglossus, which is inserted into the corner of the os hyoides and base of the tongue.

Basiocestrum, *n.* [From Lat. *basis*, and Gr. *kestra*, a dart.] (*Surg.*) An instrument invented by Mesler, for opening the head of the fœtus in utero.

Ba'sis, *n;* *pl.* Bases. [Lat. *basis;* Gr. *basis*, from *bainō*, to step, to go.] That on which one steps, treads, or stands; foot or bottom; foundation; that on which anything rests.

> "Paradise . . . . must have the compass of the whole earth for a *basis* and foundation."— *Sir Walter Raleigh.*

—Support of anything; groundwork or first principle.

> "Build me thy fortune upon the *basis* of valour,"— *Shaks.*

—The chief component part of anything.

(*Chem. and Arch.*) See Base.

(*Gram.*) In prosody, the smallest trochaic rhythm.

Basis'ity, *n.* (*Chem.*) The state or quality of being a base.

Basis'olute, *a.* (*Bot.*) Prolonged at the base, as certain leaves.

Bas'ist, *n.* (*Mus.*) A bass-singer; one who takes the bass. (R.)

Bask, *v. i.* [From the root of Bake; Scot. *beik*, to warm; Sw. and Goth. *baka*, or *vasa*.] To lie in warmth or in the sun; to be exposed to genial heat; to enjoy ease and prosperity.

> "Though an unusual fit of love, or duty,
> Had made him lately *bask* in his bride's beauty."— *Byron.*

—*v. a.* To warm by continued exposure to heat, or to the sun's rays; to warm with genial heat.

> "Uulock'd in covers, let her freely run
> To range thy courts, and *bask* before the sun."— *Tickell.*

Baskahe'gan River, in *Maine*, rising in a lake of the same name, embouches into the Matawamkeag.

Bas'ket, *n.* [W. *basged*, or *basgawd*, from *basg*, a netting or plaiting, as of twigs or splinters, from *asg*, a piece split off, a splinter.] A domestic vessel made of twigs, rushes, splinters, &c., interwoven. — The contents of a basket; as, a *basket* of strawberries.

(*Arch.*) The vase of the Corinthian capital.

(*Mil.*) A gabion. See Gabion.

—*v. a.* To put in a basket.

Bas'ket-hilt, *n.* The hilt of a broadsword or other weapon, wrought in the form of basket-work, as a protection for the hand.

> "Their beef they often in their morions stew'd,
> And in their *basket-hilts* their bev'rage brew'd." — *King.*

Bas'ket-hilted, *a.* With a hilt of basket-work.

Bas'ketry, *n.* Baskets in general; a collection of baskets.

Bask'ing Ridge, in *New Jersey*, a post-village in the N.E. part of Somerset co., about 40 m. N.N.E. of Trenton.

Bask'ing-shark, *n* (*Zoöl.*) A species of fish, of the *Squalidæ* or Shark family; the Sun-fish of the Irish. See Squalidæ.

Bas'lard, and Baselard, *n.* (*Mil.*) A short sword or dagger worn in the 15th century. It was a mark of gentility, and was carried in front of the girdle.

Bas'le, Bas'el, or Bale, a N.W. canton of Switzerland, and the 11th in the Confederation, lying between 47° 25′ and 47° 37′ N. Lat.; having on the N. France and Baden; W. France and Soleure; S. the latter canton and Berne; and on the E. Argovia. Its shape is very irregular; greatest length 24 m.; breadth from 13 to 17. *Area*, 184 sq. m. The Jura chain runs through the country; its surface displaying, accordingly, mountains and valleys, with a level tract in the vicinity of the city of Basle. The most elevated mountain is the Hauenstein (about 3,000 ft.), over which there is an excellent and much frequented new road, leading from Basle to Aaran and Zurich. — *Rivers.* The Rhine and Birse. — *Clim.* Mild. — *Prod.* Corn and wine. — *Manf.* Ribbons, taffetas, silk thread, &c. This canton belonged in Roman times to the territory of the *Rauraci*. In the Middle Ages it formed part of the Burgundian empire, till 1026, when it was possessed by the German emperor, Conrad II. *B.* assisted the Swiss in the Burgundian war, and became a member of Conf. in 1501. *Pop.*, 1897, exclusive of the city of Basle, about 62,000.

Basle, one of the chief cities of Switzerland, and cap. of the above canton; Lat. 47° 30′ 36″ N.; Lon. 7° 35′ E.; 35 m. N.W. of Berne. It lies on both sides of the Rhine; that division of the S. being called *Great*, and that on the N. *Little B.*; they communicate by a bridge 600 ft. long. The city presents to the visitor a peculiar mixture of the gayety of a French, with the sombre Gothic air of a German, town. The cathedral, built in 1319, on the spot where the Roman emperor Valentinian originally erected the strong fortress called *Basilia*, contains the tombs of Œcolampadius, Erasmus, and the Empress Anne, consort of Rodolph of Hapsburg. There is here a gymnasium, schools, a public library and botanic garden, and many literary and scientific societies. *B.* is the richest town in Switzerland, and its inhabitants are industrious and well educated. — *Manf.* Ribbons, silks, gloves, stockings, &c. *Pop.*, 1897, 75,000. *B.* was the birthplace of Holbein, Erasmus and Bernouilli. This ancient city was ruled during the Middle Ages by a bishop, who was a prince of the German empire. It was taken by Rodolph of Hapsburg in 1267. In 1392 it became a free imperial city, which was, with the adjoining territory, admitted into the Swiss Confederation in 1501, when the bishops were expelled. A council was held here in Oct., 1061. The 18th General Council,

transferred from Pavia to Sienna, and from Sienna to *B.*, assembled 23d July, 1431, and was concluded 16th May, 1543. Its chief objects were the union of the Greek and Latin Churches, and a general reformation of the Catholic Church. The University of *B.* was founded by a papal bull of Pius II. in 1459. Treaties of peace were concluded here between France and Prussia, April 5 and May 17; between France and Spain, July 22; and between France and Hesse-Cassel, Aug 28, 1795. The French seized the city in 1798.

B., Council of. Announced at the Council of Constance, it was convoked by Pope Martin V., and his successor, Eugenius IV. It commenced its sittings, Dec. 14, 1431, under the presidency of the cardinal legate Juliano Cæsarini of St. Angelo. The objects of its deliberations were to extirpate heresies, (that of the Hussites in particular,) to unite all Christian nations under the Catholic Church, to put a stop to wars between Christian princes, and to reform the Church. But its first steps towards a peaceable reconciliation with the Hussites, against whom Juliano had unsuccessfully published a crusade, were displeasing to the Pope, who authorized the cardinal legate to dissolve the council. That body opposed the pretensions of the Pope, with severe animadversions on his deceitful conduct, and his neglect of the welfare of the Church; and, notwithstanding his repeated orders to remove to Italy, continued its deliberations under the protection of the Emperor Sigismund, of the German princes, and of France. In order to secure itself against the attacks of Eugenius IV., it re-enacted the decrees of the Council of Constance concerning the power of a general council, (in matters of faith, of schism, and of reformation,) to command the Pope, as well as all Christendom, and to punish the disobedience of the clergy, and even of the Pope, by virtue of its judicial character as the representative of the Universal Church. It likewise pronounced all the doings and remonstrances of the Pope against its proceedings of no force, and began a formal process against him, after he had issued a bull for its dissolution; required him, term after term, to appear before its tribunal, and exercised, as much as possible, the papal prerogatives in France and Germany. Meanwhile, it concluded, in the name of the Church, a peace with the Hussites, and then proceeded to the reformation of the clergy, by ordaining that the clergymen who maintained concubines, and the prelates who received money for permitting it, should be punished; that the *annates*, the sums paid for the *pallia*, &c., should be regarded as simoniacal, and should not, under any pretext, be demanded or paid in future; that the divine service, the mass, and the canonical hours should be regularly observed by the clergy of each class; that the Feast of Fools, and all irreverent celebrations customary in the Church about Christmas, should be abolished. In the 23d session, (March 25, 1436,) the form of election, the confession of faith, and the official oath of each pope, by which he bound himself to obey the decrees of the council, and the annual repetition of the same, were provided for; all preferment of the relations of a pope was forbidden, and the college of cardinals was limited to 24 prelates and doctors of all nations, who should be elected by the free votes of the college, should be entitled to half of the revenues of the States of the Church, should watch over the Pope, and always sign his bulls. General councils had always been objects of aversion to the popes, and often been prevented by them from assembling, on account of their limitations of the papal power; and the proceedings of the Council of Basle must have exasperated, to the highest degree, an obstinate man like Eugenius IV. He continually remonstrated with the sovereigns against the decrees of the council, which, in its turn, decreed his suspension from the papal chair, in the 31st session, (Jan. 24, 1438.) The removal of Eugenius, however, seemed so impracticable, that some prelates, who till then had been the boldest and most influential speakers in the council, left Basle; yet, after violent debates, (May 16, 1439,) the council declared Eugenius, on account of his obstinate disobedience of its decrees, a heretic, and formally deposed him, in the following session, as guilty of simony, perjury, violation of the laws of the Church, and bad administration in his office. At this session, the 34th, (June 25, 1439,) only two of the Spanish and Italian members were present; but the president adopted a spirited and effectual method for obtaining the decree. He ordered the holy relics, which existed in Basle, to be placed in the seats of the absent bishops, and produced such a strong excitement in the council, which still consisted of 400, for the most part French and German prelates, priests, and doctors, that it unanimously consented to the deposition of Eugenius. Notwithstanding the plague then raging in Basle, which continually diminished its number, it proceeded, in a regular conclave, (Nov. 17 of the same year,) to elect the Duke Amadeus of Savoy to the papal chair. Felix V.—which was the name he adopted—was acknowledged by only a few princes. The chief powers, France and Germany, assented to the decrees of the council for the reformation of the Church, but they chose to remain neutral in the contest with Eugenius. The council, thus deserted by its protectors, gradually declined. It held a last session in 1443, at Lausanne, where some prelates remained together until 1449, when, after the death of Eugenius and the resignation of Felix V., they accepted the amnesty offered them by Nicholas V. The decrees of the Council of *B.* are admitted into none of the Roman archives. Had its just and suitable decrees for the reformation of the papal government, and clerical discipline of the Church, been executed, the Reformation of Luther would have, perhaps, never occurred.

Bas'nage de Beau'val, Jacques, an eminent French theologian and historian, b. at Ronen, in 1653, where he became pastor in 1676. On the revocation of the Edict of Nantes, he took refuge in Holland, became pastor at Rotterdam, and afterwards, at the Hague, enjoyed the friendship of the Grand Pensionary Heinsius, and was employed in several political negotiations. The most esteemed of his numerous works are, *La Communion Sainte; Histoire de la Religion des Églises réformées; Antiquités Judaïques*, &c. D. 1723.

Bas'nettsville, in *West Virginia*, a village of Marion co.

Basque Provinces, (*bask,*) [Sp. *Vascongadas Provincias.*] a territory of Spain, comprising the three prov. of Biscay, Alava, and Guipuzcoa, bounded N. by the Bay of Biscay, E. by Navarre, S. by the prov. of Logroño, and W. by Burgos and Santander. Lat. between 42° 25′ and 43° 28′ N.; Lon. 1° 44′ and 3° 25′ W. *Area*, 2,971 sq. m. *Desc.* Mountainous and picturesque; the hills being generally covered to their summits with arboraceous vegetation. Its pastures are rich, soil fruitful, and agriculture flourishing. *Prod.* Cereals, fruits, and flax. Many sheep are reared. *Min.* Iron, tin, copper, marble, &c. *Inhab.* The Basques are a brave and primitive race, much attached to music and dancing, and eminently suited to that mode of guerilla warfare, by which they have so long preserved their independence. Humboldt supposes them to be the descendants of the ancient Iberians, and they are believed to have, at different periods, held all Spain under their sway. Their language has no analogy with any other living tongue, and is believed to have been, in remote ages, in use over the whole of the Iberian peninsula.—The Basques were subdued by the Goths, about A. D. 485. Guipuzcoa and Alava were united to Castile in the 13th century, and Biscay was annexed to Castile, by Peter the Cruel, in the 14th. *Chief towns.* Bilbao, San Sebastian, and Vittoria. *Pop.* 429,186.—There is also in France a territory which was formerly called the "Basque country," but which is now comprised in the dep. *Basses Pyrénées.*—See Alava; Biscay; Guipuzcoa.

Basque, *a.* Pertaining to the Basque provinces, their people or language.

Basque, Basquina, (*bask, bas-kē'na,*) *n.* A part of a woman's dress, resembling a jacket with a short skirt attached to it, as worn by the women of the Basque provinces, whence it, doubtless, derived its name.

Basqui'ua, *n.* See Basque.

Bas'quish, *a.* Relating to the Basque provinces; basque.

Bas'ra, in Asiatic Turkey. See Bassora.

Bas-relief', *n.* (*Sculp.*) See Basso-Relievo.

Bass, *n.* (*Zoöl.*) The *Labrax*, a genus of acanthopterygious fishes, distinguished from *Perca* by scaly opercula terminating in two spines, and by a rough tongue. The striped *B.*, *L. Lineatus*, is a salt-water fish, which keeps near the land, ascending fresh-water streams in Spring, to breed. It is from 1 to 4 feet long, brown above, silvery beneath, and is very common on the coast of New England. Some specimens weigh 75 pounds each. It readily bites at the hook, and is taken in large quantities with the seine.

(*Bot.*) [Teut. *bast;* A. S. *bæst.*] A name of the Lime-tree, *Tilia Americana.*—See Tilia.

—A hassock or mat made of the inner bark of the linden-tree, rushes, sedge, flags, &c., interwoven. See Bast.

Bass, (*base,*) Basso, *n.* [It. *basso.*] (*Mus.*) The base in music; the lowest part in the harmony of a musical composition. The bass is, with sound musicians, the most important of all the parts; it is indeed the foundation of harmony, the support of the whole superstructure of the composition. The word *bass* is technically used in various ways, as *thorough bass, fundamental bass, ground bass, figured bass*, &c. A *figured bass* is a bass with figures written over or under each note, to indicate the accompanying harmonies. The term *figured bass* is used as synonymous with *figurative bass*, meaning a bass not confined to the plain *canto-fermo* style, but moving with more freedom, and with a melody of its own, for instance, the bass in Bach's arrangement of "Old Hundred."—*Fundamental bass* is that bass which forms the tone or natural foundation of the incumbent harmony, and from which, as a lawful source, that harmony is derived. To explain this by example: If the harmony consists of the common chord of C, C will be its fundamental bass, because from that note the harmony is deduced; and if, while that harmony is continued, the bass be changed to any other note, it ceases to be fundamental, because it is no longer the note from which that harmony results, and is calculated. *Ground bass* is used sometimes as synonymous with *fundamental bass*, and sometimes as a bass which starts with some subject of its own, and continues to be repeated throughout the movement, while the upper part or parts of the composition pursue a separate air, and supply the harmony. This kind of bass was greatly in fashion about half a century ago, but has for some time been rejected, as an unnatural restraint upon the imagination, and productive of a monotonous melody. *Thorough bass* is the art by which harmony is superadded to any proposed bass, and includes the fundamental rules of composition. This branch of musical science is twofold—theoretical and practical. Theoretical thorough bass comprehends the knowledge of the connection and disposition of all the several chords, harmonious and dissonant, and includes all the established laws by which they are formed and regulated. Practical thorough bass is conversant with the manner of *taking* the several chords on an instrument, as prescribed by the figures placed over, or under, the bass part of a composition, and supposes a familiar acquaintance with the powers of these figures, a facility in taking the chords they indicate, and judgment in the various applications and effects of those chords in accompaniment. The bass is that part of a concert which is the most heard, which consists of the gravest and largest sounds, or which is played on the longest pipes or strings of a common instrument, or on instruments larger than common for the purpose.—See Contra-basso.

Bass, *a.* (*Mus.*) Low; deep; base.

—*v. a.* To sound in a deep tone.

"That deep and dreadful organ-pipe, pronounc'd
The name of Prosper; it did *bass* my trespass."—*Shaks.*

Bass, in *California*, a village of Shasta co., on the Sacramento River, 10 m. N.E. of Shasta.

Bass, or **Bass Rock,** a rocky islet of Scotland, in the Frith of Forth, off the coast of Haddingtonshire. It is of a circular form, about 300 ft. in diameter, and 400 ft. high. It overhangs the sea in lofty precipices,

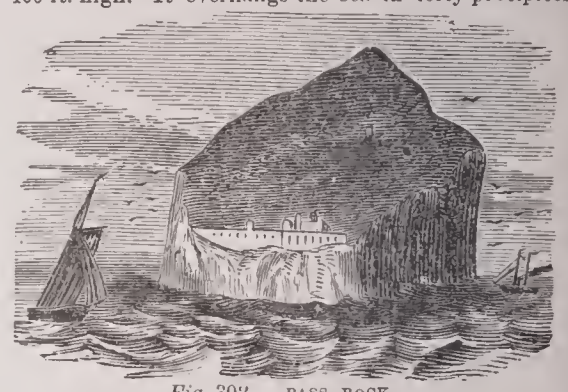


Fig. 302 — Bass Rock.

which at their bases are perforated into vast excavations and caverns. Great numbers of Solan geese resort to it for breeding. Lat. 56° 3′ N.; Lon. 2° 35′ W.—After the revolution of 1688, a few desperate adherents of the Stuart cause scaled this rock; which held out the longest of any place in Britain for James II.

Bass, George, an English discoverer, whose name has been given to the strait which separates Tasmania from Australasia. He was a surgeon in the English navy, and went to New South Wales, in company with the celebrated Flinders, 7 years after the colony was founded. Having in the two previous years made several surveying voyages along the S. coast, *B.* was, in 1797, sent out on a voyage of discovery in a little whale-boat with only 6 of a crew. Though provisioned for only 6 weeks, *B.* persevered in his expedition for 77 days, and having sailed 600 m., returned to Port Jackson with the news that Tasmania (Van Diemen's Land) was not part of the Australian continent, but a separate island. The discovery was confirmed in 1798, when *B.* and Flinders made a voyage in company.

Bassa. See Pasha.

Bassano, (*bas-sa'no.*) a walled town of N. Italy, prov. of Vicenza, on the Brenta, 19 m. N.N.E. of Vicenza, and 21 N. by W. of Padua. It is well built, and seated in a fine salubrious country. *Manuf.* Silk, straw hats, &c. On 8th Sept., 1796, the Austrian general Würmser was defeated here by the French under Marshals Massena and Augereau. *Pop.* 14,411.

Bassa'no, Jacopo, or Giacomo da Ponte, an Italian painter, b. at Bassano, in 1510. In early life he went to Venice, where he studied the great works of Parmegiano, Titian, and Bonifazio. He spent the rest of his life at his native place. His first productions had much grandeur of conception and excellence of color, but he afterwards painted in a coarser and lower style. He treated even sacred subjects with a vulgar familiarity. *B.* worked rapidly, and his paintings are very numerous. There are 3 of them in the National Gallery, London. D. 1592.

Bassa'no, Hugues Bernard Maret, Duke de, a celebrated French publicist and statesman, b. at Dijon, 1763. On the first outburst of the French revolution he enthusiastically embraced its principles, published the *Bulletin de l'Assemblée*, and soon after was appointed editor of the *Moniteur*. He became acquainted with Bonaparte, and was made by him *chef de division* in the ministry of foreign affairs. In 1792 he was sent to England, ostensibly to secure the neutrality of the British government, but in reality to hoodwink that government until the moment should arrive at which it could be efficiently assailed. But the English minister of that day was too clear-sighted even for French diplomacy. Both Maret and the French ambassador, Chauvelin, were peremptorily ordered out of England; and the former, soon after his return home, was sent as ambassador to Naples, but was captured on his way thither by the Austrians, and detained as prisoner till 1795. Maret took an active part in the intrigues set on foot for the overthrow of the Directory, and when the establishment of the Consulate crowned the success of these intrigues, he was made secretary to the council of state. Subsequently he was private secretary to Napoleon, to whose dictation, it is said, not a few of the articles in the *Moniteur* were written. In 1811, Maret was created Duke de Bassano, and appointed Minister of Foreign Affairs; and in 1812 he conducted and signed the treaties between France, Austria, and Prussia, preparatory to the fatal expedition to Russia. When the emperor was sent to Elba, in 1814, *B.* retired from public life; but immediately after Napoleon's return he joined him, and was very nearly being taken prisoner at Waterloo. On the emperor's final overthrow, the Duke was banished from France, but at the revolution of July, 1830, he was recalled, and restored to all his honors. In 1838 he was made Minister of the Interior, and President of

the Council, but the ministry of which he formed a part survived only three days. D. 1839.

Basse, *n.* (*Zoöl.*) See Bass.

Basse-Chantante, (*bās'shan-täng,*) *n.* [Fr.] (*Mus.*) The higher of the two basses in a score, partaking of more melody, and performed by the violoncello.

Bas'sein, a seaport of Hindostan, prov. of Aurungabad; separated from Salsette by a narrow channel, and about 50 m. N. of Bombay. Lat. 19° 20′ N.; Lon. 72° 56′ E. It was ceded to the English by the Peishwa in 1862.

Bas'sein, a British seaport town of Burmah, on the left bank of the Birman river (the right branch of the Irawaddy); Lat. 16° 49′ N.; Lon. 94° 45′ E.; 100 m. W. of Rangoon, and 360 S.S.W. of Ava. *Pop.* about 5,000.

Bas'set, or **Basset',** *n.* [Fr. *bassette;* It. *bassetta,* from *basso,* low.] (*Games.*) A game at cards, played somewhat similar to the modern faro. It is of Venetian invention, and was formerly much played in France. Louis XIV. issued some very severe decrees against it, after which *B.* was played under the name of "*pour et contre.*"

> "Some dress, some dance, some play; not to forget
> Your piquet parties, and your dear *basset.*"—*Rowe.*

B. is played as follows:—The banker deals the cards in pairs, and each *punter,* or player, has a *livret* of 13 cards, from which he selects one or more, and stakes on them. The principle of the game depends upon the corresponding card in the banker's pack turning up in an odd or an even place. When a player wins, he may either take his money or go on, risking his stake and gains. The first time this is done it is called *paroli,* or "double;" the second time, *sept et le va,* "seven and it goes;" the third time, *quinze et le va,* "fifteen, &c.;" the fourth time, *trente et le va,* "thirty-one, &c.;" and on the fifth risk, *soixante et le va,* "sixty-three, &c." In all cases the odds are greatly in favor of the banker; it is 1·023 to 1 against the player winning ten successive games.

Bas'set, *n.* (*Geol.*) The emergence of strata at the surface; the outcrop.

—*v. i.* (*Geol.*) To crop out or upward so as to appear at the surface; as, a vein of coal *bassets.*

—*a.* (*Geol.*) Inclined upward; as, the *basset* edge of strata.

Basseterre, (*bas'tair,*) a town of the island of St. Kitt's, in the W. Indies, belonging to Great Britain. Lat. 17° 17′ 30″ N.; Lon. 62° 42′ W. It is situate on the S. side of the island, at the mouth of a river opening into a bay called Basseterre Roads.

Basse'terre, a seaport and cap. of the island of Guadaloupe, in the W. Indies, belonging to the French. It possesses no proper harbor, but has an open roadstead. It is the residence of the governor. *Pop.* about 5,000.

Bas'set-horn, *n.* [Fr. *Cor Anglais;* It. *corno di bassetto.*] (*Mus.*) A musical instrument, now but seldom used. Its tone is sweet and mellifluous, and in solo passages it is capable of producing very striking effects. In form it resembles a large hautboy, a little bent at the top. Its real compass comprises the notes contained between F bass and B alt., except the note F sharp, which is deficient. As the player of the hautboy generally takes this instrument, the part for it is usually scored a fifth higher than its real pitch.

Bas'seting, *n.* (*Geol.*) The upward direction of a vein in a mine, or of a stratum.

Bassette', *n.* [Fr.] A game at cards. (See Basset.)—A small bass-viol.

Basset'to, *n.* [It., Counter-tenor.] (*Mus.*) A small bass-viol; a tenor instrument.

Bas'sett's Creek, in *Alabama,* takes a S.W. course through Clark co., into Tombigbee River.

Bas'sett's Station, in *Wisconsin,* a post-office of Kenosha co.

Bass'-horn, *n.* (*Mus.*) See Bassoon.

Bassi, Ugo, (*bas'se,*) a Barnabite monk, and distinguished Italian patriot, b. at Cento, in the Roman States, in 1804, of an Italian father and Greek mother. He was much distinguished among the brethren for his extraordinary learning and talents; while the purity of his life, the goodness of his heart, and his eloquence as a preacher, made him the idol of the people. The liberality of his political opinions, however, and the boldness of his sermons, rendered him obnoxious to the papal court, and he was sent into a sort of exile in Sicily, from which he only returned on the accession of Pius IX., in 1846. On the breaking out of the Lombard revolution in 1848, bodies of volunteers hastened from Rome to aid their fellow-countrymen in their struggle against the Austrians. *B.* was among the first who went to Treviso, where he greatly distinguished himself by his valor in battle, and his untiring services in the hospitals. On the capitulation of Treviso, *B.* went to Venice, where he fought in the ranks against her Austrian besiegers. Thence he went to Rome, and joined Garibaldi's legion as chaplain, but took part in every engagement, and inspired even that intrepid band with greater ardor, by his fiery enthusiasm in battle, and the tender and womanly devotion with which he tended the wounded and the dying. On the fall of Rome, *B.* was one of those who followed General Garibaldi when he made a last attempt to fight his way to Venice, which still held out against the Austrians. The little band was, however, dispersed and cut up by Austrian troops, and Garibaldi himself escaped with great difficulty. *B.* was taken prisoner, carried to Bologna, and condemned to death. The ecclesiastical authorities of Bologna, far from opposing the sentence, merely stipulated, with refined cruelty, that, previous to the execution of the sentence, the crown of *B.*'s head and the inside of his hands, on which the oil of consecration had been poured on the occasion of his taking orders, should be flayed. This barbarous order was accordingly executed in the chapel of the prison, in such a manner as to cover the victim with blood. On the 18th Aug., 1849, a little before dawn, *B.* was taken to a deserted field adjoining the cemetery of Bologna, to be shot. He was pale but firm; and while the soldiers were taking aim, he said, "I die innocent—I die for liberty—I forgive my murderers. Viva Jesu! viva Maria! viva"—but the word "Italia" was lost, stifled by the bullets of the Croats. His mother heard of her son's fate without a tear. Three times she repeated his name, and then expired.—*B.* was the author of a work on *The Church after the Image of Christ,* and an unfinished poem called, *Constantine, or the Triumph of the Cross.* His talents were universal. He was an accomplished musician and composer, wrote his own language in remarkable perfection, and was a perfect master of Greek, Latin, English, and French. He was equally remarkable for his personal beauty, and his eloquence as an improvisatore, while his memory was so prodigious, that he is said to have been capable of reciting the whole of Dante's *Divina Commedia.*

Bassia, (*bās'se-a,*) *n.* (*Bot.*) A genus of plants, order *Sapotaceæ.* The species are trees; natives of tropical or sub-tropical regions. They are remarkable for their fleshy flowers and oily seeds. In India, the fatty oils procured from the ripe kernels of *B. latifolia,* the Madhuca-tree, and *B. longifolia,* the Elloopa-tree, are made use of for burning in lamps, for culinary purposes, for making soap, and, medicinally, for external applications in cutaneous affections. The fleshy flowers and fruits are used as food, and from the former an alcoholic liquor is distilled. The wood of *B. longifolia* and other species is very hard and durable. The Shea or Galam butter, which forms an important article of internal commerce in Central Africa, is thought by some to be the produce of a species of bassia.

Bas'sic Acid, *n.* (*Chem.*) A crystalline, fatty acid, extracted from the fat of *Bassia latifolia* and *Cocculus indicus.* Fusing point, 159°.

Bas'sinet, *n.* [Fr.] A kind of hooded wicker-basket, somewhat resembling a cradle, in which infants are placed for repose.

Bass Lake, in *Minnesota,* a post-office of Faribault co.

Bas'so. *n.* [It.] (*Mus.*) A bass-singer. See Bass.

Basso-profundo is the chief singer of deep bass, in oratorio or opera music, &c.

Bas'sock, *n.* A mat.—The same as Bass, *q. v.*

Bassompierre, (*bās'som-pē-air,*) François de, Marshal of France, one of the most distinguished and most amiable men of the courts of Henry IV. and Louis XIII., was born in 1579, in Lorraine, and descended from a branch of the family of Clevcs. After travelling through Italy, he appeared at the court of Henry IV., where his taste for splendor, play, and gallantry made him conspicuous in the feasts and sports of the capital. In 1602, he made his first campaign against the Duke of Savoy, and fought with equal distinction, in the following year, in the imperial army, against the Turks. His love of France soon called him back. In 1622, Louis XIII. appointed him marshal of France, and became so much attached to him, that Luynes, the declared favorite, alarmed at his growing influence, insisted upon his removal from the court, leaving him the option to accept either an embassy, or the chief command of an army, or the office of a governor. *B.* decided upon an embassy, and occupied this post successively in Spain, Switzerland, and England. After his return, he entered again into the military service, and was present at the sieges of Rochelle and Montauban. Cardinal de Richelieu, who soon after obtained entire control of the king and the country, feared the boldness of *B.* and his secret connection with the house of Lorraine; whose machinations served him as a pretext for sending *B.*, in 1631, to the Bastille, from which he was not released till 1643, after the death of the cardinal. During his detention, he occupied himself with writing his memoirs, and the history of his embassies, which shed much light on the events of that time. D. 1646.

Bassoon, (*bās-soon',*) *n.* [Fr. *basson,* from *bas,* low, grave; It. *basso.*] (*Mus.*) A wind instrument which serves for a bass; it is made of wood, and played by means of a bent mouth-piece and reed. It is believed to have been first introduced into use by Handel, as an aid to the hautboy, which it so closely resembles in tone as to make it the natural bass of that instrument. The compass of the *B.* extends from double B flat up to B flat in alt., 3 octaves; including all the intermediate semitones except B natural. When the *B.* ascends very high, the notes are generally written in the tenor clef.—The *bass-horn* is a modification of this instrument, much lower and stronger in its tones.

Fig. 303.
BASSOON.

Bassoon'ist, *n.* A player or performer on the bassoon.

Bas'sora, Bas'ra, Bus'sora, or Bus'rah, (*bas'o-ra.*) [Ar., a margin.] A city of Asiatic Turkey, in the pashalic of Bagdad; the most eastern place of note in the Turkish dominions, and the principal port of the Persian Gulf, on the S.W. bank of the Euphrates, or, as it is here called, the *Shat-ul-Arab,* ("River of the Arabs,") 70 m. from its mouth, and 45 below its junction with the Tigris, 270 m. S.E. of Bagdad, and 220 W.N.W. of Bushire. Lat. 30° 29′ 30″ N.; Lon. 47° 34′ 15″ E. The walls, which are washed by the river, are about 7 m. in circumference, within which space are extensive date-tree plantations and corn-fields. The houses of the city are mostly built of clay, faced with burnt brick, and the streets are both irregular and unclean.—*Com. B.* is the principal emporium of the empire for Eastern commodities, and has, necessarily, an extensive trade.—*Imp.* Silk, muslin, linen, gold and silver stuffs, cloth, metals, sandal-wood, and indigo; pearls from Bahrein, and coffee from Mocha; fruits and the precious metals from Persia; spices from Java; and European goods from various ports.—*Exp.* The precious metals, copper, dates, gall-nuts, raw silk, gold fringe; and horses to India. Caravans convey goods to Aleppo and Bagdad, whence they are sent on to Constantinople.—*Pop.* Estimated at 60,000.—This city was founded by Omar A. D. 636, and captured during the revolt against Ali, by Telha and Zobeir, aided by Ayesha, the widow of the prophet, in 658. The Saracens were dispossessed of it by the Turks in 701. On the 16th April, 1776, it was taken by the Persians, and recovered by the Turks in 1778.

Basso'ra, in *Missouri,* a village of Franklin co., on the Missouri, 50 m. W. of St. Louis.

Bas'sora, (Gum,) *n.* (*Chem.*) A gum of a yellowish-white color, obtained from the *Acacia leucophlæa* and other species of the same genus. It consists essentially of water, 21·89; ash, 5·6; arabin, 11·2; bassorin, 61·31. Sp. grav. 1·3591. It is intermediate in its transparency between gum-arabic and gum tragacanth. *B. G.* is not used in medicine.

Bas'so-relie'vo, (Bas-relief,) *n.* [It. *basso,* low, and *relievo,* relief; Fr. *bas-relief.*] (*Sculp.*) Low relief; a term applied to that class of sculptures whose figures do not stand out far from the ground or plane on which they are formed. It differs from *alto-relievo* (high-relief), in that the latter is that in which the grosser parts are only attached, while the smaller parts are free; and from *mezzo-relievo* (meau-relief), which is a term used for a kind of composition between the two. *B.-R.* was by the Greeks denominated *anaglypta.* (Pliny lib. 33, c. 11.) The most ancient and most simple kind of basso-relievos used by the Egyptians, were cut by recessing the grounds as much as the projection of the figures, so that the surrounding surfaces, by forming a kind of border, both

Fig. 304.—PROW OF A WAR-GALLEY.
(Basso-relievo, from the column of Trajan, Rome.)

threw a shade upon the figures and defended them from injury, which they were liable to, as the granite out of which they were cut was of a very brittle nature; by this means much labor was saved in the execution. The Egyptians also employed *B.-R.* without any surrounding border, all the figures being raised from the same, naked. The *B.-R.*'s found in the excavations of the Indian temples bear a strong resemblance to those of the Egyptians, but are inferior in point of proportion, the heads being too large. The Persians employed the *B.-R.* in their architectural decorations, as may be seen in the palace of Persepolis, and in the royal tombs. The Greeks excelled in the execution of *B.-R.*, as is sufficiently evidenced by the sculpture in the pediments and friezes of the Parthenon, the temples of Theseus, Minerva, &c. The basso-relievos of the Romans were, perhaps, at first confined to their tombs. They never attained a just knowledge, or taste, of the art of sculpture. Their best works were executed by Grecian artists, and are chiefly to be found in the triumphal arches, which are richly charged with basso-relievos. The art attained its greatest perfection in the reign of Augustus, and was greatly on the decline in the days of Constantine. The basso-relievos of the column of Trajan (see *Fig.* 304) are magnificent specimens of the ancient art. Among the famous modern *B.-R.* are those of Bandurli, Ghiberti, Lucca della Robbia, Puget, Canova, Thorwaldsen, Flaxman, David (d'Angers), &c.—See Alto-Relievo, and Relievo.

Bas'sorin, *n.* (*Chem.*) A peculiar principle existing in gum-bassora, gum-tragacanth, and gum-kuteera. It is colorless, semi-transparent, insipid, inodorous, and amorphous; tough, and not easily pulverized; insoluble in water, but swelling up, and becoming like jelly; insoluble in alcohol. It is obtained by exhausting gum-bassora, or tragacanth, with cold water; *B.* remains in a gelatinous form.

Bass's Strait, the name given to the strait separating S. Australia from Tasmania, or Van Diemen's Land. It is so called from Mr. Bass, an English naval surgeon, who explored it in 1798, in an open boat. Where narrowest, it is about 105 m. across, and is much encumbered with islands and coral reefs, requiring careful navigation. The prevailing winds are from the W. The tide rises from 8 to 12 ft., running at from 1½ to 3½ m. an hour.

Bass-vi'ol, *n.* (*Mus.*) See VIOLONCELLO.

Bass'-wood, *n.* (*Bot.*) See TILIA.

Bast, *n.* [A. S. *bæst* Ger. and Du. *bast.*] The inner bark of the lime-tree; matting or cordage made out of this material. — A hassock or thick mat. — See BASS.

Bas'ta! *interj.* [It.] (*Mus.*) Hold! enough! stop! An expression used by the leader or conductor of an orchestra, or band of music, to stop any performer.

Bas'tard, *n.* [Fr. *bâtard*; W. *basdardd, basu,* to lower, and *tardd,* an issue, a budding or sprouting; Arm. *bastard.*] A lower base shoot or offspring: a child begotten and born out of wedlock; an illegitimate child.

(*Hist. and Law.*) The Romans distinguished two kinds of natural children — *nothi,* the issue of concubinage, and *spurii,* the children of prostitutes: the former could inherit from the mother, and were entitled to support from the father; the latter had no claims whatever to support. *Is non habet patrem, cui pater est populus.* The Athenians treated all *B.* with extreme rigor. By the laws of Solon they were denied the rights of citizenship. What rendered these regulations more severe was, that not only the issue of concubinage and adultery, but all children whose parents were not both Athenians, were considered *B.* at Athens. Thus Themistocles, whose mother was a native of Halicarnassus, was deemed a *B.* The condition of *B.* has been different in different periods of modern history. Among the Goths and Franks, they were permitted to inherit from the father. William the Conqueror, natural son of Robert I., Duke of Normandy, and of Arlette, daughter of a farrier of Falaise, inherited his father's dominions. He called himself *Willelmus, cognomento Batardus.* The celebrated Dunois styled himself, in his letters, the *Bastard of Orleans.* In Spain, *B.* have always been capable of inheriting. The bastardy of Henry of Trastamare did not prevent his accession to the throne of Castile. In France, the *Code Civil* thus fixes their rights: If the father or mother leave legitimate descendants, the *B.* is entitled to one-third of the portion he would have inherited had he been a lawful child; if the father or mother die without descendants, but leave asceudants. or brothers or sisters, then he is entitled to one-half of such a portion; if the father or mother leave no ascendants nor descendants, nor brothers nor sisters, he is entitled to three quarters of such a portion; and if the father or mother leave no relations within the degrees of succession, he is entitled to the whole property. These regulations do not apply to the issue of an incestuous or adulterous connection. According to the ancient customs, the bastards of kings, acknowledged by their fathers, were princes: those of princes were gentlemen. — By the common law of England, a child born after marriage, however soon, is legitimate, or at least he is presumed to be so; for one born in wedlock, and long enough after the marriage to admit of the period of gestation, may still be proved illegitimate, in case of absence and non-access of the husband, and under some other circumstances. According to the common law, a *B.* is not the heir of any one; and, on the other hand, his only heirs are his children born in wedlock, and their descendants. According to the Roman law, one born out of wedlock might be legitimated by subsequent marriage and acknowledgment of his parents. In 1236, the English prelates proposed the introduction of the Roman law, in this respect, into England, to which the nobility made the celebrated reply, *Nolumus leges Angliæ mutare,* ("We are unwilling to change the laws of England.") Legitimation *per subsequens matrimonium* has been in force for many years in Vermont, Maryland, Virginia, Georgia, Alabama, Mississippi, Louisiana, Kentucky, Missouri, Indiana, and Ohio. So, in Massachusetts, bastards are considered legitimate after the intermarriage of their parents and recognition by the father. Similar statutes are to be found in Maine, New Hampshire, Pennsylvania, Vermont, Tennessee, and elsewhere. There is, however, no legal presumption that the man who marries the mother of a bastard was its actual father; and some recognition of paternity, or else an adoption, is a usual element in intermarriages of this kind. See Jas. Schouler's *Treatise on the Law of the Domestic Relations.*

(*Sugar Refining.*) An inferior quality of soft brown sugar, obtained from the concentration of syrups that have already given sugar by several boilings. — A large-sized mould, in which sugar is drained.

—A kind of sweet Spanish wine, resembling muscadel in flavor.

"Then your brown *bastard* is your only drink." — *Shaks.*

Bas'tard, *a.* Illegitimate; born out of wedlock; as, a *bastard* child. — Spurious; not genuine; false; applied to things that have an *apparent,* but not *real,* genuineness.

"I love the language, that soft *bastard* Latin,
Which melts like kisses from a female mouth." — *Byron.*

(*Printing.*) Abbreviated, as the half-title on the page preceding the full title of a book. — *Bastard file.* A file of a description between the roughest and the second cut.

Bas'tard, *v. a.* To determine to be a bastard.

"She lived to see her two sons . . . *bastarded* in their blood." *Bacon.*

Bas'tard Bar. (*Her.*) See BATON.

Bas'tardize, *v. a.* To make or prove to be a bastard; to convict one of being a bastard; to stigmatize with bastardy.

—To beget an illegitimate child.

"Had the maidenliest star in the firmament twinkled on my *bastardizing.*" — *Shaks.*

Bas'tardy, *n.* The state of being a bastard; illegitimacy.

"No more of *bastardy* in heirs of crowns." — *Pope.*

Bastar'næ, *n. pl.* (*Hist.*) A powerful tribe, of Sarmatian origin, who first appear in history during the reign of Persens in Macedon. B. C. 178–168, to whose army they contributed 20,000 mercenaries. Having encroached upon Roman territory, they were driven across the Daunbe by M. Crassus, B. C. 30, and ultimately settled between the rivers Dniester and Dnieper.

Baste, (*bāst,*) *v. a.* [O. Fr. *bastonner,* from *baston, bâton,* a stick or club.] To beat with a stick or cudgel.

"Quoth she, I grant it is in vain,
For one that 's *basted* to feel pain." — *Hudibras.*

—To rub meat, while roasting, with a piece of bacon, fat, or butter, at the end of a stick; to pour dripping fat or gravy over a joint of meat at the fire to keep it from burning or undue scorchiug.

"Sir, I think the meat wants what I have, a *basting.*" — *Shaks.*

Baste, (*bāst,*) *v. a.* [Sp. *basteár;* It. *basta,* probably from Fr. *bâtir,* for *bastir,* to build, to frame, to put together.] To put together the pieces of a garment by slight preparatory stitching; to sew with long stitches; to sew slightly. — To brand or mark a sheep with tar, &c. — Used in some parts of England.

Bastia, (*bas'te-a,*) (anc. *Mantinum,*) a fortified seaport town of Corsica, cap. of an arrond. on its E. coast, within 23 m. of its N.E. extremity; Lat. 42° 43′ N.; Lon. 9° 26′ E. The harbor is only accessible to small vessels. *Manf.* Soap, leather, liquors, and wax. *Pop.* 21,234.

Bas'tiat, FREDERIC, a French political economist, B. at Bayonne, 1801. He was one of the first leaders of the free-trade agitation in France, and published, after a visit to England, a translation of the speeches of the English Anti-Corn-Law agitators, with an introductory account of *Cobden et la Ligue.* Afterwards he edited the French journal founded for the propagation of free-trade doctrines. In 1848–9, he was successively member of the constituent and the legislative assemblies. His principal work is entitled *Harmonies Economiques.* D. 1850.

Bas'tide, JULES, a French author and journalist, B. at Paris, 1800. He entered upon the legal profession, and took an active part in the opposition to the Restoration. Taking part in the disturbances of the 5th and 6th June, 1832, he was obliged to seek an asylum in England. In his absence he was condemned to death, *par contumace;* but on his return to France, two years afterwards, he underwent his trial, and was acquitted. For several years he then edited the "*National.*" On the 6th May, 1848, he was appointed Minister of Foreign Affairs; a post in which he was continued till the 10th Dec., by his friend, Gen. Cavaignac. He is the author of many political, philosophical, and scientific works; among them a treatise on *Public Education in France,* a *History of the French Religious Wars,* and a work entitled, *The French Republic and Italy,* Brussels, 1858. D. 1879.

Bastile', *n.* [O. Fr. *bastille,* fortress, from *bastir, bâtir,* to build.] In its original sense, a wooden tower or fortalice temporarily used in warfare; a tower; a fortification. In England, this name is sometimes given to a poor-house. — See BASTILLE.

Bastille, (*bās-teel',*) THE. (*Hist.*) A former state-prison of France, similar to the Tower of London, and commenced in the reign of Charles V., 1370, by Hugh D'Anbriot, Mayor of Paris. It was not completed until 1383, and was afterwards improved and strengthened in such a manner, that it became one of the strongest fortresses of the kind in Europe. The discipline and the police regulations of this once famous and all-dreaded prison, were of the strictest kind; and the secrecy maintained as to the persons confined in it, caused it for centuries to be regarded with mingled feelings of awe and horror. Once within its walls, hope seemed left behind. The noblest, equally as the meanest of the land, were liable to be arrested and conveyed to it, unknown to their friends, unconscious of the offence imputed to them, and without any form of law and justice other than an order for their incarceration, termed a *lettre de cachet,* signed by the monarch or one of the secretaries of state. These orders were sometimes given on the request of a favorite courtier or of a royal mistress, with blanks for names to be filled up as they chose. Hence, they too frequently

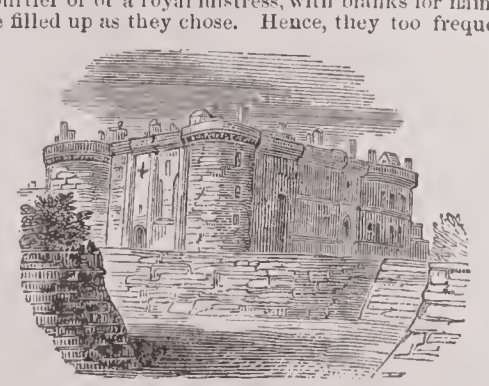


Fig. 305. — THE BASTILLE. (Paris.)

became the instruments of mere caprice, or malevolent passions and revenge. Among the celebrated persons immured here, may be mentioned Voltaire, who was confined for nearly a year on suspicion of being the author of satires which had given the court offence. When the unfortunate Louis XVI. asceuded the throne, he signalized his humanity by inspecting the registers of the *B.*, and by liberating many prisoners. Among them was an old man named Latude, who had languished in confinement for 47 years. The benignant Louis had to atone for the crimes of his ancestors, and the demolition of the *B.*, which was one of the first signs of the forthcoming tempest of the Revolution, was hailed with equal surprise and joy by every well-wisher to freedom throughout the civilized world. On the 14th July, 1789, upwards of 12,000 citizens, chiefly of the lowest classes, armed with whatever came to hand, and headed by the grenadier guards, summoned the detested fortress to surrender. M. de Launay, the governor, feigned compliance with their demands, and then suddenly opened fire upon them. Then arose the cry of vengeance. The people flocked to the scene of action. Cannon were brought to bear against the walls, and the place was carried by storm. The first act of the exasperated citizens was to set free the prisoners; the next, to massacre governor and garrison. Directly after this memorable event, the municipality of Paris gave orders that the *B.* should be razed to the ground: and nothing now remains of this formidable instrument of tyranny but the retributive page of history, and the site on which the fortress stood, on which a large column has been erected to the memory of the heroes of the Revolution of July, 1830. — See CACHET (LETTRE DE). See Ravaisson's *Archi. of the B.*, Paris, 1877.

Bastinade', Bastina'do, *n.* [Fr. *bastonnade,* from *baston, bâton,* a stick or club.] A sound beating with a stick or cudgel; the blows given with a stick.

"And all those harsh and rugged sounds
Of *bastinados,* cuts, and wounds." — *Hudibras.*

In the strict sense of the term, the punishment of the *B.* consists in the infliction of blows on the soles of the feet with a thick stick. Turkey and Russia are the only European countries in which this mode of punishment is sanctioned by law, and in both countries it is carried to a most unjustifiable extent, the sufferers being frequently maimed and injured for a considerable period, if not for life. In Russia, the instrument of torture is a heavy whip called the *Knout,* q. v. The *B.* is a common kind of punishment in China, as well as in Persia and all Eastern countries where Mohammedanism prevails; blows being ordered by the Koran for many minor offences.

—*v. a.* To beat with a stick or cudgel; to inflict the punishment of the bastinade.

"And with it began to *bastinade* old Lewis." — *Arbuthnot.*

Bast'ing, *n.* A dripping; as, "a *basting* of meat." — Act of beating with a stick. — Act of sewing with long stitches.

Bas'tinville, in *Tennessee,* a village of Hickman co.

Bas'tion, *n.* [Fr.; Sp. *bastion,* from Fr. *bâtir,* for *bastir,* to build, to erect, to rear.] (*Fort.*) A large mass of earth or masonry raised up before, or standing out from, a rampart; a bulwark. — It is formed of two faces, two

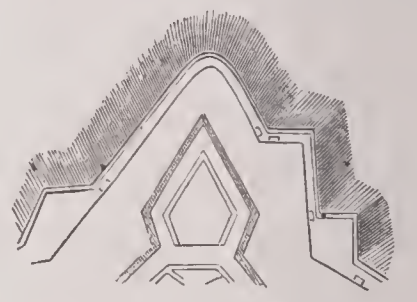


Fig. 306. — BASTION.

flanks, and two demi-gorges. The junction of the two faces forms the salient angle of the *B.*, and the faces, together with the flanks, form the *épaules,* or shoulders. They are made of various kinds, — solid, hollow, regular, &c. Solid bastions are entirely filled up with earth up to the level of the platform of the guns, while hollow bastions have the interior level with the ordinary ground. Regular bastions are those which have their faces, flanks, &c., in due proportion. A demi-bastion, or *épaulement,* has only one face and one flank. A double bastion is where one bastion is raised within and upon the plane of another bastion. A flat bastion is one built in the middle of the curtain or wall connecting the two angles of a rampart. A composed bastion is one in which the sides of the interior polygon are unequal; thus making the gorges also unequal. A bastion is called deformed or irregular, when the faces, flanks, &c. are not in symmetrical proportion; and a cut bastion, or bastion with a *tenaille,* is one whose salient angle has been cut off, and has, instead, an angle opening inwards, with two points outward.

Bas'tioned, *a.* Fortified with a bastion; provided with bastions.

Bas'to, *n.* [It. and Sp.] (*Games.*) The ace of clubs, when playing at quadrille.

Bas'ton, *n.* [O. Fr. *baston;* Fr. *bâton;* L. Lat. *basto.*] (*Her.*) See BATON.

Bas'trop, in *Louisiana,* a post-village, and cap. of Morehouse parish, on the Bayou Bartholomew, 300 m. N. by W. of Baton Rouge. The bayou is navigable as far as this place.

Bas'trop, in *Texas,* a central county, containing an area of 890 sq. m. It is traversed by the Rio Colorado. Surface diversified; and soil, fertile. This co. was named after Señor de Bastrop, a Mexican. *Cap.* Bastrop.

—A thriving post-village, cap. of the above co., situate on the left bank of the Colorado, 35 m. E.S.E. of Austin City, and 141 N.W. of Matagorda.

Bas'tross, or BAS'TRESS, in *Pennsylvania*, a post-twp. of Lycoming co., 8 m. S.W. of Williamsport.

Bast'wick, JOHN, an English physician and political writer, B. 1593. He studied at Cambridge, travelled all over Europe, and finally settled at Colchester as a physician. In 1637, he was condemned by the Star Chamber for his books against the Roman Church, viz., *Eleuchus Papismi*, and *A New Litany;* and was, like Prynne and Burton, his fellow-prisoners, sentenced to pay a heavy fine, to be set in the pillory, have his ears cut off, his cheeks and forehead branded, and be imprisoned for life. He was sent to Scilly, and kept there till released by the Long Parliament, when he had a reward of $25,000 allowed him for his sufferings. D. about 1650.

Basyle, (*bās'il,*) *n.* [Gr. *basis*, base, and *ulē*, wood.] (*Chem.*) The metallic radical of a salt. Thus, the base of sulphate of soda is *soda*, or oxide of sodium, and the basyle is *sodium*.

Bas'ylous, *a.* Pertaining to, or having the nature of, basyle.

Bat, *n.* [A.S. *bat*, from *beatan*, to beat.] A heavy stick. (*Games.*) An oblong, flat-sided piece of wood, with a round handle, used in cricket; a long, rounded club used in baseball.

—A sheet of cotton or wool.

—Shale, or bituminous shale.

—*v. a.* To strike (a ball, &c.) with a bat.

Bat, *n.* [Scot. *bak*, *baukie;* Sw. and Goth. *nattbacka—natt*, *night*, and *backa*, probably for *wacka*, to awake.] (*Zoöl.*) The bats constitute the mammalian order *Chiroptera*. They are closely allied to the *Insectivora*, though resemblance to members of that group is not suggested by casual inspection. But in the structure of the bones and teeth they are seen to be nearer the moles, shrews, &c., than to any other creatures. The front limbs are adapted for flight. The bones are greatly elongated, and serve as the basis for extensions of skin from the sides of the body and the outer surfaces of the hind limbs. In three genera (two in the Old World and one in the New) the base of the wing is not at the side of the body but at the spine, and allows the back and front of the trunk to be continuous. Bats can move about more or less freely when the wings are folded. The manner of effecting this motion is not uniform. In the

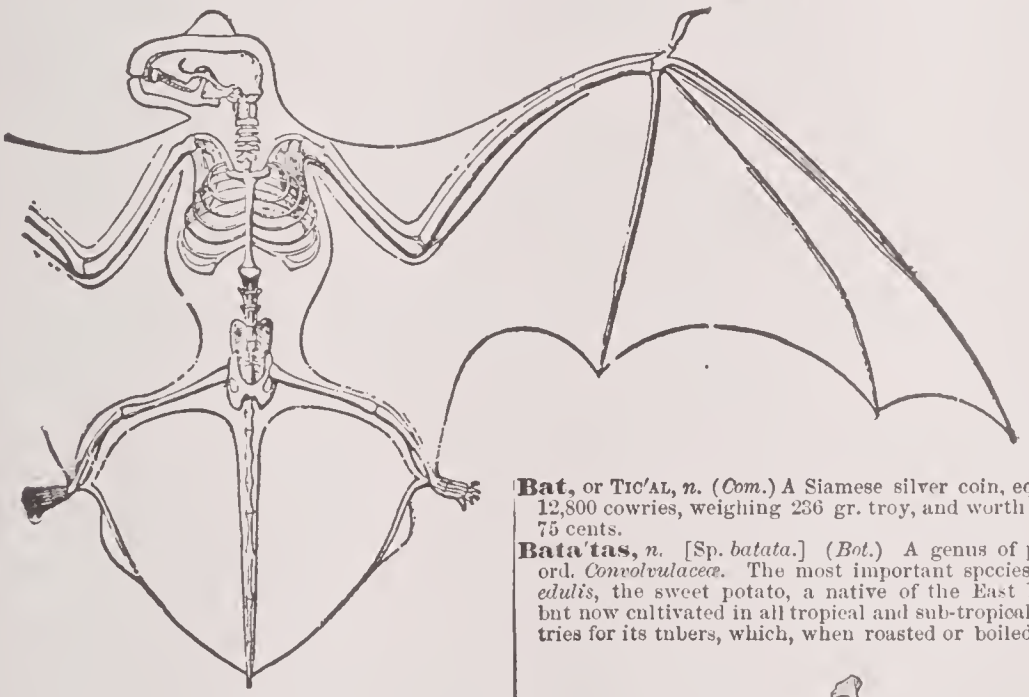


Fig. 307.

SKELETON AND VOLAR MEMBRANES OF THE VESPERUGO.

majority of instances the animal hangs by the claws of the hind feet from twigs or roughened surfaces of old tree-trunks, walls of caves, &c., and progresses feebly by the aid of the sharp claws on the thumbs, while the legs are nearly at right angles to the back. In the minority, the animal lies prone and moves by the aid of the long forearms, the parts answering to the fore foot being folded back parallel to and on the inner and under side of the forearm, while the hind limbs are drawn out at right angles to the side of the body. It is seen that bats in flight, at rest, and in terrestrial movements, differ widely from all others of their class.—In the covering of the space between the legs, and in the degree to which the tail is developed, bats are subject to great variation. The skin between the legs is called the interfemoral membrane. It is not often entirely absent, though it is sometimes confined to a mere hem. It may, however, be guided by the elongated tail beyond the feet. The interfemoral membrane has no independent motion, and at best is a parachute-like structure. Bats possessing it skim through the air, and effect abrupt changes in flight, while those without it flap the wings. The differences between the two styles of movement here indicated can be illustrated in the flight of the swallow and that of the crow. A small group of bats flit about after the manner of moths, and are known to come to rest with the wings extended.—The origin of bats is unknown, but their affinity to the *Insectivora* suggests for them a great antiquity. The extreme fragility of the bones in most examples doubtless have been contributive causes for their absence from the older geological deposits. None of the few fossil species known differ in essentials from those now extant. There is reason for belief that bats arose from the mammalian phylum, at least in part, at that point at which the *Rodentia* originated. It was at one time thought that *Galeopithecus* (*colugo*), a parachuted mammal from Borneo, was a link uniting the bats with the

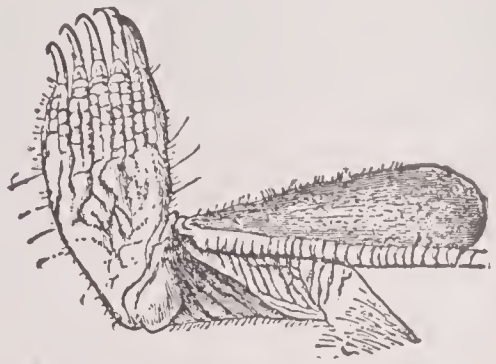


Fig. 308.—FOOT OF MYSTACINA TUBERCULATA (ENLARGED).

lemurs. This conclusion induced Cuvier to place the order near the *Quadrumana*, or, as it is now termed, the *Primates*. This opinion is no longer entertained. *Galeopithecus* is a member of the *Insectivora;* and the *Chiroptera*, instead of being honored with a position so near to that held by man himself, is now relegated to one low in the mammalian scale.—*Skeleton.* The ulna is rudimentary; the upper and lower ends are component parts of the elbow- and wrist-joints respectively, the intermediate part or shaft being coalesced with the radius. The breast bone is in part keeled, though never to the degree seen in birds. The ribs are wide apart above, but close together below, and are disposed to unite so as to form, except at the base, a more or less

(*Continued in Section II.*)

Bat, or TIC'AL, *n.* (*Com.*) A Siamese silver coin, equal to 12,800 cowries, weighing 236 gr. troy, and worth about 75 cents.

Bata'tas, *n.* [Sp. *batata.*] (*Bot.*) A genus of plants, ord. *Convolvulaceæ*. The most important species is *B. edulis*, the sweet potato, a native of the East Indies, but now cultivated in all tropical and sub-tropical countries for its tubers, which, when roasted or boiled, form

Fig. 309.—SWEET POTATO, (*Batatas edulis.*)

a wholesome and highly nutritious article of food. Next to maize, the sweet potato is the principal food of the poorer classes in our S. States.—This is the *potato* of the old English botanists, of Shakspeare, and their contemporaries, the *Solanum tuberosum* then being unknown. The stem is round, hispid, prostrate, creeping, sending out scattered, oblong tubers which are purplish without. Flowers large, purple or white.—The cultivation of *B.* is very easy; it is readily propagated by tubers, or by cuttings of the stem, requires little attention, and soon produces its tubers. The leaves are sometimes used as a boiled vegetable.

Bat'able, *a.* [A.S. *bate*, contention.] (Contracted from DEBATABLE.) Disputable; debatable.

"*Batable* ground seems to be the ground heretofore in question, whether it belonged to England or Scotland, lying between both kingdoms." — *Cowell.*

Batan'gas, a seaport town of the Philippines, island of Luzon, and cap. of a province of the same name. Lat. 13° 45′ N.; Lon. 121° 5′ E. *Pop.* 18,215.

Batardeau, (*bat-är-dō',*) *n.* [Fr.] A coffer-dam. (*Mil.*) A wall built across a ditch or fortification, with a sluice-gate by which the height of water in the ditch on both sides of the wall may be regulated.

Batavia, (*bā-tai've-a.*) a seaport and city of Java, cap. of that island, the seat of gov. of the Dutch possessions in the E., and the principal emporium of the E. Archipelago, on an extensive bay on the N.W. coast of the island. Lat. 6° 8′ S.; Lon. 106° 50′ E. It is built in a marshy situation, at the mouth of the Jaccatra river, and presents much of the appearance of a Dutch town, being intersected by canals bordered with trees, after the fashion of Holland. The city is generally spacious and well built. The harbor affords good anchorage for vessels, for ships of from 300 to 500 tons. *Com. B.* is the depôt for the produce of all the Dutch colonies in the East, including spices from the Moluccas; coffee and pepper from Celebes and Sumatra; gold-dust and diamonds from Borneo; tin from Banca; and tortoise-shell, bees'-wax, and dye-woods from Timor and Tumbawa. Originally, no Dutch ship was suffered to proceed homeward without first touching here. Many junks from China and Siam formerly traded thither; but since the establishment of the British at Singapore, their trade with Batavia has greatly decreased. The manufactures, as those of leather, lime, earthenware, sugar, and arrack, are mostly in the hands of the Chinese; their *campong*, or peculiar quarter, is the chief seat of bustle and activity; and the trade of the city, except in the articles monopolized by Europeans, is wholly in their hands. Many of them are wealthy; they are governed by their own laws and magistrates. The English element is very powerful here among the mercantile interest. *Pop.* Estimated at 125,000, of which about 72,000 are Javanese, 30,000 Chinese, and the remainder Europeans, and other races.—A factory was established at the village of Jaccatra, by the Dutch, in 1612, and upon its site the town of *B.* was founded in 1619. Since 1880, the Govt. has constructed a great harbor a short distance E. of *B.* at Tanjong-Priong, connected with *B.* by rail and canal.

Bata'via, in *Ill.*, a p. v. and township of Kane co.

Bata'via, in *Iowa*, a village of Jefferson co., 12 m. W. of Fairfield.

Bata'via, in *Michigan*, a post-township of Branch co., 5 m. W. of Coldwater.

Bata'via, in *New York*, a post-township of Genesee county.

—A thriving manuf. city, cap. of Genesee co., on Tonawanda Creek, 36 m. E. by N. of the city of Buffalo. Seat of the N. Y. School for the Blind. *Pop.* in 1890, 7,221; in 1897 (est.) 10,000.

Bata'via, in *Ohio*, a post-village of a township of the same name in Clermont co., of which it is the capital. It lies in the E. Fork of Little Miami River, 21 m. E. of Cincinnati, and 100 miles S.W. of the city of Columbus.

—A township of Geauga co.

Bata'vian, *n.* An inhabitant or native of Batavia, or Holland.

—A native or inhabitant of Batavia, in the island of Java.

—*a.* (*Geog.*) Pertaining or relating to Batavia, or its people.

Bata'vians, BATAVI, *n. pl.* (*Hist.*) A people of ancient Germany, who inhabited that part of the European continent now known as Holland, but then called *Batavorum Insula*, from an island at the mouth of the Rhine. Tacitus commends their bravery. When Germanicus was about to invade Germany from the sea, he made their island the rendezvous of his fleet. Being subjected by the Romans, they served them with such courage and fidelity, as to obtain the title of their friends and brethren. They were exempted from tributes and taxes, and permitted to choose their leaders from among themselves. Their cavalry was particularly excellent. At the end of the 3d century, the Salian Franks obtained possession of the island of Batavia.—After the constitution of the United Provinces (*q. v.*) was changed by the French, in 1798, their descendants, called Dutch or Hollanders, formed the *Batavian Republic*, until the creation of Louis Bonaparte as king of Holland, in 1806.

Batch, *n.* [Dn. *baksel*, from *bakken*, to bake.] A baking; the quantity of bread baked at one time.

"The joiner puts the boards into ovens after the *batch* is drawn." *Mortimer.*

—Any quantity of anything made at once, so as to have equal qualities.

"Except he were of the same meal and *batch*." *Ben Jonson.*

Batch'eller, in *Kansas*, a post-village of Riley co., on the Republican River, about 20 m. W. of Manhattan.

Batch'ellerville, in *New York*, a post-office of Saratoga co.

Bate, *n.* [A.S. *bate*, contention. — See DEBATE.] Strife; contention. (Retained in *make-bate.*)

Bate, *v. a.* [Fr. *battre*, from Lat. *battuere*, to beat or strike down.] To lessen anything; to retrench; to abate in price.

"Nor envious at the sight, will I forbear
My plenteous bowl, nor *bate* my plenteous cheer."—*Dryden.*

—To allow by way of abatement.

"*Bate* me some, and I will pay you some."—*Shaks.*

—To except; to leave out; as, "*Bate* me the king."

—*v. i.* To remit; — used with *of.*

"Abate thy speed, and I will *bate of* mine."— *Dryden.*

—To bait; to flutter as a hawk, &c.

Bateau, (*bat-ō′,*) *n.*; *pl.* BATEAUX. [Fr., from L. Lat. *battus.*] A light boat, long in proportion to its breadth. —*Bateau Bridge*, a floating bridge over a river erected on supports of bateaux.

Bate'ham, in *Indiana*, a post-village of Sullivan co., 28 m. S.S.E. of Terre Haute.

Bate Island, belonging to Hindostan, prov. of Gujerat, and off its W. extremity. Lat. 22° 27′ N.; Lon. 69° 16′ E. It has a good harbor, and contains about 2,000 houses; but is chiefly noted for a celebrated temple dedicated to the god *Runchor*, and much frequented by pilgrims.

Bate'man, or **Bate'man's Store,** in *Georgia*, a village of Houston co., 21 m. S.W. of Macon.

Bates, EDWARD, one of the ablest of American lawyers, B. 1793, at Goochland, in Virginia. In 1814, he proceeded to St. Louis, where he engaged in the study of the law. In 1817, he began to practise at the bar. In 1861, he was nominated Attorney-General in President Lincoln's cabinet. D. 1869.

Bates, in *Illinois*, a post-office of Sangamon co.

Bates, in *Missouri*, a W. county, bordering on Kansas; *area*, about 1,000 sq. m. It is drained by the Osage River, and also by the Little Osage and Marmiton, which effect a confluence with the first-named river within its bounds. Surface, mainly prairie. *Cap.* Butler. *Pop.* in 1890, 32,210; in 1897, about 35,000.

Bates'ville, in *Arkansas*, a post-town, cap. of Independence co., on White river, 90 m. N.N.E. of Little Rock. *Pop.* (1898) 2,520.

Bates'ville, in *Georgia*, a village of Habersham co.

Bates'ville, in *Indiana*, a post-village of Ripley co.

Bates'ville, in *Mississippi*, a village, cap. of Panola co.

Bates'ville, in *Ohio*, a village of Gucrusey co., 90 m. E. of Columbus.

—A post-office of Noble co.

Bates'ville, in *South Carolina*, a post-office of Greenville co.

Bat'-fowler, *n.* One who practises the sport of bat-fowling.

Bat'-fowling, *n.* (*Sports.*) A mode of catching birds at night, by holding a torch or flambeau, disturbing the place whereon they roost, and catching them with nets and other contrivances.

Bath, *n.* [A.S. *bath*; Fr. *bain.*] A place to bathe in; a large vessel of water wherein to perform one's ablutions.

—An edifice containing an apartment, or apartments, set apart for bathing.

—Act of immersing the body in water, hot air, vapor, &c.; ablution with water. — See BATHING.

—A Hebrew measure containing the 10th part of a homer, or 7 gallons and 4 pints, as a measure for things liquid; and 3 pecks and 3 pints as a measure for things dry.

(*Chem.*) A term applied to apparatus employed for the purpose of communicating a graduated temperature to bodies. Various fluids and solids are employed as the means through which the heat is applied. — 1. *Water bath.* In this bath, the substance to be heated can never have its temperature elevated above 212°, or a steam heat. One of the simplest shapes is the BAIN-MARIE, *q. v.* — 2. *Saline baths* are used when a somewhat higher temperature than a steam heat is desirable. Salts, when dissolved in water, elevate the boiling-point of the fluid, although the steam has exactly the usual temperature of 212°. The following saturated solutions boil at the annexed temperatures:

Sulphate of soda.....213·2°	Nitrate of potash.....240·6°
Alum.....213·8°	Chlorideofstrontium244·2°
Acetate of lead.. .....215·6°	Nitrate of soda.....249·8°
Chlorate of potash...219·5°	Chloride of potash...275·0°
Chloride of barium...220·0°	Nitrate of potash.....303·8°
Borax.....220·0°	Chloride of calcium..355·0°
Chlorideofpotassium226·9°	Nitrate of ammonia..362·8°
Chloride of sodium...227·3°	Chloride of zinc.....575·0°
Sal-ammoniac.....237·9°	Oil of vitriol.....636·8°

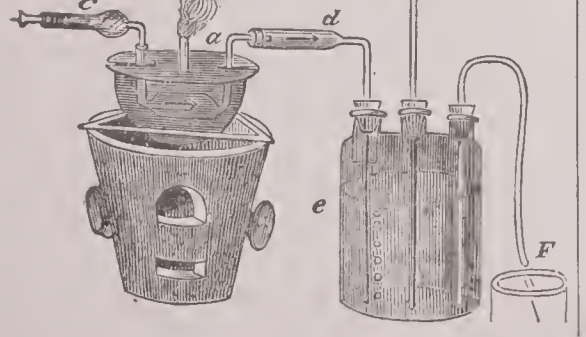


Fig. 310. — STEAM BATH.

3. *Steam and dry-air bath.* When an organic body requires to be dried in a dry atmosphere, especially if it has a tendency to absorb moisture when exposed to the air, it is necessary to place it in a tube and draw dry air over it, in order to remove the moisture which emanates from it. For this purpose the apparatus (*Fig.* 310) is used. The body is placed in a bent tube, which is deposited in a water bath, *a*, with a chloride of calcium tube on either side, *c*, *d*. The aspirating bottle *e*, filled with water, causes air dried by the first chloride of calcium to pass over it, until it is thoroughly dry. — 4. *Steam and Vacuum bath.* When the atmospheric air acts on the substance, and when it is desirable to exhaust the moist air rapidly, an air-pump is used (*Fig.* 311). A, air-pump, fixed by a screw into a table; B, chloride of calcium tube; D, tube containing the substance to be dried, hermetically sealed at C, and placed in a water-bath. — 5. *Metallic bath.* When the temperature requires to be higher than can be attained by the preceding mode, a mixture of easily fusible metals is used. Mercury may be employed between 300° and 400°; above this, unwholesome fumes are evolved. D'Arcet's fusible alloy is useful, consisting of 2 bismuth, 5 lead, 3 tin, with a fusing point of 212°, the temperature rising with the application of heat.

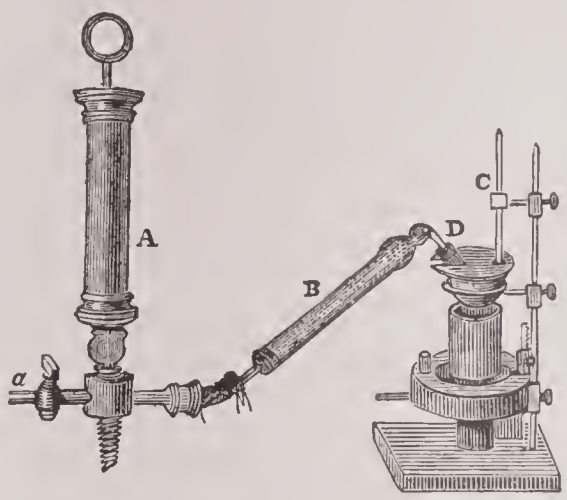


Fig. 311. — VACUUM BATH.

Bath, the most beautiful city of England, in Somersetshire, 100 m. W. of London. It is situated on the Avon, 12 m. E.S.E. of Bristol, in a narrow valley, bounded on the N.E. and S.W. by hills, and widening on the N.W. into rich and extensive meadows. The Avon is navigable from Bath to Bristol. It has borne various names in different ages, all having allusion to its celebrated waters. The Romans called it *Aquæ Solis*, *Fontes Calidi*, *Thermæ*, *Bodonia*, and *Bathonia*; the Britons, *Caer Badun*, or *Bladon*; the Saxons, *Hat Bathun*, and *Achamannum*. The vestiges of the Romans here are still exceedingly numerous, and show the high value which they placed upon the waters. — *B.* is remarkable for medicinal waters, for its various sources of amusement, for the elegance of its streets, and the magnificence of its public buildings. It is accounted the most elegant city in England. The houses are of superior construction, built of freestone obtained from the hills about the town. *B.* affords a great variety of amusements, and is equally the resort of valetudinarians and votaries of pleasure. — There are five public baths, viz., King's and Queen's Bath, Cross Bath, Hot Bath, and New Private Bath. The temperature of the different springs varies from 90° to 117° Fahrenheit. That of the King's Bath is 116°, that of the Hot Bath 117°, and that of the Cross Bath 111°. They contain carbonic acid, azotic gas, muriate and sulphate of soda, carbonate and sulphate of lime, with a very small quantity of silex and oxycarbonate of iron. They are found of great efficacy in cases of gout, rheumatism, indigestion, palsy, and biliary obstructions. — *Pop.* 54,240.

Bath, (ORDER OF THE,) *n.* (*Her.*) In England, a high order of knighthood, so called from bathing having anciently formed part of the ceremony previous to installation. This order is of great antiquity, two knights being created in this manner by King John, in 1204 and 1205 respectively, though it is supposed to have existed at a much earlier period. It is first noticed under the name of the "Bath," 11th Oct., 1399, when Henry IV., at his coronation, conferred the honor on 46 esquires, who had watched all the night before in the Tower of London, and then bathed themselves. Afterwards it became customary for the English monarchs to confer this dignity at the time of their coronation, or on other great occasions; as on the coronation of their queens, the inauguration of the Prince of Wales, birth or marriage of children of the blood-royal, &c. The last "Knights of the Bath," created in the ancient form, were made at the coronation of Charles II., in 1661, after which time it fell into neglect until revived by George I., 18th May, 1725, who ordered a book of statutes to be drawn up for its government. By this, the number of knights was fixed at 38 — viz., the sovereign, a prince of the blood, a grand master, and 35 knights-companions. To commemorate the auspicious termination of the long contests with France, the prince-regent extended the limits of the *O.* of the *B.* in 1815, but left to it its primary character of military order. It is but since 1847 that it was extended to the admission of civil knights. The *1st class* consists of Knights Grand Cross (G. C. B.): the number not to exceed, for military service, 50, exclusive of the sovereign, princes of the blood, and distinguished foreigners; and for civil service, 25. The *2d class* are Knights Commanders (K. C. B.); number not to exceed 102 for military, and 50 for civil service. The members of the two first classes are entitled to the appellation of *Sir.* *3d class*, Companions (C. B.); number not to exceed 525 for military, and 200 for civil service. They take precedence of esquires, but are not entitled to the appellation, style, &c. of knights-bachelor. The badge of the order (*Fig.* 312) has in the centre, the rose, shamrock, and thistle, and three crowns; the whole encircled with the motto of the order, *Tria juncto in uno*, ("Three joined in one,") and a laurel

Fig. 312. — COLLAR AND BADGE OF THE BATH.

wreath. It is worn by the Knights Grand Crosses pendent from a red ribbon across the right shoulder; by the Knights Commanders, from the neck; and by the Companions, from the button-hole. The collar is of gold. It is composed of 9 imperial crowns, 8 gold roses, thistles, and shamrocks enamelled in colors, and tied or linked together with 17 gold knots, enamelled white, having the badge of the order pendent therefrom. The officers of the order are, the dean, the genealogist and Blanc-coursier herald, the Bath king-of-arms, the registrar and secretary, the gentleman-usher of the Scarlet Rod and Brunswick herald, and the messenger.

Bath, in *California*, a post-village of Placer co.

Bath, in *Georgia*, a village of Jefferson co., about 60 m. E.N.E. of Milledgeville.

—A village of Richmond co., about 20 m. S.W. of Augusta, beautifully situated, and a place of summer resort.

Bath, in *Illinois*, a township and post-village of Mason co., on the Illinois River, 50 m. from Peoria. *B.* was formerly the cap. of the co.

Bath, in *Indiana*, a thriving township of Franklin county.

—A village of Union co., 50 m. E. of Shelbyville.

Bath, in *Iowa*, a post-office of Cerro Gordo co.

Bath, in *Kansas*, a post-office of Woodson co.

Bath, in *Kentucky*, a N.E. county, possessing an area of about 200 sq. m., and drained by the Licking River and Slate Creek. *Surface*, uneven, and soil in many parts very fertile. Stone-coal and iron-stone are abundant. Many mineral springs are found here, among them the noted "Mud Lick Springs." County seat, Owingsville.

Bath, in *Michigan*, a post-village and township of Clinton co., 6 m. N.E. of Lansing.

Bath, in *New Hampshire*, a post-township of Grafton co., on the E. bank of the Connecticut River, 80 m. N.E. of Concord; it is also watered by the Ammonoosuck river.

Bath, in *New York*, a prosperous post-town of Bath township, and cap. of Steuben co., on Cohocton Creek, 219 m. W. by S. of Albany, and 20 N.W. of Corning. It is a place of considerable trade, seated amid a fine agricultural country. The New York State Soldiers' Home was located here.

—A village of Rensselaer co., opposite Albany, on the Hudson River.

Bath, in *North Carolina*, a post-village of Beaufort co., 143 m. E. by S. of Raleigh.

Bath, in *Ohio*, a township of Allen co.

—A township of Greene co.

—A post-township of Summit county, 23 miles west of Ravenna.

Bath, in *Pennsylvania*, a post-village of Northampton co., 100 m. E.N.E. of Harrisburg, and 12 m. W. of the city of Easton.

Bath, in *Virginia*, a central co., with an area of 725 sq. m., and intersected by Jackson's and the Cowpasture rivers, branches of the James. This is a fine and picturesque county, broken by valleys and spurs of the Alleghanies, which are well timbered, and yield abundant iron-stone and limestone. Many mineral springs are found, from which its name derives. *Cap.* Warm Springs.

Bath, in *Maine*, a city, port of entry, and seat of justice of Sagadahock co., on the Kennebec River, 36 m. N.E. of Portland, and 12 m. from the ocean. *B.* is pleasantly situated, and has great advantages for commerce, being at the head of winter navigation. The river here is seldom frozen over. It is one of the most commercial towns in Maine, and considerably engaged in ship-building, both merchant and naval. *Pop.* in 1890, 8,723; in 1897 (est.) nearly 10,000.

Bath, a post-village of Ontario, in Addingtou co., on Lake Ontario, 18 m. W. S. W. of Kingston.

Bath Alum Springs, in *Virginia*, a fashionable "spa," or watering-place, of Bath co., 164 m. W. S.W. of

Richmond, and 6 S.E. of the "Warm Springs." — See VIRGINIA (MINERAL WATERS OF).

Bath'-brick, *n.* A preparation of calcareous earth made up in the form of a brick, used for cleaning knives.

Bath Court-House, in *Virginia.* See WARM SPRINGS.

Bathe, *v. a.* [A. S. *bathian;* Icel. *bada;* Sw. and Goth. *badda;* seemingly allied to Ger. *bähen,* to warm; Scots. *beik;* Eng. *bask.*] To wash the body, or some part of it, by immersion, perhaps originally in *warm* or *hot* water, and in hot or cold water.

> "Others on silver lakes and rivers *bath'd*
> Their downy breast." — *Milton.*

—To wash or moisten with water or other liquid.

> "Mars could in mutual blood the centaurs *bathe.*"—*Dryden.*

—*v. i.* To be or lie in a bath.

> "The gallants dancing by the river side,
> They *bathe* in summer, and in winter slide." — *Waller.*

—To be immersed in a fluid.

> "Except they meant to *bathe* in reeking wounds." — *Shaks.*

—*n.* Immersion of the body in water; as, "Go and take a *bathe.*" — *Edin. Review.*

Bath'er, *n.* The person who bathes.

Bathet'ic, *a.* Resembling, or pertaining to, the bathos.

Bath'gate, a flourishing town of Scotland, co. Linlithgow, 18 m. W.S.W. of Edinburgh. *Manuf.* Cottons. *Pop.* 5,309.

Bath'ing, *n.* The act of immersing in a bath; a washing. (*Hygiene and Med.*) The immersion of a part or of the whole body in water is one of the oldest sanitary institutions in the world; and as cleanliness of body in hot climates became an absolute necessity for the health and preservation of the people, the duty of frequent ablution in time became a religious ordination; and by thus blending the bodily with the spiritual purification, more or less fixed on the minds of the people the necessity of cleanliness, by grafting this moral duty on their religious observances. The object of all bathing is twofold: 1st, that of mere ablution, to remove from the cuticle of the body the dust and impurities which, from dried perspiration, have accumulated on its surface, blocking up the pores of the skin, and interfering with the proper exhalation from the body; and 2d, that of a medical effect, either to reduce an excessive action in the skin, when overcharged with blood, or, by relieving the internal organs, restore the circulation to the surface; besides these, the object of bathing is often to add tone to a part or the whole body, by stimulating the nervous system, by the absorption of the material employed. — For this purpose, baths have been made of medicated waters; of milk, oil, and wine; of water impregnated with salt, or other soluble substances; of mineral and common water, at different temperatures; and of steam or medicated vapors. For any of these substances to act beneficially, or, indeed, to act at all, *the cuticle* must have been *previously well cleansed,* the pores thoroughly opened, and absorption excited by friction. In prostrate and debilitated constitutions, the body so treated, and immersed for some time in warm milk or wine, will absorb and carry through the system a subtile stimulant, that may, by frequent repetition, act as a beneficial tonic on the nerves and nutritive system of the body; but, in general, even when the patient has the means to afford such expensive agents, the benefit is very problematical. — *The Cold Bath.* Bathing, as a means of cleanliness, is almost universally practised, though the manner in which the bath is taken is very different with various nations. — To insure a beneficial result from bathing, the whole body and head should be immersed at once, and the moment the breath has been recovered, the circulation is to be excited by swimming, so as to throw the blood back to the skin. From 12 to 15 minutes is the *maximum* that a cold salt-water bath should last, to secure all the advantages of bathing. — In fresh water, whether in lake or river, the bathing should *not* exceed 12 *minutes.* As cramp proceeds from imperfect circulation in a part, or the sudden stagnation of the blood from the gush of a cold spring, the bather in fresh water should lose no time, after the first immersion, in establishing the general circulation by the use of friction with the towel or brush over the body, and particularly along the legs, thus affording him, as far as possible, a preventive against cramp in the lower extremities. — Those who cannot swim, whether bathing in salt or fresh water, should use as much muscular exertion, while in the water, as possible. The best evidence of the benefit derived from bathing is a ruddy glow felt over the body on coming out, with a pleasurable sense of warmth, and a general elevation of spirits. If, however, the bather feels cold and depressed on quitting the water, trembles, complains of headache, and has a blue and anxious countenance, it is a convincing proof that his system is not strong enough to bear the effect of cold bathing, in which case, the idea of persevering with it must be abandoned, and the tepid bath substituted for the cold. The cold swimming bath should *never* be taken by apoplectic subjects, or by persons liable to hemorrhage, or by those laboring under pulmonary disease. — Bathing must never be practised directly *after a meal,* or on a *full stomach;* it is equally improper to bathe upon an entirely empty one, especially in the day-time. The best periods of the day for bathing are an hour after breakfast, and about eleven, twelve, or one o'clock in the day; the first period should be adopted by the robust, young, and healthy, and the other hours selected by the infirm, and those more advanced in years. One bath a day, at whatever time taken, is sufficient; and no benefit can result from repeating it oftener. All bathers should avoid entering the water in a state of exhaustion, fatigue, or excessive heat, either from exercise or weather. — Some bathers are in the habit of merely wiping off the excess of moisture from the body before dressing. This is a bad practice: the skin should be well dried, and considerable friction again applied to the surface. — In quitting the subject of cold salt-water bathing, we would impress on the mind of the reader the importance of never remaining in a state of *inaction* while bathing; never to remain in the water *long enough to feel chilled,* and to leave the water immediately on feeling any *indications of cramp;* and, finally, to avoid any violent exertion for some time after leaving the water.

MEDICAL BATHS. Under this head is included every species or variety of bathing taken for medical or beneficial purposes. This list includes the cold, tepid, the warm, the hot, shower, and the vapor bath; with the local forms, of the hip, foot, and slipper, and medicated bath. — 1. *Cold Bath.* The cold bath may be employed within doors all the year round, care being taken never to use water fresh drawn from the pump or well, but either to allow it to remain in the bath for some hours, to raise the temperature, or, by the addition of a pint or two of boiling water, to increase the warmth, till the thermometer indicates 55°, between which and 60° is the usual temperature at which a cold bath should be taken. The time of remaining in such a bath should never exceed ten minutes. This is a form of bath that should *never be given to infants* or very young children. The cold bath is useful in all cases of nervous debility, indigestion, diseases of the skin, nervous headache, and in conditions of the system where tone is particularly required. — 2. *Tepid Bath.* This is a very serviceable condition of bath; and as the heat is nearly that of the body, the comfort afforded by it is consequently very great. The temperature of the tepid bath varies from 85° to 92°; the exact heat depends on circumstances, and particularly on the disease for which it is ordered. The time of remaining in the water varies from eight to twelve minutes, unless used for skin-diseases, when the time may exceed the space given, according to prescription. As a remedial agent in all irritations of the system requiring soothing, — in cases of fever, all eruptive diseases of the skin, rheumatism, coughs, colds, and inflammations of the throat, — this is always an extremely useful bath, and particularly so for children. — 3. *Warm Bath.* It is, in a general sense, the most valuable medical bath; for it not only soothes and tranquillizes the system, opens the pores of the skin, and equalizes the circulation, but it acts as a direct stimulant to the blood. The temperature should be between 92° and 98°. As the warm bath is very exhausting, and is only ordered when a sudden and positive effect is desired, the patient should never remain in the water for a *minute* after the effect sought has been obtained; five minutes will generally be found long enough for all beneficial purposes, or seven minutes as the extreme warranted time. In all cases of cramp, spasm, nervous affections, hysteria, inflammations of the liver, stomach, or bowels, affections of the kidneys, cases of rupture, and diseases of the lungs, lining membrane of the chest, and the organs of voice, the pharynx, &c., and in almost all the diseases and *affections of infancy and childhood,* this bath is eminently serviceable. — 4. *Hot Bath.* This is only a more active form of the warm bath, the temperature being carried some 12° or 14° higher. The variation in the hot bath extends from 100° to 112°, but the average heat may be taken at 106°. As this bath acts more rapidly than the warm bath, it is infinitely more stimulating, and, as a consequence, more exhausting; the patient should not remain in it for more than *five* minutes. From the strong and immediate action this bath exerts on the skin, it becomes one of the most powerful anti-spasmodic agents we possess; and in cases of congestion, by relieving the internal organs of their load of blood, and sending it through all the capillaries to the skin, produces immediate relief. The hot bath is consequently invaluable in all thoracic and abdominal diseases, especially in their aggravated stages. In neuralgia, rheumatism, stiff joints, tetanus, locked jaw, or in any disease requiring prompt and energetic practice, the hot bath is a medical agent of extraordinary efficacy. — 5. *Vapor Bath.* The steam, or hot-air bath, is frequently used when the other forms would be too exhausting, or less efficacious. It is much used by the Russians, Turks, and Egyptians; and the ordinary heat of an Oriental bagno is 120° to 140° F. In Russia, the patient enters a stone-paved chamber, heated to a high temperature, the flags beneath being so hot, that pails of water dashed on them cause a cloud of steam to rise, that, surrounding the naked body, soon causes a copious perspiration to break out. A tolerably effective vapor-bath may be extemporized by filling a small tub or pail half-full of boiling water, the patient standing with a leg on either side, while his person, from the neck to the floor, is closely enfolded in a thick blanket, which, shutting in the steam, allows it to flow round his body. Three or four bricks, made red-hot in the grate of the room, are to be dropped, one at a time, into the pail, to generate fresh steam, till finally the effect has been obtained. The vapor bath may last from ten to twelve minutes. Chronic rheumatism, sciatica, lumbago, ill-conditioned sores, ulcers, and obstinate diseases of the skin, are the principal complaints in which this kind of a bath is most serviceable. See FUMIGATION. — 6. *Medicated Baths.* This variety of baths consists of either hot water impregnated with iron, potassa, ammonia, or other mineral or earthy matters; or they are composed of gaseous vapor, applied to the skin in the mode already explained under Vapor Bath. Chalybeate and saline baths, in imitation of some of the most celebrated spas, are made by dissolving the salts known to exist in those waters, and letting the patient use them hot, the temperature varying from 84° to 90°. A *Sulphur Bath* is produced by the sulphuric acid gas, which is allowed to circle round the patient's body, being confined there, and kept from the head and face by a blanket. The *Nitro-Muriatic Acid Bath* is effected either in the same manner, or by mixing the acids with water, and sponging the body with the solution; and the *Ammoniacal Bath* is prepared by dissolving a pound of carbonate of ammonia in a bathful of warm water. All these kinds of baths require *great care* and *much caution* in their use, and can only be effectually employed in public hospitals, where proper apparatus are kept for the purpose, or under the eye of a surgeon. Inveterate skin-diseases are the chief affections for which medicated baths, whether liquid or vapor, are used. — 7. *Shower Bath.* It is a very useful form of applying water, either warm, tepid, or cold, to the body; and, in the latter condition, it is a highly invigorating process. But as the benefit derived is consequent on the sudden and quick fall of water, only one shower should be taken at a time, a second shock producing more harm than benefit. The shower bath should be taken early in the morning; other parts of the day, though *not hurtful,* are by no means so beneficial. Those persons afraid of the effect produced on the head by the sudden fall of water, should wear a conical oil-skin cap, and stand with the feet immersed in warm water. Neuralgic affections of the head, with periodical headaches, are the cases that derive the most benefit from the shower bath; and though it has been tried with some benefit in cases of insanity, it is as a general tonic to the system that the shower bath is most efficacious. In apoplectic patients, its use is *decidedly* objectionable.—8. *Aspersion,* or *Douche Bath.* The value of cold water, dashed suddenly over the frame, or directed in a steady, broad stream on some particular part, is very great. The cases in which such a mode of treatment is beneficial are very numerous; the following are a few of the most important: — Where the muscular power of a leg or arm is impaired from long inaction; in cases of fracture, dislocation, bandaging, sprains, and from partial paralysis, or chronic rheumatism, a stream of cold water directed on the part from a watering-can without the rose, — if the patient sits on the ground, and the operator stands on a table, and, elevating the can, gives the water a fall of several feet, — is rendered particularly serviceable if the circulation is quickly restored to the part by several minutes of dry rubbing. Such a mode of practice, if repeated for some days, with vigorous friction afterwards, will restore action to the most indolent muscles. The other cases in which cold-water aspersions are singularly efficacious, are poisonings from opium, laurel water, prussic acid, in tetanus, trismus or locked jaw, hysteria, and suffocation from noxious gases. The Douche is a modern Hydropathic phrase, and means in its general principle the same thing as aspersion, only carried a little further than is always agreeable to patients. The Douche is either an ascending or a *descending* jet of water. In the former, by means of a pipe and tube attached to a reservoir, a stream of cold water is injected up the vagina or the rectum, for the cure of uterine and other discharges, and to overcome an obstinate constipation. In the latter, a downward column of water is directed on the hip, shoulders, loins, or wherever needed, for the affections above enumerated. — 9. *Wet Sheet.* This is quite a modern innovation in practice, and forms an important agent in the Hydropathic system of treatment. Almost every kind of disease has been recommended as suited to, and deriving benefit from, this species of bath: rheumatism and cutaneous diseases in particular. A large sheet is immersed in cold water, and instantly wrapped round the patient's person; a succession of blankets are heaped over the sheet, the patient placed in bed, and, with only his face uncovered, a mass of bed-clothes thrown over him, where he lies incapable of motion till the copious sweat that follows has entirely passed off. — See HYDROPATHY. — See THERMÆ.

Bathom'eter, an instrument for determining the depth of the sea.

Bath'ing-machine, *n.* A small van, or wooden apartment, constructed on wheels, and drawn into the water, for the convenience of persons bathing, in which they undress and dress themselves.

Bath'ing-tub, *n.* A vessel used for bathing, generally made of either wood, zinc, iron, or tin.

Bath'-metal, an alloy of 4½ oz. zinc and 1 lb. copper.

Bathori, STEPHEN, (*ba-to're,*) king of Poland, who was elected in place of Henry of Valois, 1576. *B.* was a prince of great abilities. Under his rule the Ukraine began to recover from the state of devastation in which it had long lain, and the Cossacks were regularly organized. He founded the university of Wilna, and d. 1586. His name was tarnished by the infamy of his niece, Elizabeth *B.*, wife of Count Nadasdy. By means of large bribes, she induced an old man-servant and two female servants to kidnap and convey to her, either by stratagem or force, young girls from the neighboring country, whom she slowly put to death in the dungeons of her castle by the most horrible tortures. It is related, that, on a certain occasion, having violently struck one of her victims, the blood spirted up into her own face, and, as she fancied, left the skin whiter when it was wiped off. An infernal idea instantly possessed her. She invited to a grand banquet all the young girls round about, and caused 300 of them to be put to death, being under the impression that a bath of blood would renew her youth. So monstrous a story is probably exaggerated, but it at least shows that she was believed capable of it. Inquiry was at length made into the appalling rumors, when it was discovered that this female fiend had murdered, in

cold blood, not fewer than 650 maidens. The domestics who assisted her were either beheaded or burned alive. The countess, who merited certainly the greater punishment, died quietly in 1614, in her fortress of Esej, where she had been confined for life.

Bat-horse, (*baw'hôrs,*) *n.* [Fr. *bât*, a pack-saddle.] The horse belonging to an officer, or to the baggage-train.

Ba'thos, *n.* [Gr., depth.] (*Rhet.*) A term applied to a low, tame, and creeping style. This application of the word was introduced by Swift, who, in his *Art of Sinking in Poetry*, opposes the *bathos* to the *sublime*.

Bath'-room, *n.* An apartment used for bathing.

Bath'-sheba, (*Scrip.*) the wife of Uriah. David first committed adultery with her, then caused her husband to be slain, and afterwards took her to wife. These sins displeased Jehovah, who sent the prophet Nathan to David, with the parable of the ewe lamb. David bitterly repented, but yet was punished. *B.* was the mother of Solomon, whose succession to the throne she took pains to secure. She is afterwards mentioned in the history of Adonijah, in the title of *Psa.* li, and among the ancestors of Christ, (*Matt.* i. 6.)

Bath Springs, in Berkley co., Virginia, is a mild carbonated water; temperature 73° F.

Bath'stone, *n.* See OÖLITE.

Bath'urst, ALLEN, EARL, an English statesman, a zealous opponent of the measures of Sir Robert Walpole's ministry, and the intimate friend of Bolingbroke, Pope, Addison, and the other great writers of the time. B. 1684; D. 1775.

B., HENRY, EARL, son of the preceding, B. 1714. He was made, in 1771, Lord High Chancellor of England, and was author of the *Theory of Evidence*, &c. D. 1794.

Bath'urst, a town of W. Africa, on the S. side of the entrance of the Gambia; cap. of the British possessions on that river, and seat of a civil lieutenant-governor: Lat. 13° 28′ N., Lon. 16° 35′ W. It stands on the E. end of St. Mary's Island, a low and swampy spot, about 4 m. long, and 3 broad. The main street is occupied with European stores and private dwellings; the other streets are lined mostly with African huts, enclosed within gardens. *Exp.* Gum-Senegal, hides, bees'-wax, ivory, gold, tortoise-shell, rice, cotton, African teak, camwood, palm-oil, &c. The British established a settlement here in 1816. *Pop.* about 7,000, of which about 200 only are Europeans.

Bath'urst, a town of Australia, in the gold region of the Macquarrie River, 120 m. from Sydney. *Pop.* about 8,000.

Bath'urst, a port of entry, cap. of Gloucester co., New Brunswick, on Bathurst Bay; Lat. 47° 37′ N.; Lon. 65° 45′ W. *Pop.* about 2,500.

Bath'urst, a tract of land in the Arctic Ocean, Lat. 75° N., Lon. 100° W. It was discovered by Sir E. Parry.

Bath'urst Inlet, in British N. America; Lat. 67° 30′ N.; Lon. 109° W.

Bath'urst Island, off N. Australia, 120 m. W. of Port Essington. It is densely wooded, except at its W. extremity, which is sandy and barren.

Bath'urst Lake, in the central part of Newfoundland, 40 m. in length by about 6 m. wide. The river of Exploits is its outlet.

Bath'villite, *n.* (*Min.*) An amorphous mineral. Dull, and of a fawn-brown color, looking somewhat like wood in the last stage of decay. Opaque. Very friable. Insoluble in benzole. *Comp.* Carbon 78·43, hydrogen 11·11, oxygen 10·46 = 100.

Bathyl'lus, a native of Alexandria, rival of Pylades as a pantomimist, particularly distinguished in lively and voluptuous representations. He was a slave of Mæcenas, who gave him his liberty, and, according to the testimony of Tacitus, the object of a licentious attachment on his part. — In Anacreon's odes, a handsome boy is mentioned under the name of *B.* — Also, a poet of this name lived in the reign of Augustus.

Bathymet'rical, *a.* Relating to bathymetry.

Bathym'etry, *n.* [Gr. *bathos*, depth, and *metron*, measure.] The art or science of sounding, or measuring depths in the sea.

Bati'deæ, *n. pl.* (*Bot.*) An order of plants, closely allied to *Empetraceæ*, and composed of a single succulent and shrubby plant, *Batis maritima*, native of the West Indies, where it is occasionally used as an ingredient in pickles.

Batignolles-Monceaux, (*ba'teen-yol-maw'so,*) formerly a suburb of Paris, but now one of the arrond. into which the capital of France is divided. At present occupied by handsome buildings and densely populated, *B.* was, in 1814, an open space, which the Prussians under Blücher used as a camp.

Batindah, a town of Hindostan, prov. of Rajpootana; Lat. 30° 12′ N.; Lon. 74° 48′ E. Its vicinity has been celebrated for its breed of horses.

Bat'ing, *p.pr.* Abating; excepting.

> "Could not choose an advocate,
> Whom I would sooner hear on any subject,
> *Bating* that only one, his love, than you." — *Rowe.*

Batins'koff, CONSTANTINE NICOLAEVITCH, an eminent Russian poet, B. at Vologda, in 1787. His poetry, severe in style and rich in thought, forms an epoch in the history of Russian literature, from the fact that he was the first poet of note who abandoned the French classical school, which had inspired the authors of Russia from the time of Catherine II. The introduction of the new life of romanticism into Russian literature may be dated from the appearance of the poems of *B.* and Ginkoffski. D. 1855.

Batis'can, in *Lower Canada*, a river falling into the St. Lawrence, near a village of the same name, 5 m. from St. Anne.

—A post-village of Champlain co., on the St. Lawrence, 117 m. N.E. of Montreal.

Bat'ist, *n.* [Fr. *batiste.*] (*Com.*) A very fine, thick, white, linen cloth. It is made of the best white flax, called *ramé*, which is cultivated in the N. of France. In the 13th century, this manufacture is said to have been brought into vogue by Baptista Chambrai, in Flanders, and the linen afterwards received from him the name of *batiste*, or cambric (*toile de Chambrai*). Different kinds of batiste are called *linons*, *claires*, *cambrics*, &c., and manufactured not only in France and the Netherlands, but also in Switzerland, in Bohemia and Silesia. The best comes from India, where it is called *bastas*.

Bat'let, *n.* A small bat, or square or round piece of wood with a handle, used for beating linen when taken out of the buck-basket.

Bat'ley, a manufacturing town of England, W. Riding, co. York, 2 m. E. of Dewsbury. *Pop.* 30,000.

Bat'man, *n.* [Pers.] (*Com.*) A weight used in Persia, containing 40 sihrs, equal to 13½ lbs. avoirdupois.

—[Fr. *bât*, a pack-saddle.] (*Mil.*) In the English army, when troops are in the field, each field-officer has a soldier, called *batman* or *bat-horse*, who attends to the horses, cooking-utensils, &c.

Batn-el-Ha'gar ("Womb of Rocks"), a stony district, stretching along the Nile; Lat. 21° to 22° N.; Lon. 30° 40′ to 31° 10′ E. It is chiefly peopled by Bedouin Arabs.

Bat'-net, *n.* A net to put over the nests of bats.

Baton, Batoon, (*bă-tong', ba-tōōn',*) *n.* [Fr. *bâton*, for *baston;* L. Lat. *bastum;* Gr. *anabastos*, a stick to carry a load on, from *bastazō*, to carry.] A staff or truncheon; specifically, a marshal's staff of office; a badge of honor.

(*Her.*) A mark on an escutcheon, denoting bastardy, called also *bar*, *bar-sinister*, *bend-sinister*, *batton-sinister*, *baston-sinister*, more properly *bastard-bar*, and commonly, in modern Heraldry, *baton-sinister*. The *B.* is comparatively of modern invention, natural children in earlier times not having been permitted to assume the arms, or even the names of their fathers. Sometimes a sovereign granted permission to a bastard to carry the bar *dexter*, in place of *sinister*. Charles VII. of France allowed John, the Bastard of Orleans, for his valor against the English, to turn his sinister traverse to the dexter, with which he and his issue afterwards *bruised* the arms of Orleans, as dukes of Longueville. The same privilege was granted to James, Earl of Murray, (natural son of King James V. of Scotland,) by his sister Queen Mary, and he thenceforth carried the Lion and tressure of Scotland thus bruised, quartered with the feudal arms of the earldom of Murray. (See *Fig.* 313.) In modern practice, the baton does not touch the extremities of the shield, or of the quarter in which the paternal arms are placed, but is *couped*, that is, cut short at the end. — See GOBBONATED BORDURE.

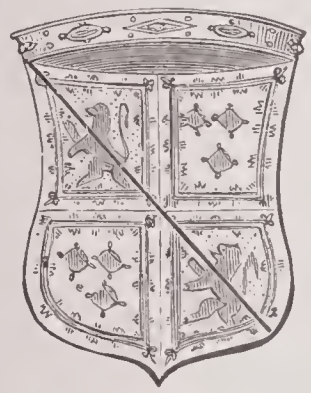


Fig. 313.
EARL OF MURRAY'S ARMS.
(With bar dexter.)

Batoni, POMPEO, (*ba-to'ne,*) an Italian painter, B. at Lucca, 1708. His works, the best of which is *Simon the Sorcerer contending with St. Peter*, are celebrated for their truthfulness, character, and coloring. D. 1786.

Bat'onnier, *n.* [Fr.] The name given to the elected president of the order of the French advocates. — See BARREAU.

Baton Rouge, in *Louisiana*, a town, seat of justice of East Baton Rouge parish, and again, since 1882, cap. of the State. It is pleasantly located on an eminence, on the E. bank of the Mississippi, 150 m. above New Orleans by the river. *B. R.* is situated in a district exceedingly fertile, producing abundant crops of cotton, sugar, corn, sweet potatoes, &c. *Pop.* (1890) 10,478.— During the Civil War, on the 11th of June, 1861, a detachment of 300 Confederate troops from New Orleans seized the arsenal here, and obtained from it 50,000 stand of small arms, 4 howitzers, 20 pieces of heavy artillery, one 6 and one 12-pounder field-battery, 300 bbls. of gunpowder, and a large quantity of other munitions of war. On the 21st, the State legislature was convened here, when the Confederate flag was raised over the Capitol. On the 23d, the members of the Convention met, and on the 26th passed a State Ordinance of Secession. On the 7th of May, 1862, *B. R.* was captured by a Union flotilla forming part of Farragut's squadron; and on the 10th of Aug. following, it was attacked by a Confederate force of about 5,000 men, under General Breckinridge; who, after a short but severe battle of two hours, were repulsed, and had to retreat. Besides their commander, General Williams, the loss of the Union troops in this action was reported at 82 killed, 255 wounded, and 34 missing. The Confederate loss is not known; but the Nationals captured about 100 prisoners. The city was soon afterward (Aug. 23) evacuated by the U. S. forces.

Batoum, (*ba'toom,*) a seaport on the E. shore of the Black Sea, in Lat. 41° 38′ 41″ N., Lon. 41° 38′ 55″ E. It possesses a fine, deep harbor. It was ceded by Turkey to Russia in 1878, and until 1886, was a free port. *Pop.* abt. 10,000. It is now an important Naval Station.

Batra'chia, BATRACHIANS, AMPHIBIA, *n. pl.* (*Zoöl.*) A class of animals which were long confounded with reptilia. When young, they breathe by branchiæ, or gills, and resemble fishes in the general conformation of the body; but they change their forms and acquire lungs before becoming adult. Like fishes and reptiles, they are cold-blooded animals, their circulation is incomplete, and their respiration comparatively inactive. The skin is naked or unarmed, the skeleton very incomplete, and the heart is composed of a single ventricle and two auricles. In their external form they vary considerably, some resembling lizards, and even serpents, but generally the body is flat, short, and thick, without a tail, with well-developed limbs. The young *B.* are known by the name of *tadpoles*, or tetrads, and are formed for an aquatic life; at birth they have a tail, but no feet; gills projecting externally (*Fig.* 314, 1), and their skeleton is cartilaginous. But in most *B.*, these branchiæ soon wither away and disappear, although the aquatic life continues; for the tadpole has internal branchiæ, like fishes, as well as external (*Fig.* 314, 2);

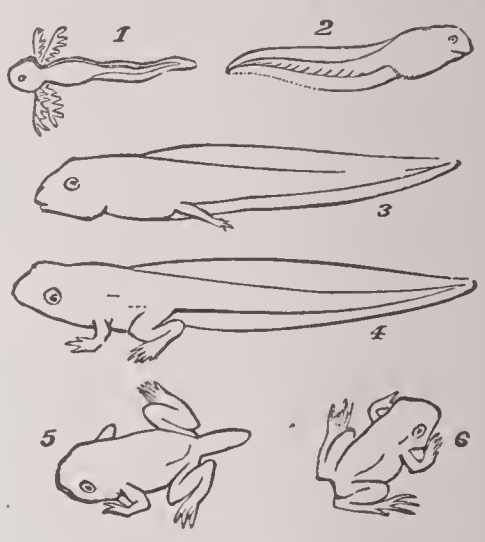


Fig. 314.

these fixed or internal branchiæ, in the tadpole, are attached under the neck to cartilaginous arches belonging to the hyoid bones, and are protected by the skin; the water reaches them by the cavity of the mouth, and escapes by one or two orifices situated under the neck. In the tadpole of the frog, the hind feet appear first (*Fig.* 314, 3), and they become of some length before the fore-feet are visible; these appear later (*Fig.* 314, 4). In the salamanders it is the reverse; finally, in the siren, the hind legs never appear. The tail of the tadpole continues to grow in the salamander and proteus, with the rest of the body: but in frogs, and in many others, the tail wastes away and disappears (*Fig.* 314, 5 and 6). About the same time the lungs appear, and begin to perform their functions, so that at this period the tadpole is strictly an amphibious animal; but although this strictly amphibious state continues in some, in general it does not; the gills disappear, and in the adult there remain no traces of such an apparatus. In the *B.*, the lungs are two, equal, and the heart is composed of only one auricle and one ventricle. In the higher forms, the vertebræ are convex at one end, and concave at the other; but in some cases the vertebræ are concave at both ends. The principal families comprised in the class of *B.*, are RANIDÆ (or frogs), HYLOIDÆ (or tree-toad), SALAMANDRIDÆ, and SIRENIDÆ, *q. v.*

Batra'chian, *n.* and *a.* (*Zoöl.*) An animal of, or relating to an animal of, the class *Batrachia*.

Bat'rachoid, *a.* [Gr. *batrachos*, a frog, and *eidos*, shape.] Of frog-like form.

Batracholites, (*bat-trai'ko-lites,*) *n. pl.* [Gr. *batrachos*, a frog, and *lithos*, stone.] (*Geol.*) Fossil remains of frogs and other animals of the same order. The skeletons, vestiges of the soft parts, and imprints of the feet of several genera of true batrachians, occur in the tertiary strata. In the pliocene deposits on the banks of the Rhine at Œningen, and in the paper-coal of the Eifel, several species of frog, toad, and newt have been found. Fossil frogs, of a small species very similar to the recent, abound in a dark shale overlaid by basalt, in the vicinity of Bombay.

Batrachomyom'achy, *n.* [Gr. *batrachomuomachia*, from *batrachos*, frog, *mus*, mouse, and *machē*, battle.] (*Lit.*) Literally, a battle of frogs and mice. It is the title of a Greek mock-heroic poem, usually ascribed to Homer, but without any good foundation. It seems to be indeed a parody upon the *Iliad:* and the contests of the animals, their single combats, the intervention of the gods, and other Homeric incidents, are described with much humor.

Batrachoph'agous, *a.* [Gr. *batrachos*, frog, and *phagein*, to eat.] Feeding on frogs.

Batrachos'permum, *n.* [Gr. *batrachos*, a frog, and *sperma*, a seed.] (*Bot.*) A genus of plants, order *Fucaceæ*, consisting of delicate, flexible, branched gelatinous plants of a green, yellow, red, or purple color, resembling somewhat the ova of the frog. They occur in clear, slowly running fresh-water streams, and their surface is covered with minute hairs, which give them a beautiful appearance when placed under the microscope.

Batrachus, FROG-FISH, *n.* (*Zoöl.*) A genus of acanthopterygious fishes belonging to the family *Lophidæ*. The head is of great size, and flattened horizontally, which gives the fish an appearance like the head of a frog. The species inhabit the southern hemisphere, and

lie in ambush in the sand, for the purpose of catching those fish on which they prey. The grunting trog-fish, *B. grunniens*, inhabiting the Indian and American seas, is peculiar for the noise it makes when taken. This is like the grunting of a pig, and arises from the animal expelling air from the internal cavities, through the mouth and gill-flaps.

Batshian', *n.* A Dutch island of the Molnccas, S.W. of Gilolo. *Area*, about 900 sq. m. Lat. 0° 35′ S., Lon. 127° 35′ E. *Chief town*, Batshian, near the centre of the island, with a *pop.* of about 1,200.

Bats'man, Bats'ter, Bat'ter, *n.* (*Sports.*) A person who uses the bat when playing at base-ball or cricket.

Bats'ter, *n.* (*Sports.*) Same as BATSMAN.

Bat'sto, in *New Jersey*, a post-village of Burlington co., on a river of the same name, 40 m. S.E. of Camden.

Bat'sto River, flows through Burlington co., in New Jersey, and empties into Little Egg Harbor.

Bats'wing, *n.* A form of gas-burner with a slit at the top, so that the gas issuing from this burns in a flame shaped like a *bat's wing*.

Bat'ta, *n.* [Hindoo *battah*, extra allowance to troops in the field.] (*Mil.*) An allowance formerly made to the officers in the service of the British East India Company, above their regular pay. The effect of the late amalgamation of the East India and royal regiments, has been to cause an entire alteration in the system of batta allowances.

Battalah, (*bat-ta'la,*) a town of Hindostan, prov. Lahore, in an open plain, 26 m. N.E. of Umritsir; Lat. 30° 43′ N., Lon. 75° 6′ E. It is considered the healthiest place in the Punjab.

Battalia, (*bat-tāl'yā*), *n.* [Fr. *bataille*; It. *battaglia*; Lat. *battalia*.] (*Mil.*) The order of battle; general dispositions of troops, their divisions, sub-divisions, &c., in readiness for action.

"Next morning the king put his army into *battalia*."
Lord Clarendon.

Battalion, (*bat-tal'yun,*) *n.* [Fr. *bataillon*, from *bataille*, Lat. *battuere*, to beat.] (*Mil.*) A body of men arrayed for battle. Specifically, a body of infantry. In the U. S. Army, it consists of two, four, six, eight, or ten companies, according to circumstances, and is commanded by the senior officer present. The number of enlisted men in the battalion varies from 100 to 1,000, in accordance with the minimum or maximum organization of the Army. In the field, the Army is divided into separate organizations, as follows, viz: Army Corps, Divisions, Brigades, Regiments, and Battalions. — In whatever manner the armies of Europe differ in other particulars, they seldom depart very far from a mean of 1,000 men per *B.* Two or more of these units combine to form a regiment. The *B.* in England is commanded by a *Colonel*; in France, by a *Chef de bataillon*; it is usually in England, and generally in France, Italy, &c., divided into ten companies.

Battal'ioned, *a.* Formed or drawn up into battalions.

Battan'ta, an island in the Asiatic archipelago; *area*, about 200 sq. m.; Lat. 0° 56′ S., Lon. 130° 25′ E.

Bat'tas. See SUMATRA.

Bat'taszek, a market-town of Hungary, county Tolna, on the W. of the Danube; *pop.* 6,129.

Battecol'lah, a maritime town of Hindostan, prov. Canara; Lat. 13° 56′ N.; Lon. 74° 37′ E.

Bat'tel, *n.* (*Eng. Law.*) A trial or combat formerly allowed by the law, in military, criminal, or civil cases, where the defendant might fight with the plaintiff; the result proving whether he was culpable or innocent. This relic of the Middle Ages was only abolished by Act of Parliament, 59 Geo. III. c. 46.

Bat'tel, *v. i.* [O. Eng. *bat*, increase, and A. S. *dæl*, deal, portion.] To be indebted to the buttery of a college in the University of Oxford, England, for provisions and drink.

—To keep terms at, or reside in, the university.

—*n.* Provisions and drink received by Oxford students from a college buttery, and also the costs of the same.

Bat'teler, BAT'TLER, *n.* A student at Oxford university who stands indebted in the college-books for provisions and drink received from the buttery:—formerly, one who paid for nothing but what he called for, corresponding nearly to a *sizar* at Cambridge.

—A student who keeps terms, or resides at, the university.

Bat'ten, (*băt'tn,*) *v. a.* To make fat by good feeding; to feed plenteously.

"*Batt'ning* our flocks with the fresh dews of night."—*Milton.*

—To fertilize soil; to enrich land.

"The meadows here, with *batt'ning* ooze enrich'd."—*Philips.*

—*v. i.* To grow fat; to become obese; to live in pampered indulgence or luxury.

"The lazy glutton safe at home will keep,
Indulge his sloth, and *batten* on his sleep."—*Dryden.*

Bat'ten, *n.* [From Fr. *bâton*, a stick or club.] (*Carpentry.*) A scantling of stuff, from 2 to 7 inches broad, and from ⅞ to 2½ ins. thick. Battens are employed in the boarding of floors, and also upon walls, in order to secure the laths on which the plaster is laid.

(*Mar.*) Battens are thin pieces of oak or fir nailed to the mastheads and to the midship part of the yards. *Battens of the hatches* are a sort of long narrow laths, scantlings of wooden stuff, or straightened hoops of casks. They serve, by the help of nailing, to confine the edges of the tarpauling close down to the sides of the hatchways, to prevent the water from penetrating the lower compartments of a ship during a storm.

(*Mech.*) The swing utensil of a loom, by which the weft or woof is struck home, and in which the shuttle runs.

Bat'tening. *n.* (*Arch.*) The act of fixing battens to walls, in order to secure the laths over which the plaster is laid; or, the battens in the state of being fixed for that purpose.

Bat'tenkill River, rises in *Vermont*, and, running W., falls into the Hudson, in Washington co., in E. New York.

Bat'tenville, in *New York*, a post-village of Washington co., 38 m. N. by E. of Albany.

Bat'ter, *n.* (*Sports.*) Same as BATSMAN, *q. v.*

Bat'ter, *v. a.* [Fr. *battre*, from Lat. *battuere*, to beat or strike down.] To beat down; to beat or strike against; to beat with successive blows: to beat with violence; to demolish; — specifically, to pound or shatter with artillery; as, to *batter* a wall.

"Britannia there, the fort in vain
Had *batter'd* been with golden rain."—*Waller.*

—To wear or impair with beating, or by use or hard usage; to attack with engines of war.

"Crowds to the castle mounted up the street,
Batt'ring the pavement with their coursers' feet."—*Dryden.*

—*v. i.* (*Arch.*) To slope gently backward, as a wall from a line perpendicular to the base.

Bat'ter, *n.* [Fr. *battre*, to beat.] (*Cookery.*) A mixture of several ingredients beaten together with some liquid; as, a *batter*-pudding.

"One would have all things little, hence has tried
Turkey poults fresh from th' egg in *batter* fried."—*King.*

(*Arch.*) An inclination or sloping backward of the face of a wall.

(*Mil.*) A cannonade against a fortress by heavy ordnance.

Bat'terer, *n.* One who batters, beats, or assaults.

Battering-ram, (*bat'ter-ing,*) *n.* (*Mil.*) An ancient military engine for battering walls. A long and solid beam, armed at one end with a metallic ram's-head, was suspended by the middle, and swung violently and repeatedly against the walls of a city or castle, till a breach was made. It was sometimes in the lower part of a wooden tower built upon wheels, and was worked by more than a hundred men; while the upper part of the tower was filled with archers and slingers. This machine, known to the Romans as *Aries*, whence the name, is mentioned in the Old Testament, appears in sieges on the monuments of Rameses II. of Egypt, and was used by the Greeks and Romans. When placed upon wheels and roofed over, it was called a *testudo*. *B. R.* were often of great length, the beam of wood having at the end the head of a ram, made of brass or iron. They were used extensively in the Middle Ages, and were sometimes called *testudines*.

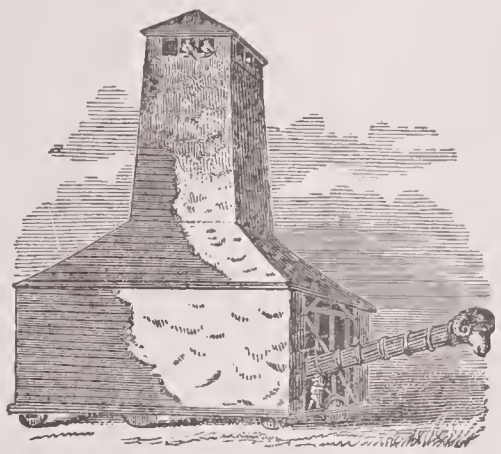


Fig. 315.—BATTERING-RAM WITH TOWER.

Bat'ter-rule, *n.* (*Arch.*) A plumb-line so contrived, that, while the plummet hangs perpendicularly, the building may batter or slope, the edge of the instrument being made to differ from a vertical line, in proportion as the wall is to taper.

Bat'tersea, a town and par. of England, co Surrey, 4 m. S.W. of St. Paul's, London, of which city it now forms a suburb. The flats, called *B.* Fields, are now formed into a fine public park. A suspension bridge connects with Chelsea on the opposite bank of the Thames. Albert and Battersea bridges also cross the Thames at *B.*

Battery, (*băt'te-re,*) *n.* [Fr. *batterie*, from *battre*, to beat.] Act of battering or beating.

"Earthly minds, like mud walls, resist the strongest *batteries*."
Locke.

(*Mil.*) A number of cannon, ranged in order for battering, and mounted upon a raised platform behind an elevation of earth. A battery of this sort is principally used in order to defend or retain a position. There are, however, many kinds of batteries, distinguished by names, referring either to their position or the duties which they are required to perform. In gun and howitzer batteries there are embrasures through which the firing takes place: but mortar batteries have no openings. In field operations, a *B.* generally consists of 6 pieces of ordnance, with gunners, horses, ammunition, &c. A *B.* of foot artillery is usually called a *field-battery*, in order to distinguish it from that of the horse-artillery, which is called a *horse-battery*. — A *Battery d'enfilade* is a *B.* formed to sweep the whole length of a given straight line. — *Cross batteries.* Two batteries so situated as to play on the same object at a given angle. — *Battery en écharpe.* A battery that fires obliquely. — *Battery de revers.* A battery that plays on the backs of the enemy. — *In battery.* A term signifying a projecting, as a gun, into an embrasure or over a parapet in position for firing. — *Out of battery*, or *from battery.* To be withdrawn, as a gun, to a position for loading. — *Battery-wagon.* A wagon or tumbril used to transport all tools and materials required for the repair of gun-carriages.

(*Mar.*) The armament of heavy guns carried by a vessel of war, and distinguished as *starboard battery*; i. e., the tiers of guns in position on the right-hand side of the ship; and *port battery*, those on the left-hand side. — See BROADSIDE; FLOATING-BATTERY.

(*Phy.*) The name of *Electrical battery* is applied to a combination of several electrical jars, which may be charged and discharged as one great jar. As the construction of an electrical *B.* cannot be well understood without the preliminary knowledge of the simple jar, or Leyden phial, we refer, for a full account of this important matter, to the article LEYDEN JAR. — The *Voltaic*, or *Galvanic battery*, is an apparatus used for producing a current of electricity by chemical action. The principles of its construction, successive improvements, and marvellous applications, will be considered under the head GALVANIC BATTERY.

(*Law.*) Any unlawful beating or other wrongful physical violence or constraint, inflicted on a human being without his consent. A violent assault. — See ASSAULT.

Batthyany, (*bat'yah-ne,*) a noble Hungarian family, embracing among its members, princes, counts, bans of Croatia, bishops, and other high dignitaries. Of this family we notice:

CHARLES, PRINCE OF *B.*, a lieutenant-field-marshal of the German Empire, who distinguished himself in the Bavarian War of Succession, and particularly by a victory over the French and Bavarians at Pfaffenhofen, on the 15th April, 1745.

B., CASIMIR, COUNT DE NÉMETH UJVÀR, B. 1817. He distinguished himself at the diets of 1840 and 1843–44 by his uncompromising opposition to the Austrian schemes of centralization. In April, 1849, after the declaration of independence, he was appointed Hungarian Minister for Foreign Affairs. Sharing the fortunes of the government, he went to Turkey, was confined at Kintahia, released in 1851, and D. at Paris in 1854. His extensive estates were confiscated by the Austrians.

B., LOUIS, COUNT DE NÉMETH UJVÀR, Prime Minister of Hungary, B. at Presburg, in 1809. He took his seat in the house of peers in 1839, and soon established there his position as leader of the opposition. When, in 1848, the Vienna revolution destroyed the unconstitutional administration of the Austrian empire, the relations of Hungary to the empire had likewise to be re-modelled. The emperor established an Hungarian responsible ministry, formed by Count Louis Batthyany. *B.* did not hold the office long, and afterwards took part in public affairs, chiefly as a member of the diet, and with great moderation. Yet, after the Austrians entered Pesth, he was arrested in January, 1849, thrown into prison, tried by court-martial, and shot on the 6th Oct., 1849. *B.* died a hero and a martyr. His last words were, "Long live my country!"

Bat'ting, *n.* (*Games.*) The management of a bat in playing base-ball or other games at ball. — Cotton-wool in sheets, prepared for quilts, &c.; bat.

Bat'tish, *a.* Resembling a bat. (R.)

"To be out late in a *battish* humour."—*Gentleman Instructed.*

Battle, (*băt'tl,*) *n.* [Fr. *bataille*, from *battre*, to beat; Lat. *battuere*, to strike or bruise.] A striking with repeated blows. Specifically, a fight; an engagement; contest; conflict; combat.

(*Mil.*) A hostile encounter between two large bodies of troops, or two armies. In early times, a battle was a fierce, tumultuous contest between bodies of men, without order or discipline, the issue of which depended upon the physical strength or courage of the combatants. Gradually, however, the superiority of discipline, united effort, and the use of improved implements of war, as opposed to mere physical strength, began to be seen, and led to the changes that have since taken place in the training of armies and the conduct of engagements. The issue of a battle now depends upon a variety of circumstances, which renders it always a matter of difficulty to determine beforehand what may be the result. These circumstances are constantly changing; and sometimes events, that no human wisdom could have foreseen, may occur in the course of a battle, to defeat the wisest plans and the most skilful arrangements. It is in foreseeing and providing for the various circumstances of each particular case, that the great skill of a general consists; and though he may meet with occasional reverses, success, in the long run, is generally on the side of him who forms his plans with the greatest sagacity, and executes them with corresponding vigor and ability. It is the skill of a general, rather than the courage of the soldier, that now determines the event of a battle. Daring courage, undaunted firmness, the most active and ingenious invention, cool calculation, and thorough self-possession, amid scenes of tremendous agitation, and under the consciousness that the fate of a whole nation may depend on him alone in the trying moment, — these are the qualities which a good general cannot dispense with for a moment. If it is the character of genius to conceive great ideas instantaneously, military genius is, in this respect, the greatest. Great generals have therefore been, in all ages, the objects of admiration; and as a great artist may be no example, in a moral point of view, although we admire the genius displayed in his productions, so we cannot but bestow the same kind of admiration on the high intellectual gifts of a great general. Few situations, therefore, enable a man to acquire higher glory, than that of a great commander in a good cause. — If troops meet accidentally, and are thus obliged to fight, it is called a *rencontre*. Further, battles are distinguished into *offensive* and *defensive*. Of course, a battle which is offensive on one side, is defensive on the other. — The plan of the battle itself, the position

of the troops, &c., is called the *order of battle* (ordre de bataille). There are three maxims as important for a general as they are simple: — 1. Know your enemy, his strength and intentions. 2. Make all the operations and manœuvres of the parts coincide, as much as possible, with the great plan of the battle. 3. Pursue victory to the utmost.

Bat'tle, *v. i.* To join battle; to contend in fight.

"'Tis ours by craft and by surprise to gain:
'Tis yours to meet in arms, and *battle* in the plain."— *Prior.*

—*v. a.* See EMBATTLE.

Bat'tle, a town of England, co. of Sussex, 52 m. S.E. of London. It is remarkable for the remains of the abbey built by William the Conqueror, in 1067, on the site of the battle of Hastings. Here was deposited the famous *Roll of Battle Abbey*, in which document the names of the leaders of the Norman invasion were enrolled. *Pop.* 4,315.

Bat'tle-array', *n.* [From *battle* and *array.*] Array or order of battle; the disposition of forces preparatory to a battle.

"Two parties of fine women, ... seemed drawn up in *battle-array*, one against another."— *Addison.*

Bat'tle-axe, *n.* (*Mil.*) An ancient weapon of war, which appears to have been used from the most remote periods in warfare, was made in two forms. The first had a single edge only, and was similar to the modern hatchet; the second had two edges, and was sometimes called the Amazonian axe, from a supposition that weapons of this kind were used by those female warriors. Axes were much employed as offensive weapons by the Celtic and Scandinavian nations. Among the Roman armies the *B. A.* was not much used; it was considered the weapon of uncivilized nations. At the siege of the Roman capital by the Gauls, Brennus is represented as being armed with a battle-axe, and Ammianus Marcellinus, several centuries afterwards, describes an armed body of Gauls as being all furnished with *B.-A.s* and swords. In the **Bayeux** tapestry, the English are represented as using

Fig. 316. — NORMAN BATTLE-AXE.

the *B. A.* The *pole-axe* (*Fig.* 316) was introduced by the Normans; it had an edge on one side and a sharp point on the other. The *B. A.* fell into disuse towards the close of the 16th century.

Bat'tleborough, in *North Carolina*, a post-village of Nash co., 60 m. E. of Raleigh.

Bat'tle Creek, in *California*, a P. O. of Tehama co. —A small tributary of the Sacramento river, which partly forms the division between Tehama and Shasta counties.

Bat'tle Creek, in *Michigan*, the chief tributary of the Kalamazoo river, which, rising in Eaton co., falls into that river at the city of Battle Creek.

—A fine city, in a township of the same name, of Calhoun co., 120 m. W. of Detroit, and 13 m. W. of Marshall. *Pop.* (1890) 13,197; (1898) 17,100.

Bat'tle Creek, in *Tennessee*, a village of Marion co.

Bat'tledoor, *n.* [Sp. *batalladór.* combatant, from *batalla*, combat, from Lat. *battuere*, to thump, strike.] (*Games.*) An instrument used to strike a ball or shuttlecock. The *B.* is generally racquet-shaped, and is composed of a palm or flat board and a thin handle. The palm is sometimes constructed of wood, at others of stretched parchment or vellum.

Bat'tlefield, *n.* The place or ground where a battle has been fought.

Battle Field, in *Mississippi*, a village of Lauderdale co.

Battle Ground, in *Georgia*, a village of Cherokee co., 130 m. N.N.W. of Milledgeville.

Battle Ground, in *Indiana*, a post-office of Tippecanoe co., 6 m. N. by E. of Lafayette.

Bat'tlement, *n.* [It. *battagliere*, from *battaglia*, a battle.] (*Arch.*) A wall raised on a building or fortified place, and furnished with openings or embrasures to look through, or to discharge missile weapons through. The rising parts of the parapet are called *merlons* or *copes*, and the open spaces are called *crenels*, *loops*, or *embrasures*. The purpose of the contrivance is, that a soldier may shelter himself behind the merlon while he shoots and observes the enemy through the crenels. The device is of great antiquity; it has been found represented in various forms in the bas-reliefs of Nineveh and Lycia, and in the Egyptian paintings, and exists in many remaining walls and towers of the Greeks and Romans, besides those of the mediæval period. *B.* were also largely given to ecclesiastical and civil buildings in the Middle Ages by way of ornament, where they are often richly panelled or pierced with circles, trefoils, quatrefoils, &c. On fortifications, the *B.* are generally quite plain, as in fig. 317, or pierced with only a very narrow, cruciform, or upright opening, the ends of which sometimes terminate in circles called *œillets*, through which archers could take aim.

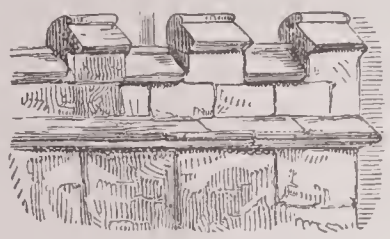


Fig. 317. — BATTLEMENT.

Bat'tlemented, *a.* Having battlements.

Bat'tle-piece, *n.* (*Paint.*) A picture descriptive of a fight or battle. Animated descriptions of battles and combats afford subjects of peculiar energy to painting as well as to poetry; for in general we love that which excites emotion, and keeps the imagination in full activity. The painter of battles who possesses genius, may express passions and character in his leading figures, although, from the nature of his subjects, it may be more difficult to preserve unity of character, and to direct the action to one end, in battles than in historical pictures of a more quiet nature. In *B. P.* the artist has scope to give animation, spirit, and action to his figures and horses; while a bold and vigorous style, with firm and decisive touches, and freedom of outline, are preferable to high finishing, delicate pencilling, or too determined outline, unless in cabinet-sized pictures of a few figures. The battle-painter of talent will place the heroes of his action in striking or affecting situations, and thereby decide the point of time that his picture represents. Among the greatest paintings of this kind, are the battle of Constantine, sketched by Raphael, and executed by Ginlio Romano; Lebrun's battles of Alexander; and the battle of the Amazons by Rubens. In smaller scenes, such as skirmishes and surprises, Antonio Tempeste, Hans Snellink, Pet. Snyders, Falcone, Phil. Wouvermans, &c., are distinguished. The most eminent of recent battle-painters are Horace Vernet and Ingres.

Bat'tling, *n.* Conflict; encounter; battle. (o.)

Bat'ton, *n.* See BATTEN, and BATON.

Battue, (*băt-too'*,) *n.* [Fr., from *battre*, to beat.] (*Sporting.*) A term applied to an unsportsmanlike method, adopted by owners of large estates, of killing a great quantity of game preserved for the purpose. This wholesale slaughter is unaccompanied by any exhibition of the skill that may be shown, or endurance of fatigue that must be encountered, in the pursuit of game in a fair and legitimate way. A party of ten or a dozen gentlemen, each with two guns, which are loaded for them by attendant keepers, surround a copse or plantation in which a great number of pheasants, hares, and rabbits are known to harbor. Men armed with long sticks are then sent in, who beat the bushes in all directions, which causes the game to quit their retreat, and make for other covers. As they come out in the open space, they are shot down in all directions as fast as the guns can be discharged.

Batture', *n.* [Fr., shoals, shallows.] (*Law.*) An elevation of the bed of a river *under* the surface of the water. Sometimes also used to signify the same elevation when it has risen *above* the surface. The term is applied principally to certain portions of the bed of the river Mississippi, which are left dry when the water is low, and are covered again, either in part or in whole, by the annual swells.

Battu'ta, *n.* [It. *battuta*, from *battere*, to beat.] (*Mus.*) The measurement of time by beating.

Bat'tye, *n.* (*Sport.*) See BATTUE.

Bat'u Khan, sovereign of Kaptschak. He was grandson of Jenghis Khan, and succeeded to the throne in 1233. His dominions comprehended all the Mogul conquests to the W. of the Caspian Sea. After lending his assistance to the grand Khan Oktai in the conquest of China, he overran and subjugated Russia, which remained under the dominion of the khans of Kaptschak for 250 years. In 1241, and subsequent years, he conquered and wasted Poland and Hungary. D. 1254.

Baturin, (*ba'too-rin,*) a town of European Russia, gov. of Tchernigoff, on the Seim, an affluent of the Desna; *pop.* about 5,500. The Hetman of the Ukraine, Cossacks resided here from 1699 to 1708. Mazeppa was one of these.

Batyllus, (*bă-til'us,*) a beautiful youth of Samos, greatly beloved by Polycrates the tyrant, and by Anacreon.

Batz, *n.*; *pl.* BATZEN. [Ger.] (*Com.*) A silver coin with a mixture of copper, still current in some parts of Switzerland. It is worth about 4 cents.

Baubau'go Creek, in *Indiana*, flows into St. Joseph's River a short distance above Mishawaka.

Bau'bee, Baw'bee, *n.* [O. Eng. *bable*; Fr. *babiole.*] A term given in some parts of Scotland and the N. of England, to a halfpenny.

Bau'ble, Baw'ble, *n.* [Fr. *babiole*, from the root of *babe* or *baby.*] A child or baby's plaything; a trifling piece of finery; a gewgaw.

"Our author then, to please you in your way,
Presents you now a *bawble* of a play."—*Granville.*

Baucis, (*baw'sis.*) (*Myth.*) An old and infirm woman of Phrygia, who with her husband lived in a small cottage, in a penurious manner. When Jupiter and Mercury travelled in disguise over Asia, they came to the cottage, and were so pleased with the hospitality they received, that Jupiter changed their dwelling into a magnificent temple, of which *B.* and her husband Philemon were made priests. After they had lived happily to an extreme old age, they died both at the same hour, according to their request to Jupiter, that one might not have the sorrow of following the other to the grave. Their bodies were changed into trees before the doors of the temple.

Baudet, STEPHEN, (*bo'dai,*) a French engraver, B. at Blois, 1643, whose chief work is a print of Adam and Eve, from a painting by Dominichino; D. 1716.

Baudisserite, *n.* (*Chem.*) Carbonate of magnesia.

Baud'kin, Baud'ekin, *n.* [O. Fr. *baudequin*; It. *baldacchino.*] The richest kind of stuff used for garments in the Middle Ages, the web being gold, and the woof silk, and embroidered: made originally at Babylon.

Baudrie, *n.* (*Mil.*) See BALDRICK.

Bauer, BRUNO, (*bou'er,*) a modern German Biblical critic and political writer, B. at Eisenberg, 1808, who, at an early age, commenced his theological disquisitions by reviewing Strauss' *Life of Jesus*, and other works. Many of his works contain very bold and speculative opinions, and one of them, *Christianity Unveiled*, was destroyed in 1843 at Zurich, before its publication. In his *Review of the Epistles attributed to St. Paul*, he argues that the four leading ones were not written by the apostle, but are the production of the 2d century. He is the author of *Western Dictatorship*; *The Actual Position of Russia*; *Germany and Russia*; *Russia and England*, &c. D. 1882.

Bauff, in *Missouri*, a post-office of Taney co.

Bauge, *n.* [Fr.] (*Com.*) A drugget made in France, with thread spun upon thick, coarse wool.

Baugé, (*bo'zhai,*) a town of France, dep of Maine et Loire, 23 m. E.N.E. of Angers. The English, under the Duke of Clarence, were defeated here in 1421. *Pop.* 3,515.

Baugh'man, in *Ohio*, a post-township of Wayne co., 15 m. E.N.E. of Wooster; *pop.* 2,067.

Baugh's Station, in *Kentucky*, a post-office of Logan co.

Bauhinia, (*baw-hin'i-a,*) *n.* (*Bot.*) A genus of plants, sub-order *Cæsalpineæ*. The plants of this genus are generally remarkable for having the leaves divided into two twin lobes. This peculiarity induced Linnæus to give the name *Bauhinia* to the genus, in commemoration of the two brother botanists, John and Caspar Bauhin. Most of the species are twining plants, found in the woods of hot countries, stretching across from tree to tree, and forming an almost impenetrable barrier to the traveller. The flowers of many are very beautiful. *B. porrecta* is a small tree, a native of the West Indies, and known in Jamaica by the name of the Mountain Ebony, from its wood being sheathed with black. The bark of one or two species is made into ropes, and a gum is procured from others. The flowers and buds of *B. tomentosa* are dried and used in India as an astringent in cases of dysentery; and the bark of *B. variegata* contains a sufficient quantity of tannin to make it useful in tanning.

Bauk, Baulk, *n.* (*Carpentry.*) See BALK.

Bau'leah, a large town of Hindostan, pres. of Bengal, on the N. side of the Ganges, 20 m. N.E. of Moorshedabad.

Bau'lite, *n.* (*Min.*) A white transparent mineral, in small crystals of the oblique prismatic system, allied to felspar, and found in a volcanic mountain of Iceland. Sp. grav. 2·65. B.B. fusible in thin splinters into a colorless glass.

Bau'lois, *n.* A piece of punk stuff used by miners for firing a train.

Bauuee'au, or BAMIAN, a town of Cabul, and the *Thebes* of the East, in the country of the Hazarrehs, on the face of the Koh-i-Baba range of mountains, 56 m. W.N.W. of Cabul. Lat. 34° 34′ N.; Lon. 68° 8′ E. The valley, on one declivity of which it stands, contains many caves, dug in a sort of indurated clay and pebbles, and in which rings and relics, coins, &c., bearing Cufic inscriptions, are found; but *B.* is chiefly celebrated for two gigantic male and female figures cut in *alto-relievo*, on the face of the mountain, and supposed to be Buddhic. The male is the largest, and about 120 feet high, but is considerably mutilated. They are not mentioned by any of the historians of Alexander the Great, but are referred to by those of Timour the Great.

Baumgarten, ALEXANDER GOTTLIEB, (*boum'gar-ten.*) a German philosopher of the school of Wolf, B. at Berlin, 1714. After having studied at Halle, he became professor of philosophy there, and afterwards at Frankfort on the Oder. He may be considered as the creator of the Æsthetics (*q. v.*) as a systematic science of the beautiful. His principal works are: *Metaphysica*; *Ethica Philosophica*; and *Æsthetica Initia Philosophiæ practicæ primæ.* D. 1762.

Baum's Mills, in *Missouri*, a post-office of Carroll co.

Baumstown, in *Pennsylvania*, a post-village of Berks co.

Baur, FERDINAND CHRISTIAN, (*bour,*) a distinguished German theologian and Biblical critic, head of the so-called Tübingen School of Rationalist divines, B. 1792. While holding a professorship at a seminary in Blaubeuren, he published, in 1824, his *Symbolik und Mythologie.* In 1826 he accepted a call to the chair of theology at Tübingen, and henceforward distinguished himself by his labors and learned productions in the field of Biblical criticism, and the history of doctrines. A disciple of Hegel, he applied the principles of his philosophy to the study of theology and the criticism of the earliest Christian literature, with results startling enough, and which are still the subjects of grave controversy. His principal works on the history of Dogmas are: *The Christian Gnosis*; *The Christian Doctrine of the Atonement*; and *The Christian Doctrine of the Trinity and Incarnation.* Of his works of New Testament criticism the most important are, *The Christ Party in the Corinthian Church*; *The so-called Pastoral Letters of the Apostle Paul*; *Paul, the Apostle of Jesus Christ*; *Critical Researches respecting the Canonical Gospels*, in which he specially attempts to disprove the historical character of the Fourth Gospel:

and a work on *The Origin and Character of the Gospel of Mark*. D. 1861.

Baur, Frederick Wilhelm von, a Russian engineer-general, b. in Hanau, Germany, 1735, early adopted a military life, and in 1755 entered the British service. In 1757 he obtained the rank of general and engineer-in-chief. Frederick II. of Prussia ennobled him. In 1769 he entered into the service of Catherine II., empress of Russia, and was employed against the Turks. The empress had a high notion of his talents, and employed him in making the aqueduct of Tsarskoe-Selo, for supplying Moscow with water, and in deepening the canal near St. Petersburg, at the end of which he constructed a large harbor, and other important undertakings. D. at St. Petersburg, 1783. Baur had for his secretary the celebrated Kotzebue, who directed in his name the German theatre at St. Petersburg.

Bautain, Louis Eugène Marie, a French philosopher and theologian, and very popular preacher, b. at Paris, 1796. Appointed professor of Philosophy in the College of Strasburg in 1816, he became Dean of the Faculty of Letters of the same town in 1838, which office he held until 1849. He was afterwards appointed Vicar-General of the diocese of Paris. In 1853 he became Professor of Moral Theology of the Faculty of Theology, Paris. M. *B.* received the Cross of the Legion of Honor in 1840. His principal works are, *Philosophie-Psychologie expérimentale*, 1839; *Philosophie Morale*, 1842; *La Morale de l'Evangile comparée à la Morale des Philosophes*, 1835; *La Religion et la Liberté considérées dans leurs rapports*, 1848; *Conseils Spirituels*, 1858; *La Chrétienne de nos jours*, 1859; *La Conscience ou la règle des actions humaines*, 1860; *Lettres Spirituelles*, 1861; *Etude sur l'art de parler en public*, 1863. D. 1867.

Bautru, Guillaume, (*bo'troo,*) b. at Paris, 1588, was a member of the Academy, and a celebrated wit. D. 1665.

Baut'zen, a walled town of Saxony, cap. of Upper Lusatia, on a height at the foot of which flows the Spree, 33 m. E.N.E. of Dresden. It is a fine, well-built place, with a cathedral, the tower of which is 300 feet high. *Manf.* Woollens, linens, hosiery, tobacco, &c. This town is the centre of a considerable commerce. Near *B.*, on May 21 and 22, 1813, was fought the battle which bears its name. Napoleon I., with 148,000 men, and supported by a numerous artillery, attacked the allied Russian and Prussian army, numbering 96,000 men, and compelled them to retreat, which they did in good order. The loss on both sides was very great, including Marshal Duroc, the intimate friend of Napoleon.

Bauxite, *n.* (*Min.*) A mineral occurring in round concretionary disseminated grains. Also massive oölitic; and earthy, clay-like. Color, whitish, grayish, to ochre-yellow, brown and red. *Comp.* Alumina 50·4, sesquioxide of iron 26·1, water 23·5 = 100. It is found extensively in France, and in other parts of Europe. The purest *B.* is used for the manufacture of aluminium, and is called *aluminium ore*. By fusing *B.* with soda ash, an aluminate of soda is produced, which is extensively used in calico printing, and which could be employed in the manufacture of glass and of ultramarine. It is also proposed to fuse it with common salt, as a first step in a new process for the manufacture of soda ash. It is stated that from that new mineral a large establishment in Newcastle, England, prepares 60 tons of sulphate of alumina every month. They also make aluminate of soda and sulphite of alumina from it, the latter salt being of great value in the manufacture of beet-sugar.

Bava'lite, *n.* (*Chem.*) Carbono-phosphate of iron; chamoisite; berthierine.

Bava'ria. [Ger. *Bayern*; Fr. *Bavière.*] A kingdom of Germany, and one of the principal of the secondary European States. *B.* is composed of two distinct parts, commonly designated the *Territory of the Danube and Maine*, and the *Territory of the Rhine*. The former, which comprises about 7/8ths of the monarchy, extends from 47° 20′ to 50° 41′ N. Lat., and from 9° to 13° 48′ E. Lon., and is bounded N. by Saxony, the principalities of Reuss, and the duchies of Saxe-Coburg-Gotha and Saxe-Meiningen; E. and S. by Austria; and W. by the territories of Electoral Hesse, Hesse-Darmstadt, Baden, and the kingdom of Würtemberg. The Rhine territory, or Palatinate, lies on the W. side of that river, and is completely separated from the rest of the Bavarian dominions by the interposition of the territories of Baden and Hesse-Darmstadt. It is bounded N. by Rhenish Prussia and Hesse-Darmstadt, E. by Baden, S. by France, and W. by Rhenish Prussia and Hesse-Homburg. The kingdom extends from 48° 57′ to 49° 50′ N. Lat., and from 7° 6′ to 8° 31′ E. Lon. — Divisions. The kingdom is administratively divided into 8 *Kreise*, or circles, of the following extent and population, according to the latest sources of information, and after deduction of several small districts N. of the river Maine; embracing a territory of 291 sq. m., and a population of 32,470, detached from *B.* and annexed to Prussia, in consequence of the war of 1866.

Circles.	*Area in Eng. s. m.*	*Pop. in* 1895.	*Capitals.*
Upper Bavaria,.....	6,614	1,102,027	Munich.
Lower Bavaria,.....	4,113	664,131	Passau.
Palatinate,.....	2,206	728,422	Spires.
Upper Palatinate, ...	4,198	537,217	Ratisbon.
Upper Franconia, ...	2,226	572,189	Bayreuth.
Middle Franconia,...	2,798	629,928	Nuremberg.
Lower Franconia, ...	3,313	617,680	Würzburg.
Suabia,.....	3,858	667,788	Augsburg.
	29,426	5,519,382	

Desc.—Viewed as a whole, this country may be considered as hilly rather than mountainous, although in the S. the Alps, in the Zugspitz, attain an elevation of 10,150 feet; on the E., between Bavaria and Bohemia, the Arber and Rachelberg respectively attain to 4,613 and 4,561 feet. There are numerous other peaks scattered over the country, but none of them rising to more than 3,500 feet above the level of the sea. The principal plains are the valleys of the Lech and Iser, and the extensive elevated plateau on the S. of the Danube, called the Donau-moss. It is in these plains that the chief sources of Bavarian wealth are to be found, — where the arts of agriculture are carried to the highest state of perfection. — *Rivers.* The Danube, the Rhine, and the Maine. The first on its right bank receives the Iller, Lech, and Iser; while on its left the Wornitz, Altmühl, Naab, and Regen, with a great many more smaller streams, are taken into its course. The Rhine forms the eastern line of the Rhenish sub-division of the kingdom, and is merely a boundary river. The Main, which has its source in two small streams in Suabia, drains all the N. part of the principal territory, and during its course receives several affluents. The Danube, however, is the principal river in the kingdom, and in its course, through the Bavarian territory alone, is fed by no fewer than 38 streams. — *Lakes.* These are neither numerous nor of great extent. The most remarkable are the Ammer, the Würm, and the Chien, which are all situate in the S. plateau. The largest is the Chien, which has a circuit of about 35 miles. There are some other lakes lying within the range of the Noric Alps, but they are of no great size. — *Climate.* On the whole, temperate and healthy. *Forests.* Extensive, covering nearly a third of the entire surface of the country, and composed chiefly of pine and fir-trees. — *Prod.* There are few countries so highly favored for productiveness of soil. The principal crops are wheat, rye, oats, barley, and, in some districts, maize, rice, spelt, and buckwheat. Tobacco, fruit, and potatoes are extensively cultivated in the valleys of the Rhine and the Main. The hop plant and the vine are also largely cultivated; and the wines of Franconia have attained a wide-spread celebrity. The famed Steinwein is produced in Steinberg; and the Leistenwein is produced in the same district. The choicest of all the Bavarian wines, however, are the produce of the vineyards near Forst, Deidesheim, and Wachenheim, on the declivities of the Hartz Mountains. Cattle-rearing is carried on to a great extent, but the stock is generally of an inferior quality, notwithstanding the general excellence of the pastures; while swine, poultry, and wild fowl are abundant in all parts of the country. — *Minerals.* The principal are salt, coal, and iron. The first was once a government monopoly, the second is found everywhere throughout the kingdom. Copper, manganese, mercury, and cobalt are also found; while there are numerous quarries of marble, alabaster, gypsum, and stone, distributed over various parts of the territory. Porcelain clay also abounds in various districts, and is usually of the finest quality. — *Com.* The central situation of *B.* renders her well suited for the transit and carrying trades; and to these, Augsburg, Nuremberg, Ratisbon, and Spires owed the greater part of their wealth and celebrity during the Middle Ages. The 4,000 miles of railroad that now intersect her comparatively small territory show that this advantageous position is still appreciated at the present day. It is said that the industrial population of the kingdom is decreasing, and this is ascribed to the system of industrial protection prevailing to the present day, nearly all trades being united in guilds, possessing great privileges and monopolies. The exports consist chiefly of corn, timber, wine, cattle, sheep, butter, salt, iron, leather, glass, hops, fruit, beer, wool, optical and mathematical instruments, wooden toys, jewelry, maps, and artistic objects. Beer forms a large item of export. The imports consist principally of sugar, coffee, spices, dye-stuffs, cotton stuffs, silks, woollens, and fine manufactures of all kinds; drugs, hemp, and flax. The first railway with locomotives constructed in Germany was that between Nuremberg and Fürth, opened in 1835. — *Manners.* The Bavarians, though all Germans, differ essentially in character, according to their descent from the different tribes of that people. The inhab. of the Rhenish provinces are the most lively, active, gay, and enterprising. The Suabians are remarkable for a certain good-natured indolence, which has exposed them to much undeserved ridicule. The Franconians are diligent, intelligent, and steady. The popul. of the provs. S. of the Danube retain more characteristic peculiarities; and the Bavarians, though equally brave and well-disposed with the rest, are heavier, more superstitious, and less active, though not less industrious. In the valleys of the Alps, the dress and manners of the Bavarians and Suabians bear a great resemblance to those of the Tyrolese; and the climate inclines them to prefer pasture to arable husbandry. The women are here more in the fields, and partake more of the out-door labor of the men than is the case in the N. provs. They drive the cattle up to the hills in summer: and their robust health manifests itself in the zeal with which they join in the waltz, and in their peculiar manner of singing, called *Jodeln.* — *Rel. and Educ.* Rather more than two-thirds of the pop. are Roman Catholics. The kingdom is divided into two R. Catholic archbishoprics (Munich and Bamberg), 6 bishoprics, 171 deaneries, and 2,756 parishes. The admin. of the Protestant Church is under a General Consistory (*Ober Consistorium*), and 4 provincial consistories. Of the 3 universities of *B.*, two (Munich and Würzburg) are R. Catholic, and one (Erlangen) Protestant. The R. Catholic Church is richly endowed, possessing property amounting to more than $45,000,000, and receiving besides annually from the State $650,000. The Constitution guarantees complete religious liberty, and all dissenters enjoy unrestricted freedom of worship. Elementary schools, *Volksschulen*, exist in all parishes, and attendance on them is compulsory for all children till the age of fourteen. Munich, the capital, and Würzburg, Erlangen, Nuremberg, Ratisbon, Augsburg, &c., possess numerous literary institutions.—*Gov.* The Constitution of *B.* dates from May 25, 1818, and was modified in 1848–9. The crown is hereditary in the male line. To the king belongs the executive power; but his ministers are responsible for all his acts. The legislative functions are exercised jointly by the king and parliament, the latter consisting of an Upper House or Chamber of *Reichsräthe*, composed of members hereditary or appointed by the crown; and of a Lower House, or Chamber of Representatives, composed of deputies of towns, universities, and religious corporations. The large income of the sovereigns of *B.*, from private domains, has been extensively curtailed of late. — *Finances.* The amount of the public debt, 1891, including the railroad debt, was about $317,299,146.—*Army.* Since the treaty of Nov. 23d, 1870, relative to the entry of *B.* into the German Empire, the army of *B.* forms a distinct part of the German army, having an independent administration, under the military sovereignty of the king of Bavaria; in time of war it is placed under the chief command of the emperor and under the same regulations as exist in the German army. The Bavarian Contingent consists of two army corps, each divided into two divisions. Of the population in 1890, 2,731,120 were males, and 2,863,862 were females; 3,839,168 were Roman Catholics, and 1,521,114 were Protestants; the proportion of these two being 989 per 1,000. Munich, the capital and chief city, is one of the leading art centres of Europe, and her art galleries and facilities for art culture are world renowned. The flag of *B.* (*Fig.* 319) is red. Its upper part, on the side fastened to the staff, is divided into 4 equal squares, of which 2 are black, and 2 lozenged white and blue.—*Hist.* The earliest known inhabitants of *B.* were the Boii, a tribe of Celtic origin: from them its old Latin name *Boaria*, and the Ger. name *Bayern*, are derived. It was annexed to the Roman empire as part of Noricum and Vindelicia, B. C. 15. It subsequently fell into the power of the Ostrogoths and the Franks, and, A.D. 788, was annexed to the empire of Charlemagne. In 1072, *B.* passed, by imperial grant, into the possession of the Guelphs. In 1180, the Emperor Frederick I. bestowed it on Otto of Wittelsbach. The Palatinate was separated from *B.* in 1294, and restored to it in 1648 by the treaty of Westphalia, which constituted *B.* the eighth electorate. During the war of the Spanish Succession, *B.* suffered severely from following the adverse fortunes of France; but in 1777, the Electorate, which had been seized by Maria Theresa in 1744, was restored to it. During the wars of the first French empire, *B.* being long the firm ally of Napoleon, was rewarded with large accessions of territory from the spoils of Austria and Prussia; and the Bavarian monarch having contrived to change sides at a critical moment, when the fortunes of Napoleon were still doubtful, was confirmed in his extensive acquisitions (or equivalents) by the treaties of 1814 and 1815. Elector Maximilian Joseph was made king by Napoleon I., in 1805, and recognized at the Congress of Vienna. In 1848, the discreditable conduct of King Louis, who became infatuated with the notorious Lola Montez, caused his subjects to take up arms; after a short conflict they were successful, he was, on March 21st, forced to resign in favor of his son Maximilian Joseph II., who died March 10th, 1864, and was suc. by his son, Louis II., who, becoming hopelessly insane, was deposed and committed suicide the same month, June, 1886. He was suc. by his imbecile

Fig. 318. — Bavarian peasants.

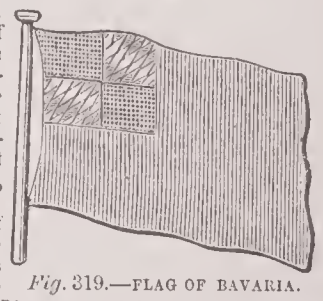


Fig. 319.—Flag of Bavaria.

brother Otto I., under the regency of his uncle Luitpold. In 1870, *B.* joined Prussia against France, and became a unit of the German Confederation in 1871.

Bava'rian. *n.* & *a.* [Fr. *Bavarien.*] An inhabitant of, or anything relating to, Bavaria; as, *Bavarian* beer is a delicious beverage.

Bave. *n.* [Fr.] (*Med.*) Frothy, thick, viscid saliva, issuing from the mouth. The term is also applied to the frothy liquid which flows from the mouth of rabid animals.

Baveux, Bavense. *a.* (*Med.*) An epithet, occasionally applied by the French to the spongy flesh of a wound, which suppurates, and exhibits but little tendency to heal.

Bav'in. *n.* [Gael. and Ir. *babun*, a tuft or tassel.] A fagot of brush or fire-wood; a piece of waste wood.

"He's mounted on a hazel *bavin*,
A cropp'd malignant baker gave him." — *Hudibras.*

(*Min.*) In some parts of England, a term used for an inferior description of limestone.

Bav'ington, in *Pennsylvania*, a post-village of Washington co.

Bavius and **Mævius,** (*bai're-us, me've-us.*) (*Lit.*) Two stupid and malevolent poets, in the age of Augustus, who attacked the superior talents of contemporary writers, and have therefore become immortalized by the satire and ridicule which they drew upon themselves.

Baw'bee, *n.* See BAUBEE.

Baw'ble, *n.* See BAUBLE.

Baw'cock, *n.* [O. Fr. *baude*, bold, and *cock.*] A fine fellow. (o.)

"Why, how now, my *bawcock?* how dost thou, chuck?" — *Shaks.*

Bawd, *n.* [Goth. *baud*, to accommodate, to make even, smooth, straight. In O. Fr., *baude* is bold, insolent, impudent; W. *baw*, dirt, filth, *bawddyn*, a base fellow.] A procurer or procuress; a pimp; a lewd person; — usually applied to females.

—*v. i.* To procure; to provide for lowd purposes.

Bawd'ily, *adv.* Lewdly; obscenely.

Bawd'iness, *n.* Obscenity; lewdness.

Bawd'rick, *n.* See BALDRICK.

Bawd'ry, *n.* [O. Eng. *bawdery*; O. Fr. *bauderie.*] The practice of bawds. — Obscene or unchaste language, or practices. — Illicit intercourse.

Bawd'y, *n.* Obscene; unchaste; filthy; — generally applied to language.

Bawd'y-house, *n.* A place of ill-fame.

"Has the pope lately shut up the *bawdy-houses*, or does he continue to lay a tax upon sin?" — *Dennis.*

Baw'-horse, *n.* See BAT-HORSE.

Bawl, *v. i.* [A. S. *bellan*; Swed. *böla*; Icel. *baula*, to bellow as an ox; Lat. *balare*, to bleat.] To bellow; to shout; to clamor.

"And *bawl*, and hiss, and d——n her into fame." — *Smith.*

—To cry loudly, as a froward or hurt child.

"A child was *bawling*, and a woman chiding it." — *L'Estrange.*

Bawl, *v. a.* To proclaim as a public crier; as, "*bawled* about by common hawkers." — *Swift.*

Bawl, *n.* A loud, continued cry, as of a child.

Bawl'er, *n.* One who bawls or shouts.

Bawl'ing, *n.* The act of crying out; the loud crying of a child.

Baw'rel, *n.* [It. *barletta*, a tree-falcon.] (*Sports.*) An old name for a species of hawk of large size, used for the sport of hawking.

Baw'sin, and **Baw'son,** *n.* A badger.

Bax'ter, RICHARD, a celebrated English nonconformist preacher and theological writer, b. in Shropshire, 1615. He early entered the Church, and taking sides with the Parliamentary party, became chaplain to one of the regiments of the Commonwealth, accompanying the troops upon all their expeditions, and though not participating in actual combat, he witnessed most of the bloodshed of the civil war. It was while so employed that he wrote his first book, the *Saint's Rest.* The Restoration and the Act of Conformity drove *B.* into retirement, and shut him out of the pulpit: during which time, and till religious animosity had sufficiently abated to allow him to resume his clerical functions, he wrote his second book, *The Call.* But, either his republican opinions were still offensively prominent, or his enemies took advantage of his public preaching to denounce him; for, after enduring much persecution, he, then 70 years old, was brought before Judge Jeffreys, who abused him in court, and fined him £500, with imprisonment till paid. *B.* was a prolific writer, a large portion of his works being polemical and now little read. His most popular books are the *Saint's Everlasting Rest; Dying Thoughts;* and *Call to the Unconverted.* His theological views are set forth in the *Methodus Theologiæ*, and *Catholic Theology;* and he has left an account of the principal passages of his life in the *Reliquiæ Baxterianæ.* D. Dec. 8, 1691.

Baxte'rians, *n. pl.* (*Eccl. Hist.*) A term applied to those who adhered to the theological tenets of R. Baxter, which were, — 1st, that, though Christ died in a special sense for the elect, yet he also died in a general sense for all; 2d, The rejection of the dogma of reprobation; 3d, That it is possible even for saints to fall away from saving grace. — There never existed a separate denomination or sect known by Baxter's name, but his opinions have been embraced by a number of great and good men, among whom were Dr. Isaac Watts and Dr. Philip Doddridge.

Bax'ter Springs, in *Kansas*, a thriving city of Cherokee co., on the Kan. C., Ft. S. & M. R.R., 61 m. S. of Fort Scott; an important trading point. Here are valuable mineral springs. *Pop.* (1898) 1,750.

Bay, *a.* [Fr. *bai*; Lat. *badius*; Gr. *baïo*; Copt. *bai*, a palm branch of a reddish color.] Red or reddish; of a reddish-brown; inclining to a chestnut color. Generally used with respect to horses.

Bay, *n.* [Fr. *baie*; A.S. *bigc*, a turning, bending.] (*Phys. Geog.*) A bending or curving of the shore; an arm, or broad inlet of the sea; a small gulf; as the splendid Bay of Naples, partly seen in *Fig.* 152. The accompanying illustration represents the small but charming bay called Durdle, or Barn-door Cove, Isle of Purbeck, on the S. English coast. It is remarkable for a natural perforation

Fig. 320. — DURDLE BAY, (Isle of Purbeck.)
1. Vertical Portland oölite.
2. Vertical strata of chalk and flint.

or archway, formed by the waves in a projecting crag of the nearly vertical *Portland oölite*, which bounds the E. cape of the bay. This arch is large enough to admit the passage of a boat with the sails up. The W. side of the bay is composed of vertical strata of chalk and flint, and is called Bat's Corner.

"Here in a royal bed the waters sleep;
When tir'd at sea, within this *bay* they creep."—*Dryden.*

(*Law.*) A pond-head, or a pond formed by a dam for the purpose of driving mill-wheels.

(*Arch.*) The open space in a window included between the mullions, otherwise called a *day* or *light.* — Also the quadrangular space between the principal ribs of a groined roof, across which the diagonal ribs are extended; or the spaces between the principal divisions of a timber-roof. The term is also applied to that part of a building situated between two buttresses. — The *bay of a barn*, is that part situate between the threshing-floor and the end of the building, used for depositing the refuse hay or the corn previous to threshing.

(*Naut.*) *Sick bay*, is that portion of the upper deck of a vessel of war set apart for the reception of sick persons; it is usually situated in the bows of the ship.

Bay, *n.* [Fr. *baie*, from Lat. *bacca*, a berry, the laurel-berry.] (*Bot.*) Formerly a berry, especially of the laurel. Now only applied to the laurel-tree. — See LAURUS. — Used in the plural, it signifies an honorary garland or crown originally made of laurel branches.

"The patriot's honors and the poet's *bays*."—*Trumbull.*

(*Local U. S.*) A tract of land covered with bay-trees. (W.)

Bay, *n.* [From O. Fr. *abbayer*, to bark at; It. *baiare*, to bark as a dog.] A barking at; hence, *to keep at bay*, denotes to keep at barking, to keep in check, to ward off an attack, to keep an enemy from closing in; the bark of a dog when his prey has made a stand.

"Fair Liberty, pursued and meant a prey
To lawless power, here turned, and stood at *bay*."—*Denham.*

—*v. i.* [O. Fr. *abbayer*; It. *baiare*, formed from the sound.] To bark, as a dog at his game.

"And all the while she stood upon the ground,
The wakeful dogs did never cease to *bay*."—*Faërie Queene.*

—To immerse; to bathe. (o.)

"He feeds upon the cooling shade, and *bays*
His sweaty forehead in the breathing wind."—*Spenser.*

—*v. a.* To bark at; to follow with barking.

"'Tis sweet to hear the watch-dog's honest bark
Bay deep-mouthed welcome as we draw near home."—*Byron.*

Bay, in *Illinois*, a township of Pope co.

Bay, in *Michigan*, a N.E. county, *area*, 466 sq. m. Saginaw Bay is on its E. border, and it is watered by the Saganin, Saginaw, and Rifle rivers. *Surface*, even, and heavily wooded. *Soil*, fertile. *Cap.* Bay City. *Pop.* (1894) 61,292; (1898) 69,500.

Bay'adere, *n.* [Fr.; from Portu. *bailadeira*, a female dancer.] A name originally given by the Portuguese to the singing and dancing girls of Hindostan. They are of two kinds, — those who are employed as priestesses in the temples, and those who go about the country as itinerants. The former class celebrate with song and dance the festivals of the gods; the latter are employed by the grandees of India to amuse and cheer them at their banquets. — See ALMA, and NAUTCH.

Bayard, PIERRE DU TERRAIL, SEIGNEUR DE, (*bai'yar,*) the *Bon Chevalier sans Peur et sans Reproche*, "Good Knight without fear and reproach," and from whom is derived the proverbial saying, — "Brave as Bayard," was b., 1476, of an ancient and noble French family of Dauphiné. He early displayed the indomitable resolution, courage, military skill, and chivalrous generosity, continence, and honor, which made him the model of knighthood, and caused his sovereign, Francis I., to covet as an honor the ceremony of being dubbed a knight by his hands. As was the practice in the 15th century with those who were designed for the profession of arms, *B.*, at 13 years old, was placed as a page in the house of the Duke of Savoy, where he remained for five years. On the completion of his eighteenth year he entered upon the actual duties of a soldier. The first battle at which he fought was that of Fornovo, in 1494, under the banner of Charles VIII. Two horses were killed under him in that field; and he himself performed feats that procured him the approbation of all who beheld him. Several years after this he was engaged in the Italian wars of Louis XII., when, on one occasion, it is said that he held a bridge over the Garigliano, single-handed, against 200 Spaniards, and enabled the main body of the French to make good their retreat. In 1513 he fought at the famous battle of the Spurs, in Picardy, where his valor saved the disgrace of the whole French army. In this field, also, fought Henry VIII. of England, then a young man, but commanding in person the English forces. On this occasion *B.* surrendered to an English knight, but was soon exchanged. In the battle of Marignano, fought September 13, 1515, *B.* displayed his usual prowess; and in 1522 he defended Mezières, a frontier town of France, against the Count of Nassau, with a force of 35,000 men, assisted by powerful artillery. *B.* was as conspicuous for military skill as for bravery; yet being unfitted for, or disdaining, the arts of the courtier, he was never appointed to the command of armies, or entrusted with the conduct of a campaign. Nevertheless, in moments of danger and difficulty, he was always looked up to for advice. His death was of a piece with his heroic life. In 1524, he served under Admiral Bonnivet in Italy against the Imperialists under the Constable de Bourbon, and at the passage of the Sesia received his mortal wound. He refused to be carried off the field, saying he would not then, for the first time, turn his back on the enemy. Reclining at the foot of a tree, he still urged on his comrades, kissed the cross of his sword-hilt, and confessed himself to his esquire. The constable coming up was affected at the sight, and the noble *B.*, with almost his last breath, is said to have uttered the rebuke, "It is not me you should mourn for, but yourself fighting against your king and your country," after which he died. His life was written by his "loyal serviteur," or secretary, and has passed through many editions.

Bay'ard, *n.* [O. Fr. *bayart.*] A bay horse; often, however, applied to any horse; and especially, in the old romances, to Rinaldo's famous blind steed.

Bay'ard, in *Ohio*, a post-village of Columbiana co., 60 m. S.S.E. of Cleveland, and 12 m. S. of Alliance

Bayard Tay'lor. See TAYLOR.

Bayazid, or BAJAZID, (*baj'a-zid,*) a walled city of Armenia, cap. of a sandjak, 65 m. N.N.E. of Van, and 32 S.S.W. of Mount Ararat. Lat. 39° 24′ N.; Lon. 44° 26′ E. It stands on the declivity of a high hill, at the top of which is the citadel. Besides 3 mosques and 2 churches, it contains the monastery of Karu Kilesea, celebrated for the beauty of its architecture and internal grandeur. *Pop.* about 5,000.

Bay'berry, *n.* (*Bot.*) See MYRICA.

Bayberry Tal'low, *n.* A whitish wax, called also *Myrtle wax*, which covers the fruit of the Bayberry, *Myrica cerifera*, from which it is separated by means of boiling water.

Bay City, in *Mich.*, C. of Bay co., on the right bank of the Saginaw (which is here spanned by three bridges), 4 m. from Saginaw Bay. It is an important R.R. Centre, and has a large trade in lumber and salt. On the opposite bank, are Salzburg, Wenona and Banks, known as W. Bay City, and Essex on the N. *Population* in 1890, 27,839; in 1897, (est.) 35,000.

Bayed, *a.* [From BAY.] Having bays, as a building.

Bayeux, (*bai'ō,*) a town of France, dep. Calvados, cap. of an arrond., 17 m. N.N.W. of Caen. This is a very ancient city, with narrow and crooked streets, and a magnificent Gothic cathedral. In the old episcopal palace, now the Hôtel de Ville, is preserved the famous *Bayeux Tapestry. Manf.* Table linen, calicoes, serges, hats, &c. *Pop.* 10,430.

Bayeux Tapestry, *n.* (*Fine Arts.*) This celebrated roll of linen cloth or canvas, 214 feet in length and 20 inches wide, contains, in 72 distinct compartments, a representation, in embroidery, of the events of the Norman invasion of England, from Harold's leave-taking of Edward the Confessor, on his departure for Nor-

Fig. 321. — BATTLE OF HASTINGS.
(Bayeux Tapestry.)

mandy, to the battle of Hastings. It contains the figures of 623 men, 202 horses, 55 dogs, 505 animals of various kinds not hitherto enumerated, 37 buildings, 41 ships and boats, and 49 trees, — in all, 1,512 figures. These are all executed by the needle, and are believed to have been the handiwork of Matilda, the queen of William the Conqueror, and by her presented to the Cathedral

of Bayeux. Montfaucon caused researches to be made that ended in the discovery of the tapestry in 1728; it narrowly escaped destruction during the frenzy of the first French Revolution, and Napoleon I. had it conveyed to Paris in 1803, where it was kept some time and exhibited. This piece of tapestry is exceedingly valuable, both as a work of art of the period referred to, and as correctly representing the costume of the time. It has been engraved, and several works upon the subject have been published.

Bay'field, in *Wisconsin*, a N. co., bordering on Lake Superior, and including a number of islands in the lake. *Area*, about 1,400 sq. m. *Cap.* Washburn. *Pop.* (1898) 13,100.

Bay'field, in Ontario, a post-village of Huron co.

Bay Hill, in *Wisconsin*, a post-office of Walworth co.

Bay'ing, *n.* The barking of a dog.

Bay Islands, a small group in the Bay of Honduras, about 150 m. to the S. E. of Belize, embracing only 25′ of Lat., and 1° 15′ of Lon. They were proclaimed a British colony in 1852, but were ceded to Honduras in 1859. The chief Island is Ruatan, (*q.v.* p. 2103); and the others of any consequence are Bonacca, Utila, Burburet, Helena, Guanaja, and Morat.

Bayl'donite, *n.* (*Min.*) A mineral that occurs in minute mammillary concretions, with a drusy surface. Structure often somewhat reticulated. Lustro strong resinous. Color grass-green to blackish-green. Streak siskin to apple-green. Subtranslucent. Fracture subconchoidal, uneven. *Comp.* Arsenic acid 31·6, oxide of copper 32·8, oxide of lead 30·7, water 4·9 = 100.

Bayle, (*bail′,*) Pierre, the celebrated author of the *Historical and Critical Dictionary*, b. 1647, at Carla, France. He was brought up a Protestant, but having been sent, for the completion of his education, to the university of Toulouse, he there embraced the Roman Catholic faith. Renouncing this soon afterwards, he repaired to study at the great seat of Calvinism, Geneva. He obtained the appointment of Professor of Philosophy at Sedan, and on the suppression of the Protestant university there by Louis XIV., in 1681, was chosen Professor of Philosophy and History at Rotterdam. In 1684, he began to publish his *Nouvelles de la République des Lettres*, and to pour forth a series of writings, all more or less tinged with that spirit of scepticism which evidenced itself in his changes of religion, and which reached its highest expression in his Dictionary. His intense and persevering application to study ripened in him the seeds of consumption, hereditary in his family. D. 1706.— Few writers have attained more celebrity in their own time than *B.*, or have more commanded the attention of the learned who came after him. He confessed his universal Pyrrhonism, and said to Cardinal de Polignac: "I am most truly a Protestant, for I protest against all systems and sects."

Bay'len, or Bailen, a town of Spain, prov. of Jaen, at the foot of the Sierra Morena, 22 m. N. of Jaen. It commands the road leading from Castile into Andalusia, and derives its celebrity from the events which took place in its vicinity leading to the *Capitulation of Baylen*, signed 20th July, 1808, when General Dupont, and about 20,000 French troops under his command, surrendered to the Spaniards on condition of their being conveyed to France by the Spanish government; but the latter stipulation was not carried into effect. The incapacity of Dupont was mainly instrumental in bringing about this result, which inspired the Spaniards with confidence, and was always regarded by Napoleon as the principal source of the French disasters in the Peninsula. *Pop.* 8,614.

Bay'ley, Richard, an eminent American physician, was b. in Conn. in 1745. After completing his professional education in London, he settled in New York. In 1792, he was appointed professor of anatomy in Columbia College, where he acquired great celebrity. D. 1801. His grandson, James Rosevelt Bayley, an author and prelate of the R. C. Church, born, N. Y., 1814, educated in the Epis. Church, ordained R. C. priest 1842, made Archbishop of Baltimore, 1872. D. 1877.

Bay'lor, a N. county of *Texas*, area of 900 sq. miles.

Baynes'ville, in Va., a p.-o. of Westmoreland co.

Bayonet, (*bai′o-net,*) *n.* [Fr. *baïonnette*, so called because first made at Bayonne, France.] (*Mil.*) A short, pointed, broad dagger or spear, fixed at the end of a musket, rifle, or any similar weapon. Military instructions, issued to the French army in 1646–7, contain the earliest notice of this weapon. In 1671, it was introduced generally into the French army, and called *bayonet-à-manche*. From official documents it appears that, in 1682, the *B.* was inserted into the barrel of the musket. The *plug-bayonet* was used in England until 1690, after which date the *socket-bayonet* was introduced. It superseded the pike, and was doubtless taken from the *sweyne's feather*, called also *swan's feather*, invented during the reign of James I. This was a long, thin, rapier blade, which the musketeer, after discharging his piece, fixed into the muzzle. The *B.*, as an offensive weapon, has been of great importance in modern warfare; and the bayonet-charge, in which every nation thinks that it excels, is one of the most terrible manœuvres of infantry troops. The *sword-bayonet* is a more modern invention, and, when detached from the gun, can be used as a weapon by itself. With respect to its different parts, the *blade* is shown at 1; 2 is the *hilt*; the *guard* and *ring* are marked 3; 4 is the *spring* which secures the sword to the rifle or musket; and the scabbard of the weapon is shown at 5. The first victory secured by a charge of the *B.* was that of Landen in 1693.

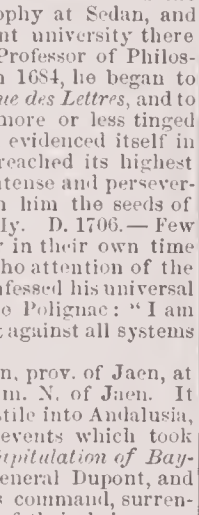


Fig. 322.
SWORD-BAYONET.

(*Mach.*) A pin which plays in and out of holes made to receive it, and which thus serves to engage or disengage parts of the machinery.

Bay'onet, *v. a.* To stab or prod with a bayonet.— To drive before or compel by the bayonet; as, "To *bayonet* us into submission."— *Burke.*

Bayonne, (*bai-yon′,*) a strongly fortified seaport of France, dep. Basses-Pyrénées, cap. of an arrond. at the confluence of the Nive with the Adour, and 58 W.N.W. of Pau. Lat. 43° 29′ 29″ N.; Lon. 1° 28′ 33″ W. *B.* is a first-class fortress; the citadel, one of the finest works of Vauban, commands the town and harbor; and, recently, the fortifications have been still further augmented and strengthened. It is a well-built town, with superb quays and promenades. A mint is established here.— *Manf.* Chocolate, liqueurs, glass, sugar, &c. There are also extensive yards for the building of ships of war and merchant-vessels. The hams of *B.* have long enjoyed a high celebrity. It is the seat of an extensive contraband trade with Spain. The military weapon called the *bayonet* takes its name from this city, where it is said to have been first invented and brought into use during the siege of 1523. Though often besieged, *B.* has never been taken; and hence its motto, "*Nunquam Polluta.*" It was invested by the British, 24th Feb., 1814; who sustained considerable loss from a *sortie* made by the garrison. *Pop.* 27,512.

Bayonne Conference, a conference was held at *B.* in June, 1565, between Charles IX. of France, the queen-mother, Catherine de Medicis, Elizabeth Queen of Spain, and the Duke of Alva, envoy of Philip II., to arrange plans for the repression of the Huguenots. It is generally believed that the massacre of St. Bartholomew's Day (*q.v.*) was determined upon at this meeting.

Bayonne, (Treaty of,) a treaty of peace agreed to, 4th May, 1808, and signed on the next day, between Napoleon I. and Charles IV. King of Spain. The latter resigned his kingdom, and Napoleon I. engaged to maintain its integrity, and to preserve the Roman Catholic religion. His son Ferdinand VII. confirmed the cession, 10th May.

Bayonne′, a city of *N. J.*, *abt.* 6 m. S. W. of N. Y. city, by rail. A large trade in coal, petroleum and chemicals is carried on. *Pop.* (1890) 19,033; (1897) abt. 22,000.

Bayou, (*bī′ōō,*) *n.* [Fr. *boyau*, a gut, or long and narrow place.] A stream which is the outlet of a swamp near the sea. Applied in Louisiana, and neighboring States, to the creeks in the lowlands lying on the Gulf of Mexico.

Bay'ou Barbary, in *La.*, a p. o. of Livingston parish.

Bay'ou Chicot, in *La.*, a p. o. of St. Landry parish.

Bay'ou Chicot, in *Louisiana*, a village of Calcasieu par., about 75 m. N.W. of Batou Rouge.

Bay'ou Chitto, in *Louisiana* and *Mississippi*. See Chitto Bayou.

Bay'ou Goula, in *Louisiana*, a post-office of Iberville parish.

Bay'ou Sara, in *Louisiana*, a prosperous village of W. Feliciana par., on the Mississippi, 165 m. from New Orleans. Here are shipped the cotton and grain produce of the adjacent country. During the Civil War, this place was almost entirely destroyed by a Union squadron under Admiral Porter, which, on passing up the river, was fired upon by guerillas.

Bay'ou State, *n.* A term frequently applied to the State of Mississippi.

Bay'ou Teche, (*tāish,*) in *Louisiana*. An expedition was directed against Brashear City on this bayou during the Civil War, 15th Jan., 1863, when the Confederate gunboat "Cotton" was destroyed by the Union forces, and their land batteries silenced.

Bay'ou Tunica, in *Louisiana*, a village of W. Feliciana parish.

Bay Place, in *Arkansas*, a village of Poinsett co.

Bay'poor (*Vaypoora*), a seaport town of Hindostan, prov. Malabar, 7 m. S. of Calicut. Lat. 11° 10′ N., Lon. 75° 52′ E.

Bay'port, in *Florida*, a village, formerly the cap. of Hernando co., seated on the Gulf of Mexico, 170 m. S.S.E. of Tallahassee.

Bay'port, in *Wisconsin*, a township in Ashland co., on Lake Superior.

Bay Ridge, in *New York*, a village of Kings co.

Bay River, in *North Carolina*, a village of Craven co.

Bay'-rum. Spiritus Myrciæ, *n.* A spirit obtained by distilling the leaves of *Myrcia acris*.

Bay'reuth, a city of Bavaria, cap. of circ. Upper Franconia, on the Red-Maine, 26 m. E. of Bamberg. Lat. 49° 57′ N.; Lon. 11° 40′ E. It is a fine and well-built, but, of late years, a somewhat dull place. About 2 m. to the E. is the *Hermitage*, with its gardens, terraces, and park, formerly the residence of the celebrated Margravine of *B.*, sister of Frederick the Great, and authoress of the well-known *Memoirs*. *Manf.* Porcelain, pipe-heads, linens, cottons, &c. *Pop.* 20,053.— *B.* formerly constituted the cap. of an independent principality— the Margraviate of Bayreuth, which on the death of the last Margrave, in 1791, became merged into Prussia. In 1810, Napoleon I. transferred *B.* to Bavaria, in whose possession it remains. Wagner erected an opera house, and established in 1878 a great musical school at *B.*

Bays, Bayze, *n.* See Baize.

Bay'-salt, *n.* (*Com.*) A salt obtained by a natural evaporation of salt-water on the shore, or on the margin of salt marshes, and of a much stronger quality than that of the domestic crystals.

Bay's Bottom, in *Ohio*, a post-office of Gallia co.

Bay Shore, in *New York*, a village of Long Island, 1 m. from Fire Island Bay

Bay Side, in *New York*, a post-office of Queen's co.

Bay Springs, in *Mississippi*, a dist. of Tishomingo co.

Bay State, *n.* A title popularly given to the State of Massachusetts.

Bay'town, in *Minnesota*, a township and village of Washington co., on Lake St. Croix, 16 m. E.N.E. of St. Paul, and 4 from Stillwater.

Bay'-tree, *n.* (*Bot.*) The *Laurus nobilis*, an evergreen of S. Europe and N. Africa, a wreath from which has been from time immemorial the symbolical crown of poets and warriors. The word rendered "bay-tree" in *Psa.* xxxvii. 35, seems to mean simply a native tree, green and vigorous.

Bay View, in *Maryland*, a post-office of Cecil co.

Bay View, in *Virginia*, a P. O. of Northampton co.

Bay Ville, in *Illinois*, a village of Pike co., 5 m. N.E. of the Mississippi.

Bay'-win'dow, *n.* (*Arch.*) A window which projects outward, so as to form a kind of *bay* or recess within an apartment. It may project outwards from the wall either in a rectangular, polygonal, or semi-circular form, which latter has often been incorrectly termed a *bow-window*. Windows of this kind are very common in the perpendicular style. Fine examples of them may be seen.

Fig. 323.— BAY-WINDOW.
(From Haddon Hall, Eng.)

Bay'-yarn. The same as woollen yarn.

Ba'za, a town of Spain, prov. of Granada, 54 m. E. by N. of that city. Lat. 37° 30′ N.; Lon. 2° 50′ W. The inhabitants are entirely dependent on agriculture. It was taken from the Moors, after a long siege, in 1489. *Pop.* 8,002.

Bazaar, Bazar, (*ba-zar′,*) *n.* [Pers. *bâzâr*, market.] (Sometimes called Bezesteen.) An exchange; a market-place; a place where goods are exposed to sale.— *B.* is a term originally derived from the Arabic, and literally signifies the sale or exchange of goods. Among the Turks and Persians it is exclusively applied to a market-place, whether open or covered, where goods are sold, and where merchants meet for the transaction of business. The bazaar of Tauris (or Tabriz) in Persia is the most extensive in the world, and that of Khan Khalil, at Cairo, which occupies the site of the tombs of the caliphs, contains some valuable records. It was built in 1292. The *B.* at Ispahan is, perhaps, the most magnificent one in the East. Adrianople and Constantinople have each large bazaars. The last-mentioned was built in 1462.— The name has of late years been adopted in many European and American cities, and is applied to places for the sale of fancy goods, &c.

Bazaine′, François Achille, a marshal of France, b. 1811, enlisted as a private in 1831, became general of division in 1855, took a command in the French army occupying Mexico in 1862, succeeded Forey as commander-in-chief in 1863, and was made a marshal in 1864. He married a rich Mexican lady, whose family sided with Juarez, and while persuading Maximilian to issue rigorous decrees against the Juarists, he was engaged with them in secret plottings, in pursuance of personal ambitions schemes. In Feb., 1867, he abandoned Maximilian and embarked at Vera Cruz with his forces. Though violently censured in France, he soon became commander-in-chief of the imperial guard at Paris. On the outbreak of the Franco-German war in 1870, he was placed in command of the 3d corps. On Aug. 9th he took the command of the main French armies collected round Metz, and on Oct. 27th he surrendered to Frederick Charles with his entire force of 173,000 men, who became prisoners of war. After the signature of the preliminary treaty of peace, *B.*, the object of general execration, took refuge at Geneva. Returning to Paris in 1872, he was brought before a council of war, presided over by the Duc d'Aumale, and, Dec. 10, 1873, condemned to death "for having, while at the head of an army in the open country, signed a capitulation without having done all that duty and honor required from a commander, and for having delivered up to the enemy the fortress of Metz without having exhausted all the means of defending it." Marshal MacMahon commuted the penalty to 20 years' confinement. In 1874, *B.* escaped from his prison in the Isle of St. Marguerita, and finally took refuge in Spain, where he d. 1888.

Ba'zalgette, Joseph William, a distinguished English engineer, b. 1819, executed the main drainage works of London, and built the Thames embankment.

Ba'zas, an old town of France, dep. Gironde, cap. of an arrond., on a rock, 33 m. S.S.E. of Bordeaux, was for a long time the residence of the dukes of Gascony. *P.* 5,721.

Bazet'ta, in *Ohio*, a post-township of Trumbull co.

Bazoche, or Basoche, (*ba-zosh′,*) *n.* (*Hist.*) The etymology of this French term is rather doubtful, but most writers agree in considering it as a burlesque translation of the Latin word *basilica*, a royal palace. When justice was administered in the royal palace of the French kings, the judges, advocates, procurators, and others who were connected with this department, were termed *clercs de la bazoche*. Afterwards, when the administration of justice became a separate department, a distinction was made between those noblemen who formed the

royal train, and were called *courtiers*, and those connected with the court of justice, who were called *Clercs de la Bazoche*, or *Basochians*. But as the term *bazoche* implied the having a king, a mock one was appointed, who had his officers of state, court, and other paraphernalia of royalty. In the beginning of the 14th century, Philippe le Bel conferred on this community certain important privileges. Henry III. suppressed the title of king, and conferred the rights and privileges attached to that office on the chancellor. Still the *bazoche* continued to exist as a body, and retained its pomp and its forms. It met twice a week, and heard and decided all processes and debates that arose among the clerks. At public festivals the Basochians took a prominent place; and at the carnival they united themselves to the prince of fools, and took part in the acting of low farces and mysteries. In their turn they acted a kind of satirical morality, in which they took great liberties in railing at the vices of the age, and in insulting the favorites of fortune. This naturally produced a great outcry against them, and at length, in 1540, they were entirely suppressed.

Bdellia, (*del'le-ah,*) *n.* [Gr. *bdallo*, to suck.] (*Zoöl.*) A gen. of animals, class *Annelida*, and fam. *Hirudinidæ*, or leeches. They are found in the fresh waters of Egypt, and a species was known to Herodotus, who asserted that it was found parasitic upon the crocodile.

Bdel'lium, *n.* (*Chem.*) A kind of gum-resin, the produce of an unknown plant. It is solid, brittle, of a deep brown color, of an acrid and bitter taste, and sweet odor. It was much vaunted by the ancients, but is now little used. The resin consists of $C_{40}H_{31}O_5$. The gum consists of resin 59, gum 9·2, mucilage 30·6, vol. oil 1·2. See BALSAMODENDRON.

Bdellometer, (*del-lŏm'e-ter,*) *n.* [Gr. *bdella*, leech, and *metron*, measure.] (*Med.*) A cupping-glass, to which are attached a scarificator and an exhausting syringe. It is used as a substitute for the leech.

Be, *v. i.* [A. S. *beon*; Gael. *beŏ*, living, alive; W. *bu*, a being; Gr. *bios*, life; Sansk. *bhu.*] To exist; to have actual existence.

> "To *be*, contents his natural desire;
> He asks no angel's wing, nor seraph's fire." — *Pope.*

—To have sensations; to be made to be; to become; to remain. (Used as an auxiliary.)

> "*Be* what thou hop'st to *be*, or what thou *art*." — *Shaks.*

To let be, to not meddle with; to leave intact or untouched; to let alone. — "*Let be*, said he, my prey." — *Dryden.*

Be, a prefix much used in composition, and often conveying intensive power; as, *be*charm, *be*deck. It also renders intransitive verbs transitive, &c.

Beach, *n.* [Probably from Icel. *bakki*, a bank.] (*Geol.*) A shelving tract of sand or shingle washed by the sea or a fresh-water lake, interspersed between the water and the land on which vegetation grows. The *sea-beach* is the space between low and high water mark, particularly that part of it which is washed by the waves; and the *beach of a lake* lies between the highest and lowest water-marks of its ordinary level. — *Raised beaches* are banks of sand and shingle, with shells, found following the bays and recesses of the coast, at various heights above the existing beach or sea-margin. These give evidence of either elevation of the land, or depression of the ocean, and point to times when sea and land stood at these successive levels.

—*v. a.* To run or drive upon a beach; used generally in the sense of a ship, to avoid sinking.

Beach'-comber, *n.* A word used in the U. States to signify a long wave, or roller of the ocean, that combs over a beach.

Beach Creek, in *Pennsylvania*, a township of Clinton co.

Beached, (*bētcht,*) *a.* Exposed to the waves; stranded; driven or placed on a beach; as, "the ship is *beached*."

—Having a beach; possessing a beach for a border.

> "Timou hath made his everlasting mansion
> Upon the *beached* verge of the salt flood." — *Shaks.*

Beach'-flea, *n.* (*Zoöl.*) See SAND-FLEA.

Beach Haven, in *Pennsylvania*, a post-village of Luzerne co., on the N. branch of the Susquehanna River, 27 m. E.N.E. of Danville.

Beach Lake, in *Pennsylvania*, a post-office of Wayne county.

Beach Ridge, in *New York*, a post-office of Niagara co.

Beach'ville, in *Upper Canada*, a post-village of Oxford co., 22 m. N.E. of London.

Beach'y, *a.* Having a beach or beaches.

> "The *beachy* girdle of the ocean
> Too wide for Neptune's hips." — *Shaks.*

Beach'y Head, a bold promontory on the S. coast of England, co. of Sussex, 3 m. S.S.W. of Eastbourne. Lat. 50° 44′ 24″ N.; Lon. 0° 13′ E. It is formed of chalky white cliffs, that project perpendicularly over the beach to the height of 564 feet. A light-house of the first class was erected, in 1828, on the summit of the cliff to the W. of the head, 285 feet above sea-level, and caverns have been cut in the cliffs, between the Head and Cuckmore Haven, in the view of affording places of refuge to mariners wrecked on this dangerous coast.

Beacon, (*bē'kn,*) *n.* [A. S. *beacen*: W. *pigwn*, from *pig*, a pike.] A signal-fire; a bale-fire: a light placed on an eminence to announce the approach of an enemy, and arouse up the country.

> "No flaming *beacons* cast their blaze afar,
> The dreadful signal of invasive war."—*Gay.*

—Beacon-fires are of great antiquity, being referred to in Scripture (*Jerem.* vi. 1), and were used by the Greeks and Romans. The intelligence of the capture of Troy is represented by Æschylus as having been conveyed to the Peloponnesus by signals of this kind. In England, the beacons were formerly piles of fagot-wood, but afterwards poles were erected, to which iron pots were attached, filled with pitch and other combustibles. Intelligence was quickly conveyed in this manner; and the beacons on the border between England and Scotland were always carefully watched. These iron beacons were often erected on church-towers, and one is still to be seen on the tower of the parish church of Hadley, near London.

(*Mar.*) An erection placed at the entrance of a bar, river, or harbor, to indicate dangerous navigation, as sunken rocks, sand banks, &c. Formerly it was in the form of a pole secured by chains to the rock on which it is placed, with a large ball formed of iron hoops at the top. Vessels anchored in certain places, exhibiting lights at night, are called *floating-beacons* or *floating-lights*. — See LIGHT-HOUSE.

—A term used in some parts of England to denote a high hill. — Anything which gives notice of danger; as, "The *beacon* of the wise." — *Shaks.*

—*v. a.* To afford light, as a beacon; to light up.

Bea'con, in *Iowa*, a post-office of Mahaska co.

Bea'conage, *n.* Fees or dues paid for the use and maintenance of a beacon.

Bea'con Falls, in *Connecticut*, a post-office of New Haven co.

Bea'con-fire, *n.* A signal-fire. See BEACON

Bea'con Hill, in *New York*, a summit of the Highlands, in Dutchess co., 1,476 ft. above sea-level.

Bea'conless, *a.* Without a beacon.

Bea'consfield, a town of England, co. of Bucks, 24 m. W. by N. of London. In the churchyard here lie the remains of Edmund Burke and Edmund Waller.

Beaconsfield, LORD. See DISRAELI.

Bead, (*bēde,*) *n.* [From A. S. *bead*, *gebed*, a prayer.] A little perforated ball of glass, ivory, or other substance, worn by women in necklaces, head-dresses, &c.; and used also in the ornamentation of purses, slippers, and a variety of fancy articles. — Beads strung on a thread (the French *chapelet*), are used among Roman Catholics for reciting the prayers forming the devotion called the ROSARY, *q. v.*

(*Ind.*) The manufacture of beads is carried on principally in the small island of Murano, near Venice, and at Birmingham, England. Glass tubes, of different colors, are first drawn out to various sizes; they are then chipped into small cylindrical pieces, which are put into a mixture of sand and charcoal, and stirred about until the holes in them are filled; they are then placed in a pan heated to a dull redness, and stirred about till they assume a rounded form from their edges becoming partially melted. When cool, the sand and charcoal, which have prevented them from collapsing, is cleared out. *Bugle-beads* are simply cylinders of glass 4 or 5 times their diameter in length, which are cut from a long tube, and used without any further preparation. Beads are also made of various hard seeds by drilling a hole through their centre. They are also turned from coral, ivory, bone, amber, and hard woods. Beads of all kinds are much used as articles of commerce in trading with savage nations, by whom they are much sought after for purposes of ornament. They were anciently much used as ornaments, and are, at least, as old as the Egyptians.

—A small pip or piece of metal on a fowling-piece or other fire-arm, whereby to take aim; hence the expression "to draw a *bead*," — *i. e.* take aim.

(*Arch.*) A moulding of a circular section, stuck on the edge of a piece of stuff, by a plane of the same name. *B.* are of two kinds, one of which is flush with the surface, and the other raised; the former is called a *quick-bead*, and the latter a *cock-bead*. — *Bead and Butt work* is a

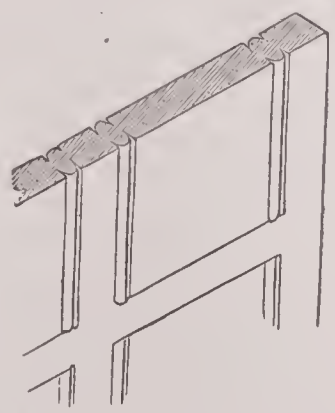


Fig. 324. — BEAD AND BUTT WORK.

piece of framing having the panels flush with the framing, and stuck or run upon the two edges, which have the grain of the wood in their direction.

(*Chem.*) A bubble rising to the surface of spirituous liquors: — formerly the word, used in the plural, was applied to glass globules numbered according to their specific gravities, and serving for trying the strength of spirituous liquors.

—*v. a.* To decorate or distinguish with beads.

Bead'-house, *n.* See BEDE-HOUSE.

Beadle, (*bē'dl.*) *n.* [A. S. *bydel*, from the root of *bid*; *beodan.*] A messenger or crier of a court, who bids orders, or cites persons to appear and answer before it.

—A petty officer in a university. — See BEDEL.

—An inferior functionary, employed in church and parochial duties; as, the maintenance of order during divine worship, the punishment of petty offenders in the parish stocks, &c.

> "Thou rascal *beadle* hold thy bloody hand." — *Shaks.*

Bea'dleship, *n.* The office or function of a beadle.

Bead'-proof, *a.* A term applied to spirituous and alcoholic liquors of such a degree of proof, that, when shaken, a series of beads or bubbles will remain for some time on the surface.

Bead'-roll, *n.* Among Roman Catholics, a list or catalogue of persons to be prayed for, and numbered on the beads of a chaplet. (o.)

Beads'man, BEDESMAN, *n.* A man employed in praying; generally in praying for another.

> "For I will be thy *beadsman*, Valentine."—*Shaks.*

Bead'-tool, *n.* A cutting tool used in turning, &c., having an edge curved so as to make beads or beading.

Bead'-tree, *n.* The *Melia azedarach*. See MELIACEÆ.

Beagle, (*bē'gl,*) *n.* [Probably from Celt. *beag* or *bige*: W. *bach*, little; Ir. *pig*; O. Eng. *begele.*] (*Sports.*) A small hound or hunting-dog formerly much used in coursing hares, and more remarkable for perseverance than speed. Blaine, in the *Encyclopædia of Rural Sports*, says: "There are even now several varieties of beagles, but formerly there appear to have been several more, from the deep-flewed diminutive type of the old southern hound, to the fleet and elegant foxhound beagle; to which may be added the pigmy breed called lapdog beagles. Beagles were formerly distinguished by the *rough* and the *smooth*. The rough wire-haired or *terrier* beagle is now seldom met with, though it was a hardy and altogether a vermin-

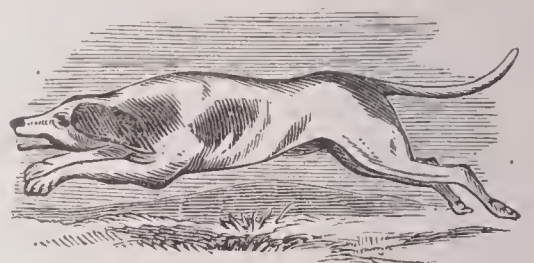


Fig. 325. — BEAGLE.

loving breed, and very strongly formed. The North-country *B.* is a nimble and vigorous hound: he pursues the hare with impetuosity, giving her no time to double; and should the scent lie high, he will with ease run down two brace before noon."

Beak, *n.* [Du. *bek*; A.S. *piic*, from the root *pik*, a point; Fr. *bec*; It. *becco*; Gr. *bikos.*] (*Zoöl.*) The bill of a bird. See BILL.

(*Bot.*) A hard, short point, like the beak of a bird.

(*Naut.*) *Beak*, or *Beak-head*, a small platform at the fore-part of the upper deck of a ship, generally placed at the same height from the deck as the port-sills. — In the ancient galleys, a *B.* was a painted piece of wood, strongly ironed and fastened to the prow (see *Fig.* 326), for piercing an enemy's vessel.

(*Farriery.*) A little shoe, at the toe, about an inch long, turned up and fastened in upon the fore-part of the hoof.

(*Arch.*) A little pendent fillet, left on the edge of the larmier, which forms a canal behind, for preventing the water from running down the lower end of the cornice. The *Beak-head Moulding* is a moulding frequent in Norman architecture, consisting of ornaments of a peculiar

Fig. 326. — BEAK-HEAD MOULDING.

character, placed at regular intervals on a single moulding. The ornaments may be described as grotesque heads, some apparently of animals, and some approaching the human form, but all invariably terminating in a pointed mouth, and rarely similar in the same moulding.

—Anything ending in a point like a beak, pike, or peak; as the spout of a drinking-vessel, a neck of land, &c.

—In England, a vulgarism used to signify a police-magistrate; as, "A'Beckett, the *beak*." — *Thackeray.*

Beak, *v. a.* (*Sports.*) To take hold with the beak, in cockfighting.

Beaked, (*bēkt,*) *a.* Having a beak; ending in a point like a beak.

> "And question'd every gust of rugged winds,
> That blows from off each *beaked* promontory."—*Milton.*

(*Zoöl.*) Rostrate; furnished with a process like a beak. Having a long beak-like mouth, like some insects.

(*Her.*) The same as ARMED, *q. v.*

Beak'er, *n.* [Ger. *becher*, from *biegen*, to curve, to inflect; Scots. *bicker.*] A large drinking-cup or glass; so named from formerly having a spout in the form of a bird's beak.

> "And into pikes and musketeers
> Stampt *beakers*, cups, and porringers."—*Hudibras.*

Beak'-head, *n.* (*Naut.*) See BEAK.

Beak'-iron, *n.* A bickern; an iron tool ending in a point, used by blacksmiths.

Beal, *n.* [A. S. *byle*; It. *bolla.*] (*Med.*) A pimple, pustule, or other small inflammatory eruption.

Beal, *v. t.* To ripen matter; to gather or come to a head, as an eruption.

Beale, Lionel, M.D., F.R.S., a distinguished English physician and author, b. 1828, professor of Physiology and Anatomy in King's College, Londou, editor of *The Archives of Medicine*, and the anthor of *The Microscope in its Application to Practical Medicine*, *The Anatomy of the Liver*, *The Anatomy of Man*, &c., &c.

Beale, in *Pennsylvania*, a twp. of Juniata co.; *pop.* 1,039.

Beale'ton, in *Virginia*, a post-village of Fauquier co., 20 m. S.W. of Manassas Junction.

Bealls'ville, in *Maryland*, a P.O. of Montgomery co.

Beallsville, (*beelz'vil,*) in *Ohio*, a post-village of Monroe co., 110 m. E. of Columbus.

Bealls'ville, in *Pennsylvania*, a post-village of Washington co., 28 m. S. of Pittsburg.

Beal's Bar, in *California*, a village of Sacramento co., about 20 m. E.N.E. of Sacramento city.

Beals'ville, in *Arkansas*, a village of Desha co.

Beam, *n.* [A. S. *beam*, a beam, a tree; Ger. *baum*; Du. *boom.*] (*Arch.*) A long and large piece of timber, into which the feet of the principal rafters, king-posts, &c. are framed; intended also to tie the walls of the building together: contra-distinguished from those used in the floors, which are called *girders*, and those which are used to support the fronts of houses, which are called *breast-summers*.

(*Naut.*) The beams of a ship are strong thick pieces of timber, stretching across the ship from side to side to support the decks and retain the sides together. The main-beam is next the main-mast. The greatest beam of all is called the mid-ship beam. When a ship inclines so much to one side that her beams approach to a vertical position, she is said to be on her beam-ends. In the measurement of a ship, the term beam is used to signify breadth at the wales. (See Tonnage.) — In naval affairs, "on the starboard beam" signifies any point out at sea which, viewed from the stern, is at a right angle with the keel, and upon the starboard or right side of the ship. In like manner, "on the larboard-beam" signifies on the larboard, port, or left side; on the "weather-beam" signifies that side of the vessel which is towards the wind.

—The shank or oblong part of an anchor. (See *Fig.* 121.)

(*Agric.*) The main part of a plough, to which the handles, colter, &c. are secured, and to the end of which are attached the oxen or horses that draw it.

(*Mech.*) A cylinder of wood, making part of a loom, on which weavers wind the warp before weaving; also, the cylinder on which the cloth is rolled, as it is woven; one being called the *fore-beam*, the other the *back-beam*.

(*Steam Eng.*) The main lever of a steam-engine, which, through the piston-rod at the end and the connecting rod at the other, communicates motion from the piston to the crank, by turning upon a centre.

—A collection of parallel rays emitted from the sun or other luminous body.

> "The evening *beam* that smiles the clouds away,
> And tints to-morrow with prophetic ray."—*Byron.*

—Figuratively, that which illumes; as a beam from the sun.

—Any large piece of timber or metal, more long than thick in proportion. — The part of a balance which sustains the scales. (A, C, B, *Fig.* 268.)

—The horn of a stag, which bears the antlers, royal, and top.

> "And taught the woods to echo to the stream
> His dreadful challenge and his clashing *beam.*"—*Denham.*

—The pole of a carriage or chariot, dividing the horses from each other.

> "Juturna heard, and seized with mortal fear,
> Forc'd from the *beam* her brother's charioteer."—*Dryden.*

Beam, *v. t.* To send forth, as beams; to emit,—followed usually by *forth*.

—*v. i.* To emit beams or rays of light; to shine.

> "Norah hath a *beaming* eye,
> But no one knows on whom it *beameth.*"—*Moore.*

Beam'-bird, *n.* (*Zoöl.*) See Fly-catcher.

Beam'-compass, *n.* See Compass.

Beamed, (*bēmd,*) *a.* [From *beam*, the horn of a stag.] Having all its antlers put forth, as the head of a stag.

Beam'-engine, *n.* A steam-engine which communicates motion by the top of the piston-rod, being connected with a beam or lever moving on a central pivot, the other end of the beam being in similar connection with the crank of the driving-wheel. In the direct-action engine no beam is used, the piston working the crank.

Beam'-feather, *n.* A long feather in the wing of a hawk.

Beam'-filling, *n.* (*Arch.*) The building of masonry, or brick-work, from the level of the under edges of the beams to that of their upper edges. *B. F.* occurs either between joists, or floor-beams, or in filling up the triangular space between the top of the wall-plate of the roof and the lower edges of the rafters, or even to the under surfaces of the boarding or lath, for slates, tiles, or thatching.

(*Naut.*) The portion of a cargo which is stored between the beams.

Beam'ful, *a.* That emits beams; bright; radiant.

Beam'ing, *p. a.* Bright; resplendent.

Beam'less, *a.* Giving forth no beams or rays of light.

Beam'let, *n.* A small ray or beam of light.

Beams'ville, in *Ohio*, a post-village of Darke co., 98 m. W. of Columbus.

Beams'ville, in *Upper Canada*, a post-village of Lincoln co., 22 m. E.S.E. of Hamilton.

Beam'-tree, *n.* (*Bot.*) The *Pyrus aria*. See Pyrus.

Beam'y, *a.* Radiant; shining; emitting beams or rays.

> "All-seeing sun!
> Hide, hide in shameful night thy *beamy* head."—*Smith.*

—Resembling a beam in size and weight.

> "His double-biting axe and *beamy* spear."—*Dryden.*

—Having horns or antlers.

Bean, *n.* [A. S. *bean*; W. *ffaen*, a single bean, from *ffa*, that which is enveloped or covered, as beans.] (*Agric.*) A well-known vegetable, largely cultivated both in field and garden, as a highly nutritious aliment for man, and a food for horses. All the varieties are wholesome and nutritive, but the two species the most generally in use as aliment are the *Vicia* or *Faba vulgaris*, called also coffee bean and Windsor bean, and the *Phaseolus vulgaris*, known under the names of French bean, haricot, pole-bean, kidney-bean, and string-bean. Their scientific characters will be described under the names of the genera Vicia and Phaseolus. We here consider them only in an agricultural point of view. — The *Faba vulgaris*, or common bean, of which there are several varieties, bears a pod containing several oblong rounded seeds, which are used in the soft young state for the table, and in the hard dry state for domestic animals chiefly, either whole or ground into meal. In some places, bean-meal is mixed with other meal in making coarse bread; or the beans are boiled into a mess with fat meat, in which state they are very palatable and nutritious. The most common varieties of garden-beans are the Windsor, the Toker, the long-pod, and the Mazagan, all productive and palatable. In the field the tick-bean, the common horse-bean, and the small Dutch or Heligoland bean, are preferred, being hardy as well as productive. The long pod is usually sown in the field, the Mazagan and broad Windsor bean seldom. — There is no plant in which the transformation of the cotyledons into seed-leaves is more readily traced than in the bean. If a bean is planted in moist earth, or soaked in water, in a moderate temperature, the cotyledons will swell and soon burst the skin which envelops them, separating into two lobes, which open like the shells of an oyster. In the part which forms the joint an oblong body will appear, which is the embryo stem of the plant. This increases rapidly in the earth, and pushes a root downwards, and a stem upwards, which latter carries the lobes with it till they rise above the ground, when they expand, and are transformed into seed-leaves. As soon as the seed swells by imbibing moisture, the oxygen, which is always present in the atmosphere and in water, acts upon the farinaceous substance in the seed, and takes a portion of carbon from it, producing carbonic acid, which is absorbed by the surrounding plants, or flies off in the state of gas; by this loss the remaining substance becomes a mild fluid emulsion, analogous to the milk of animals, which, being taken up by the minute vessels of the radicle, nourishes and increases them. In proportion as the farina in the lobes is gradually exhausted, new vessels appear through the substance of the lobes, conveying the newly formed juice from every part of them into the root and stem, and, at last, the cotyledons are transformed into seed-leaves. The fibres of the roots are by this time completely formed, and their extremities, called *spongioles*, from their appearance when closely examined, have acquired the power of absorbing nourishment from the soil. The stem is then considerably advanced in growth, having put forth new leaves of a different form from the seed-leaves; these last, having now performed their part, wither and soon fall off; if they are removed before this period, the plant, having lost its nurse, languishes and dies. The bean at this stage of its growth requires particular attention. If the soil is rich and well prepared, it will grow rapidly and luxuriantly, and be soon out of reach of insects or weeds, and capable of resisting the varying influences of the atmosphere; but if the soil is poor and parched, and the supply of nutritive juices is scanty, the plant will soon show weakness and disease, and the only way to prevent a total failure of the crop, is to supply by art the deficiency of nature. In very poor soils, manure may be applied in a liquid state, or as a top-dressing; in those which are not exhausted, tillage alone will enable the roots to spread, and give them a wider range to seek their food in. The soil best adapted for beans is a rich strong loam, such as produces good wheat. In such a soil the produce is sometimes fifty or sixty bushels per acre, but an average crop, on moderate land, is about half that quantity. On very rich land, beans have produced extraordinary crops, by being sown broadcast and very thick, the stems being drawn up to a great height in favorable seasons. When the beans have pushed their stems, and the proper leaves appear above the seed-leaves, the intervals should be carefully hoed. The diseases to which beans are subject are, the mildew, which is a minute fungus that grows on the stems of leaves, and is caused by cold fogs and frequent sudden variations of weather; and the black dolphin, an insect of the aphis tribe, which appears first in the form of a honey-dew on the tops of the plants. For the mildew no remedy or preventative has yet been found. Whenever it has attacked the plants generally, before the pods are filled, the best method is to cut down the crop in its green state; and if it cannot be consumed in the farm-yard, to plough it into the ground, where it will decay rapidly, and be an excellent manuring for the succeeding crop of wheat. If allowed to stand, the crop will not only be unproductive, but the weeds will infest the ground, and spoil the wheat-crop by their seeds and roots, which will remain in the soil. Whenever the tops of the beans begin to be moist and clammy to the touch, it is the forerunner of the aphis. They should then be immediately cut off, and this, if done in time, may save the crop from the ravages of the insects; but the most effectual way to prevent any disease from attacking the plants in their growth, is to have the ground in good heart, and well tilled. The principal use of beans is to feed horses, for which purpose they are admirably adapted, and far more nourishing than oats. They should be bruised or split in a mill, and given to horses mixed with hay and straw cut into chaff; this will ensure proper mastication and prevent that thickening of the wind, as it is called, caused by indigestion, which makes beans alone not so well adapted for the food of hunters and race-horses. Great quantities of beans are consumed in fattening hogs, to whom they are given whole at first, and afterwards ground into meal. Bacon hogs may be fattened entirely on beans and bean-meal; but as this food makes the flesh very firm, it is not so well adapted for delicate porkers. Bean-meal given to oxen soon makes them fat, and the meat is far better than when oil-cake is used for that purpose; mixed with water and given as a drink to cows, it greatly increases their milk. A small quantity of beans is generally mixed with new wheat when ground to flour; the millers pretend that soft wheat will not grind well without beans, and they generally contrive that there shall be no deficiency in the necessary proportion. Thus a quantity of beans is converted into what is considered as wheaten flour.— *The Phaseolæ vulgaris* or French bean is universally cultivated, not only for the mature fruit, but for its tender and succulent pod, being one of the most esteemed vegetables for the table. The varieties are innumerable, differing slightly in their qualities; they may be divided into two distinct kinds, the dwarf and climbing; the former are the earlier, the latter the more productive. French beans are much less hardy than the common beans; a very slight degree of frost will destroy them entirely. The early sorts are therefore sown in sheltered situations, and occasionally protected by glass frames or mats. The climbing beans require the support of sticks or wires, round which they twine as they grow, with this peculiarity, that the coils turn round the support from the right to the left, contrary to the growth of some indigenous twisting plants, which turn from the left to the right, following the apparent diurnal motion of the sun. The best soil for French beans is a rich mellow loam, rather light than otherwise; but, provided the ground be well stirred, they will grow in any soil. They may be planted in rows, the dwarf sorts at two and a half or three feet distance: the runners at four feet. As soon as the stems begin to rise above the seed-leaves, the intervals should be well hoed with the horse-hoe, and the rows by hand. The scarifier or grubber may be used to loosen the soil; and when they are somewhat advanced in growth, the runners may have sticks to climb upon. A row of turnips may be sown between every two rows of beans; or cabbages may be planted for cattle. The crop may be harvested as soon as the lower pods are quite dry and the seeds hard, and threshed like other beans. The seeds, when raw, have a bitter taste, and are rather tough under the teeth, which makes animals refuse to eat them in that state; but when boiled, they become soft and pleasant. Oxen and pigs eat them readily. They contain, according to Einhof, 84 per cent. of nutritive matter, of which 50 is pure farina, the rest gluten and mucilage: they are consequently superior to every other grain or pulse cultivated, in point of nourishment; and when it is taken into account that they remain in the ground only from May to September, and that a crop of cabbages or turnips is growing in the intervals at the same time, it will appear that the cultivation of this pulse on a large scale might add greatly to the resources of agriculture.

(*Med.*) When young, all the varieties of the bean are equally good and wholesome. In weak stomachs, they are able to produce flatulence, but when eaten with moderation and with a due proportion of animal food, they prove highly beneficial, in consequence of the amount of starch and gluten they contain.

Bean Blossom, in *Indiana*, a township of Monroe co. —A post-office of Brown co.

Bean Blossom Creek, in *Indiana*, rising in Brown co., and entering the N. fork of White River, in Monroe co.

Bean-caper, *n.* (*Bot.*) See Zygophyllum.

Bean'-cod, *n.* A small vessel used in Portuguese rivers. It is sharp forward, having its stem bent above into a great curve.

Bean Creek, in *Ohio*. See Tiffin's River.

Bean'-fly, *n.* A beautiful bluish-black fly, frequently found on bean-flowers; it is produced by a maggot called *Mida*.

Bean'-goose, *n.* (*Zoöl.*) a wild goose, *Anser Segetum*.

Bean's Corners, in *Maine*, a P. O. of Franklin co.

Bean's Station, in *Tennessee*, a post-village of Granger co., 226 m. E. of Nashville, and 2 from the Gap of Clinch Mountain. There are mineral springs here. On the 14th Dec., 1863, a conflict took place near Bean's Station, between the Confederates under General Longstreet and a body of National cavalry under Shackleford, Wolford, Graham, and Foster. The contest was somewhat sanguinary, Shackleford, who was in chief command of the Union troops, losing about 200 men. Longstreet's loss, it was computed, was much greater. The contest was indecisive. The Nationals were pushed back nearly a mile, but Longstreet being unable to follow up his advantage, fell back toward Bull's Gap.

Bean-King's Festival, a social rite principally observed in France, from which country it would seem to have been transplanted to Germany. On the evening of Twelfth Day, (*q. v.*,) or, as the Germans call it, (in allusion to the legend, that the wise men of the East who came to worship Christ were three kings,) Three Kings' Day, (*Dreikönigs-Tag,*) companies assemble to spend a few hours in mirthful relaxation. A large cake is baked,

with a bean hidden somewhere in it. The cake is then divided into pieces, each person present receiving one, and whoever obtains the piece with the bean is king for the year. In this capacity, he holds a mock court, and receives the homage of the company, who also amuse themselves with other diversions. The Bean King, however, is compelled to pay for his dignity, for he has to give an entertainment on the next Twelfth Night, that an opportunity may be afforded to choose another king. In France, this custom was at an earlier period so common, that even the court indulged in it, although the Church, in the 17th c., exerted itself zealously for its suppression. The opinion that the *B. K. F.* owes its origin to the Roman Saturnalia, when even the children, partaking in the universal glee, were wont to elect a king, is not destitute of probability.

Bear, (*bār,*) *v. a.* [A.S. *beran, beoran;* Goth. *bairan;* Lat. *fero;* Gr. *pherō,* from the root *ber;* Sanskr. *bhri.*] To carry; support; sustain; uphold; as, to *bear* a burden.

"And makes us rather *bear* those ills we have,
Than fly to others that we know not of."—*Shaks.*

—To convey; conduct; bring; carry; remove.

"My message to the ghost of Priam *bear;*
Tell him a new Achilles sent thee there."—*Dryden.*

—To carry as a mark of authority, distinction, or dignity.

"And thus he *bore* without abuse
The grand old name of gentleman."—*Tennyson.*

—To have or possess mentally; to carry in the mind; to cherish; as love, hate.

"Darah, the eldest, *bears* a generous mind,
But to implacable revenge inclined."—*Dryden.*

—To endure; suffer; undergo; tolerate; permit without resentment; as, to *bear* an affront.

"But now I'll *bear* no more, nor here remain,
If there be law or lawyers in all Spain."—*Byron.*

—To be answerable or responsible; as, to *bear* the blame, cost, &c.

"O more than madmen! you yourselves shall *bear*
The guilt of blood and sacrilegious war."—*Dryden.*

—To show or exhibit; to advance or bring forward; to relate; as, to *bear* evidence.

—To maintain; to carry on, or keep up.

"Far as the breeze can *bear*, the billows foam,
Survey our empire, and behold our home."—*Byron.*

—To admit, or be capable of; to suffer or sustain without violence or change.

"To *bear* is to conquer our fate."—*Campbell.*

—To behave; to conduct; to deport one's self; to act in any character; as, he *bears* himself like a hero.

"So get the start of the majestic world,
And *bear* the palm alone."—*Shaks.*

—To supply with; to afford; to attend.

"His faithful dog shall *bear* him company."—*Pope.*

—To produce or bring forth; to give birth to; as, to *bear* fruit, to *bear* children.

"The same Æneas, whom fair Venus *bore*
To fam'd Anchises on th' Idean shore."—*Dryden.*

To bear a hand. (*Naut.*) To help; render assistance; go to work; as, "*Bear a hand* there!"—*To bear off.* To keep from reproach: to restrain.—(*Naut.*) To hold at a distance; to keep clear from contact with anything; as, *to bear off* a boat.—*To bear the bell.* See BEARING THE BELL, and BELL.

To bear a body. (*Painting.*) A color is said *to bear a body* in painting, when it is capable of being ground so fine, and mixing with the oil so entirely, as to seem only a very thick oil of the same color.

To bear down. To crush down by force: to overthrow; to demolish; as, "*borne* down by the flying."—*Sir W. Scott.*

To bear hard. To importunate; to press or urge; as, "Though he *bear* me *hard*."—*Ben Jonson.*

To bear out. To support, maintain, or defend to the last.

"I hope your warrant will *bear out* the deed."—*Shaks.*

To bear through. To conduct, or manage.

"My hope is
So *to bear through*, and out, the consulship."—*Ben Jonson.*

To bear up. To keep from sinking, falling, or being disheartened; to support.

"But still *bear up* and steer
Right onward."—*Milton.*

To bear date. To be lated, as a letter.—*To bear a price.* To have a certain value or price.

Bear, *v. i.,* To suffer, as with pain.

"They *bore* as heroes, but they felt as men."—*Pope.*

—To be patient; to endure.

"I cannot, cannot *bear;* 'tis past, 'tis done."—*Dryden.*

—To be fruitful; to be productive;—opposed to barrenness.

"Melons on beds of ice are taught to *bear,*
And, strangers to the sun, yet ripen here."—*Granville.*

—To press; used before *on* or *upon.*

"These men *bear* hard *on* the suspected party, pursue her close through all her windings."—*Addison.*

—To take effect; to succeed: as, "He should want to bring all our matters to *bear*."—*Guardian.*

(*Naut.*) To be situated as to the point of the compass, with regard to another object; as, the land *bears* W. by S.

—To refer to; to relate;—with *with, upon,* or *against.*

"The sides *bearing* one *against* the other."—*Bishop Burnet.*

—To render or carry news or intelligence.

To bear against. To advance forward or approach for attack.

"As a lion, hounding in his way,
With force augmented *bears against* his prey."—*Dryden.*

(*Naut.*) *To bear up* or *away.* To change the course of a ship, in order to make her run before the wind after sailing for some time upon a side wind.—*To bear in with the land.* To steer a vessel towards the land.—*To bear off from the land.* To steer a ship from the land, lest she should accidentally run aground while under sail.—*To bear down upon the enemy.* To have the advantage of the wind; or being to windward, to approach the enemy by *sailing large* or from the wind.

To bear back. To retreat.—*To bear up.* To have fortitude; not to sink, faint, or fail; to be firm; to be supported; as, *to bear up* under pain. "It shows a greatness of soul that they *bear up* against the storms of fortune."—*Broome.*—*To bear upon* or *against.* To lean upon or against.—*To bear upon.* To act upon; as, to bring a ship's broadside *to bear upon* a fort.—*To bear up to.* To tend, or move towards; as, "Sometimes *bearing up to* one another."—*Boyle.*—*To bear with.* To endure anything unpleasant; to forbear to resent or punish; to be indulgent to.

"*Bear with* me, then, if lawful what I ask."—*Milton.*

Bear, *n.* [A.S. *bera;* Ger. *bär;* Du. *beer.*] A well-known quadruped, constituting the genus *Ursus,* in the family *Ursidæ.* There are several species of bears. Of all the Carnivora they are the most omnivorous in their diet, some of them living almost entirely upon vegetable food, and nearly all being capable of supporting themselves upon it; even the most carnivorous of them, however, will seldom attack man, unless provoked to do so by aggression, or strongly incited by hunger; but when attacked, they prove themselves very formidable opponents. They have six incisor and two canine teeth in each jaw, twelve molars in the upper and fourteen in the lower jaw; pendactyle, or five-toed feet, armed with strong claws, but which, not being retractile, are more calculated for digging and climbing, than for tearing prey. For the most part, bears are unsocial animals, frequenting the recesses of mountains and caverns, and the depths of the forests. During the winter they lay up in caves and hollow trees, passing that inclement season almost without food, and in a comparatively dormant state. In Europe, Asia, and America, bears are pretty widely diffused, but in Africa they are more rarely found. In the Alpine regions the bear is brown; in some other parts of Europe, black; and in some parts of Norway it has been seen of a gray color, and even perfectly white. Bears are reported to be very fond of honey, in search of which they will climb trees, in order to get at the nests of wild bees; for, notwithstanding his awkward form, the bear is an expert climber. In Russia, the skins of bears are among the most useful as well as comfortable articles of winter apparel; and in many other northern countries they are made into beds, coverlets, caps, and gloves. Generally, bear-skins are used for the hammer-cloths of carriages, for pistol-holsters, &c., and the leather prepared from them is used for many purposes, as harness, &c., where strength is requisite.—The six principal species of the genus are: 1. The Brown Bear of Europe, the *Ursus arctos,* which belongs to cold regions, and lives on a variety of animal and vegetable substances. In the autumn, when the animal is very fat and in full condition, he retires to caves or holes in the rocks, where he hybernates, coming forth in the spring, gaunt, lean, and almost reduced to a skeleton. The brown bear is remarkable for its sagacity, and also for its ferocity, and becomes especially sanguinary as it advances in age. 2. The White, or Polar Bear, *Ursus maritimus.* This species is only found in very high northern latitudes, along the borders of the Arctic Ocean and Hudson's Bay, but does not extend either to Siberia, Kamtschatka, or the islands between Asia and America. It is uniformly white, attains a great size, is very powerful, ferocious, and daring. It is an excellent diver and swimmer, and as much at home in the water as on the ice or land. Though, like the family generally, capable of living on vegetable diet, it is, from geographical situation, the most exclusively carnivorous of all the bear tribe, and feeds on seals, the cubs of whales, morse, and the carcasses of whales from which the whalers have cut out the blubber, and to reach which they have been known to swim more than 20 miles from shore. 3. The Black Bear of America, *Ursus Americanus.* This species is distinguished by its color, and a peculiar concave facial outline; he is found in mountains and forests, from the Isthmus of Panama to the north of Canada, and subsists, in a great measure, on berries and vegetable substances, though it preys also on small animals and insects, which it hunts for with great perseverance, turning over stones and trunks of trees in its search after this part of its diet. It is also

Fig. 327.—SYRIAN BEAR.

very fond of young corn, and, like all the tribe, passionately addicted to honey, which it obtains by climbing the trees and robbing the hives of the wild bee. The black bear never attacks man except in self-defence. 4. The Grizzly Bear, *Ursus horribilis.* This species inhabits the Rocky Mountains of America, and the hills dipping into the tracts of Oregon and Brit. Columbia; and is, of all the tribe, the most savage and ferocious, the most dreadful in size and strength, and the most terrible in ferocity of nature. The force of his hug is enormous, and it is asserted that no animal it could grasp could outlive the deadly compression of its vice-like grip. 5. The Malay, or Asiatic Bear, *Ursus labiatus.* The Asiatic or long-lipped bear is a native of the mountainous parts of India, and feeds on white ants, rice, honey, the palm fruit, berries, &c. This species is timid and inoffensive, burrows in the ground, and lives in pairs together with their cubs, which, when alarmed, leap upon their parents' backs, and keep firm hold while the dam and sire jog off at a heavy trot to a place of safety. 6. The Syrian Bear, *Ursus Syriacus.* The she-bears which came out of the woods, "and tare forty and two" of the mockers of Elisha (2 *Kings* ii. 24), are probably the first bears on record. This species closely resembles the *Ursus arctos.*

(*Astron.*) See URSA.

(*Naut.*) A square piece of wood, made heavy by pieces of iron attached to it, for cleaning a ship's deck.

(*Com.*) A term used on the Stock Exchange, and applied to one who, having sold *stock* or shares which he does not possess, is anxious that such securities should decline in value, so that he may be enabled to buy at a profit. The term is said to derive its origin from the story of the man who sold the bear-skin before he had killed the bear.—See BEARISH; BULL.

Bear, BIG BEAR, or BERE, *n.* [A. S. *bere,* barley.] A species of barley distinguished by having six rows in the ear; winter, or square barley.

Bear, or **Bere Island,** a rocky island off the S.W. coast of Ireland, co. Cork, 13 m. W. of Bantry, in Bantry Bay.

Bear, in *Wisconsin,* a post-office of Richland co.

Bear, Bere. [A. S. *bere.*] (*Bot.*) See HORDEUM.

Bear'able, *a.* That can be borne or endured; tolerable.

Bear'ably, *adv.* In a bearable manner.

Bear'-baiting, *n.* The sport of baiting bears with dogs. It was formerly so favorite an amusement in England, that Queen Elizabeth did not consider it unbefitting her sex or rank to attend these rude entertainments.

Bear'-berry, *n.* (*Bot.*) See ARCTOSTAPHYLOS.

Bear' Branch, in *Indiana,* a post-office of Ohio co.

Bear' Branch, in *North Carolina,* a post-office of Richmond co.

Bear Camp River, in *New Hampshire,* rising in the E. part of the State, and falling into Ossipee Lake.

Bear'-cloth, BEARING-CLOTH, *n.* A cloth for covering a new-born child, when taken to church for baptism.

Bear' Creek, in *Alabama,* a stream flowing through Franklin co., and entering the Tennessee River, near the N.W. limits of the State, between the Alabama and Mississippi border.

Bear Creek, in *Georgia,* a vill. of Henry co.

Bear Creek, in *Illinois,* a township of Hancock county.

—A township of Gallatin co.

Bear Creek, in *Indiana,* a post-township of Jay county.

Bear Creek, in *Iowa,* Jackson co., empties into the Makoqueta River.

Bear Creek, in *Kentucky.* It rises in Grayson co., in the W. central part of the State, and flowing S.W., enters Greene River, in the E. of Butler co.

—A post-office of Cumberland co.

Bear Creek, in *Michigan,* Lenawee co., embouching into Raisin River.

—A township of Emmet co.

Bear Creek, in *Missouri,* a village of Cedar co.

Bear Creek, in *Pennsylvania,* in Armstrong county, where it joins the Alleghany River.

—A post-office of Luzerne co.

Bear Creek, in *Tennessee,* a post-office of Roane co.

Bear Creek, in *Wisconsin,* a township of Sauk county.

—A township of Pepin co., whose name, in 1860, was changed into that of DURAND, *q. v.*

—A post-township of Waupacca co., 38 m. W. of Green Bay.

Bear Creek, (Great,) in *Upper Canada,* a river which flows S.W., and enters Lake St. Clair on the N.W.

Beard, (*berd,*) *n.* [A.S. *beard,* from *bear:* Fr. *barbe.*] The hair that grows on the chin, lips, and adjacent parts of the face in men, and sometimes, though rarely, in women. Its growth is the distinctive sign of manhood. The fashion of the beard has varied greatly at different times and in different countries. The earliest notice of attention to its growth, is probably in Leviticus, where the lawgiver of the Jews (ch. xix. 27) says, "thou shalt not mar the corners of thy beard." The Hebrews regarded a thin, scanty beard as a great deformity; while a long, full, flowing beard was esteemed the noblest ornament of personal beauty and dignity. A man's honor was lodged, as it were, in his beard. To insult it by word or act was the grossest indignity; to take it respectfully in the right hand and kiss it, was a mode of expressing high esteem and love permitted only to the nearest friends. To neglect, tear, or cut it, indicated the deepest grief; while to be deprived of it was a mark of servility and infamy. These facts explain many passages of Scripture; as the gross insult offered to David's ambassadors, (2 *Sam.* x. 6–14;) the zealous indignation of Nehemiah: the treachery of Joab, and, perhaps, of Judas, &c. Generally speaking, the growth of the beard was cultivated among the nations of the

East, although it must be observed that most of the Egyptian figures in the ancient paintings are without beards. The ancient Indian philosophers, called Gymnosophists, were solicitous to have long beards, which were considered symbolical of wisdom. The Assyrians and Persians also prided themselves on the length of their beards; and St. Chrysostom informs us that the kings of Persia had their beards interwoven or matted with gold thread. The figures on the Babylonian cylinders are usually represented with beards. Aaron Hill, in his *Account of the Ottoman Empire*, draws this distinction between the Persians and the Turks: "The Persians never shave the hair upon the upper lip, but cut and trim the beard upon their chin, according to the various forms their several fancies lead them to make choice of; whereas, the Turks preserve with care a very long and spreading beard, esteeming the deficiency of that respected ornament a shameful mark of servile slavery." The slaves in the seraglio are shaved as a mark of servitude. Among the Greeks, and especially among the Greek philosophers, this ornament was held in high estimation. Athenæus tells us that the Greeks wore the beard until the time of Alexander the Great, who ordered his Macedonian soldiery to shave it off, lest the growth of it might give a ready handle to their enemies in battle. Socrates and Plato were honored with the distinction of "bearded master" by their pupils; and the origin of the proverb, *ek pogon oi sophoi*, (wise men from their beards,) arose from this class of wise men among the Greeks indulging always in this ornament. The Romans wore the *B.* until the 5th century, A. U. C., when Publius Ticinus Mena brought over a colony of barbers from Sicily to exercise their profession on the Roman chins. Augustus, and the Roman emperors till Hadrian, shaved their *B.*; and Plutarch says that Hadrian allowed his to grow to hide the scars on his face. All the imperial personages after Hadrian grew their *B.* It was customary, on the assumption of the *toga virilis* among the Roman youth, to consecrate the first-fruits of their beards to some deity. Homer and Virgil, Chrysippus and Pliny the younger, Plutarch and Strabo, Diodorus and Juvenal, Perseus and Prudentius, all celebrate this ornament on the faces of persons distinguished for the length or whiteness of their beards. The most curious story of long *B.* is that of a Middle-Age personage—John Mayo, the *bearded* by pre-eminence, who was an exceedingly tall man, and nevertheless, when he untied his beard, it flowed down upon the ground; and the Emperor Charles V. is said to have been greatly amused by the wind making it fly in the faces of the lords of his court. The Lombards (or *Longbeards*), the early French, the ancient Britons, and the Anglo-Saxons after they conquered Britain, all nourished the growth of their *B.s* with peculiar care. The English clergy, by-and-by, (see *Knight's History of England*, vol. i. pp. 136 and 165,) probably in imitation of those of Western Europe, began to shave the *B.*, and until the time of William the Norman, the whole of whose army shaved the beard, there prevailed a bearded class and a shaven class, in short, a laity and a clergy in England. When Duke William conquered England, he insisted rigorously upon carrying out the Norman custom of shaving; and he thus constrained many of the high-spirited Britons rather to abandon their country than their whiskers. But by-and-by they got the advantage of their ruthless conquerors; and the higher classes indulged in the moustache, or the entire *B.*, from the reign of Edward III. down to the 17th century. The *B.* now gradually declined, and the court of Charles I. was the last in which even a small one was cherished. After the restoration of Charles II., mustaches or lip-whiskers continued, but the rest of the face was shaved; and in a short time the process of shaving the entire face became universal. The *B.* went out of fashion in France in the reign of Louis XIII., and in Spain when Philip V. ascended the throne. In Russia, this fashion continued till the time of Peter the Great, who compelled the nobility to part with these ornaments, sometimes by laying a heavy tax upon them, and at others by ordering those he found with beards to have them pulled up by the roots, or shaved with a blunt razor, which drew the skin after it, and by these means scarce a beard was left in the kingdom at his death; but such a veneration had this people for these ensigns of gravity, that many of them carefully preserved their beards in their cabinets, to be buried with them, imagining, perhaps, that they should make but an odd figure in the grave with their naked chins. At the present time, the Jews, and the Arabs, constant to their ancient customs, continue to let the entire *B.* grow, when mourning, for a period of 30 days. "By the *B.* of Aaron," or "By the *B.* of the Prophet," is looked on as the most solemn oath of a Jew or Mohammedan. Among almost all civilized nations, the tendency is to let the *B.* grow, though in a way suggested by the taste of the individual.

(*Zoöl.*) The gills of oysters and other bivalve molluscs.

(*Bot.*) Prickles or bristles growing on a plant; as the awn of a grain.

(*Farriery.*) The part of a horse, underneath the lower jaw and above the chin, against which the curb of a bridle bears.

(*Astron.*) Applied to the rays emitted by a comet in the direction in which it moves, in distinction from the tail, or rays from behind.

(*Archery.*) The barb of an arrow.

(*Printing.*) That part of a type which is between the shoulder of the shank and the face.

Beard, *v. a.* To take or pull by the beard; to seize or pluck the beard, in contempt or anger.

"No man so potent breathes upon the ground,
But I will *beard* him."—*Shaks.*

—To oppose or defy to the face; to set at open defiance.

"And dar'st thou then
To *beard* the lion in his den,
The Douglas in his hall?"—*Sir W. Scott.*

Beard'ed, *a.* Having a beard, as a man.

"But woe awaits a country when
She sees the tears of *bearded* men."—*Sir W. Scott.*

—Barbate; having stiff hairs or awns, as a beard.

".... Flew o'er the field, nor hurt the *bearded* grain."—*Dryden.*

—Barbed or jagged.

"Thou should'st have pull'd the secret from my breast,
Torn out the *bearded* steel to give me rest."—*Dryden.*

Beard'en, in *Missouri*, a village of Gentry co., 80 m. N. by E. of Independence.

Beard'-grass, *n.* (*Bot.*) The *Andropogon nutans*, a species of herb, genus *Andropogon*, q. v.

Beard'less, *a.* Without a beard; not having arrived at manhood.

(*Bot.*) Having no awn; as, *beardless* wheat.

Beard'lessness, *n.* State or quality of having no beard.

Beard's Bluff, in *Alabama*, a village of Marshall co.

Beard's Creek, in *Georgia*, rising in Tatuall co., and flowing S. through Liberty co., empties into the Altamaha river.

Beards'town, in *Illinois*, a flourishing city, former cap. of Cass co., on the Illinois river, 20 m. W.N.W. of Springfield. *Pop.* (1898) 5,360.

Beards'town, in *Tennessee*, a post-village of Perry co., on Buffalo River, 98 m. S.W. of Nashville.

Beard'-tongue, (*tung.*) *n.* (*Bot.*) See PENTSTEMON.

Bearer, (*bār'ér,*) *n.* One who bears, sustains, carries, or supports.

"Forgive the *bearer* of unhappy news."—*Dryden.*

—Specifically, a pall-bearer; one who assists in supporting a coffin when being carried to a grave.

(*Arch.*) A prop, or anything that supports a body in any place; as a wall, post, strut, &c. In guttering, bearers are short pieces of timber for supporting the boarding.

(*Law.*) One who presents a check, draft, or other order for the payment of money.—If a bill or note be made payable to bearer, it will pass by delivery only, without indorsement; and whoever fairly acquires a right to it may maintain an action against the drawer or acceptor.

(*Her.*) A supporter.

(*Hort.*) A tree or plant yielding produce.

"Re-prune apricots,....for the young *bearers* commonly perish."
Evelyn.

Bear'field, in *Ohio*, a prosperous township of Perry co. *Pop.* (1897) 1,150.

Bear'-fly, *n.* (*Zoöl.*) An insect.

Bear Gap, in *Pennsylvania*, a post-office of Northumberland co.

Bear'-garden, *n.* A place in which bears were formerly kept for the sport of baiting.—A name sometimes given, in modern parlance, to a rude, noisy, turbulent assembly.

Bear Grove, in *Iowa*, a twp. of Guthrie co.

Bear'herd, *n.* A person who tends bears.

"I will even take sixpence in earnest of the *bearherd*, and lead his apes into hell."—*Shaks.*

Bearing, (*bair'ing,*) *n.* Supporting; carrying; sustaining. Specifically, the manner in which one conducts one's self; deportment; mien; gesture; behavior.

"That is Claudio; I know him by his *bearing*."—*Shaks.*

—Act of giving birth; producing fruit; as, a tree in full *bearing*.

—Relation, tendency, influence; used with respect to the situation of an object or anything having connection with it, or to be influenced by it.

"The *bearings* of this observation lays in the application on it."—*Dickens.*

(*Arch.*) The arch or span of a beam, rafter, or other piece of timber, or the unsupported distance between its points of support.

(*Her.*) See ARMORIAL BEARINGS.

(*Mar.*) An arch in the sky intercepted between the nearest meridian and any distant object, either discovered by the eye and referred to a point on the compass, or resulting from sinical proportion. It is also used to mark the situation of any distant object in connection with a ship's position. Sailors often take the bearings of another ship, or some object on shore, to save themselves the trouble of referring to the compass.

(*Mach.*) That part of a shaft or axle which is in contact with the supports.

(*Hort.*) The act of producing fruit.

Bear'ing-cloth, *n.* See BEAR-CLOTH.

Bear'ing-notes, *n. pl.* (*Mus.*) In the tuning of keyed instruments, harps, &c., bearing-notes signify those notes between which the most erroneous or highly-tempered fifth is situated, on which, also, the *wolf* is said to be thrown. Many tuners begin at C and tune upwards, through the progression of fifths, C, G, D, A, E, B, G*b*, D*b*, and A*b*, and then stop, and again at C, the octave above the former note, and tune downwards through the fifths F, B*b*, and E*b*, and thus the resulting fifth A*b* E*b* produces *bearing-notes*, owing to each fifth having been made more or less flat than the system of twelve notes will bear, the *least sum* of all their errors or temperaments being the *diaschisma*. Some tuners are in the habit of throwing their *wolf* into the fifth A*b*, D*b*, and others into that of D*b*, G*b*; which last, as being nearest to the middle of the whole progression of fifths, seems its most appropriate place for general use.

Bearing the Bell, a phrase conveying the idea of excelling in any art or pursuit. He that takes the lead in anything, or gains the prize in any contest, is said to *bear away the bell* from the rest of the competitors. The phrase originated from a custom in vogue in the 17th century, of giving a little bell of gold or silver to the winner of a horse-race.

Bearish, (*bār'ish,*) *a.* Partaking of the qualities of a bear; sulky in temper; boorish in manner.

(*Com.*) A term used on the Stock Exchange to express a man's opinion that prices will fall.

Bear Island, on the S.W. coast of Ireland, at the entrance of Bantry Bay, sheltering the harbor of Bearhaven, considered the finest in Ireland. It is 6 m. long, by 1½ broad.

Bear Islands, in the Northern Ocean, 315 m. S. of Cape South, in Spitzbergen; Lat. 74° 30′ N.; Lon. 20° E.

Bear Islands, three islands in James' Bay. Lon. 80° 50′; Lat. between 54° 24′ and 54° 46′ N.

Bear Islands, a group in the N. Polar Sea, off the N.E. coast of Siberia, between Lat. 70° and 70° 30′ N., and Lon. 164° and 168° E.

Bear Islands, the name of several small islands, lying off the coast of Maine and N. Carolina.

Bear Lake, in *Michigan*, a post-office of Manistee co.

Bear Lake, in *Pennsylvania*, a post-office of Warren co.

Bear Lake (Great), in British N. America, between Lat. 65° and 67° N., and Lon. 117° and 123° W. Its area is about 14,000 sq. m., and it is 230 feet above the sea. It is irregularly shaped, frozen over from December to June, and discharges its waters into the Mackenzie, by Bear River.

Bear Lake Mills, in *Michigan*, a post-office of Van Buren co.

Bear'-like, *a.* Resembling a bear.

Bear Mountain, in *Pennsylvania*, near the N.E. part of Dauphin co. Near it is the great Bear Valley coal basin. The mountain stands 750 feet above Bear Creek, which flows at its foot.

Béarn, (*bei'arn.*) an ancient province of France, constituting the dep. of Basses Pyrénées, *q. v.* The capital was Pau, the birthplace of Henry IV. *B.* was included in the country of the Aquitani, according to the threefold division of Gaul laid down by Julius Cæsar in the beginning of his *Commentaries*. It was subjugated by the Romans, and upon the downfall of their empire came into the hands of the Goths, from whom it was wrested by the Franks under Clovis. It was, however, subsequently lost by the Franks, but came again into their possession in the time of Charlemagne. In 820, Louis le Débonnaire, son of Charlemagne, conferred the vice-county of Béarn on the son of the Duke of Gascony, and it continued in the possession of his family till 1134. By failure of the male line of his posterity it passed into other families, as those of the Viscounts of Gavaret, the Monçades, who were among the chief nobles of Catalonia, and the Counts of Foix. These last acquired possession of the district of Bigorre, and intermarried with the royal family of Navarre. By this intermarriage the kingdom of Navarre, the principality of *B.*, and the counties of Foix and Bigorre, came into the hands of one possessor. On the failure of heirs male they were conveyed by marriage into the family of D'Albret, and augmented by the inheritance of that family. Of this family sprang Henry IV., who inherited the country of *B.* and Lower Navarre, and, as it seems, of Foix, with the title of King of Navarre; but the country of Upper Navarre, south of the Pyrenees, had been wrested from his great-grandfather by the ambition of Ferdinand V., King of Aragon. On the accession of Henry to the throne of France, *B.* was united with France, and has continued to be so united ever since. It was one of the provinces which enjoyed the privilege of a local House of Assembly of the nobility, clergy, and commons.

Bearn, (Cape,) a promontory in the dep. Pyrénées Orientales, France; Lat. 42° 31′ N.; Lon. 3° 7′ 30″ E. Height of lighthouse, 751 feet above the level of the sea.

Bear River, in *California*, rises in the N. of the State, on the Sierra Nevada, and empties itself into Feather River, 31 m. below Marysville.

Bear, or Utah River, a stream in *Utah*, which rises near Lat. 41° N., Lon. 111° W., and flowing N.N.W. and S.W., falls into the Great Salt Lake, after a course of about 400 m.

Bear's'-breech, *n.* A vulgar name, sometimes used in books on architecture, for plants of the genus *Acanthus*, *q. v.*

Bear's'-ear, *n.* (*Bot.*) See AURICULA.

Bear's-ear Sanicle, *n.* (*Bot.*) See CORTUSA.

Bear's-foot, *n.* (*Bot.*) A fœtid variety of the hellebore, and, like all the members of that family, an acrid vegetable poison.—See HELLEBORE.

Bear's-grease, *n.* The grease or oil of the bear. It was long supposed that the fat of the Polar bear was singularly efficacious in promoting the growth of the human hair. But now it is known that the vegetable oils are far superior to the animal oils for encouraging the growth of, and strengthening the hair. See BALDNESS.

Bear'-skin, *n.* The skin or furry covering of a bear.—A thick woollen cloth for overcoats.

(*Mil.*) The name commonly given to the shakos or head-coverings (made of bear-skin), worn by the Foot-Guards of the Household Brigade of the British army; also worn by the Grenadier regiments of the French and other European troops.

Bears'ville, in *New York*, a post-office of Ulster co.

Bears'ville, in *Ohio*, a village of Monroe county.

Bear'town, in *Pennsylvania*, a P. O. of Lancaster co.

Bear Valley, in *California*, a post-village of Mariposa co., about 10 m. from Mariposa. There are in the county several rich gold-mines, and in the town some quartz mills.

Bear Valley, in *Minnesota*, a P. O. of Wabashaw co.

Bear Valley, in *Pennsylvania*, see BEAR MOUNTAIN.

Bear Valley, in *Wisconsin*, a P. O. of Richland co.

Bear Wallow, in *North Carolina*, a post-office of Henderson co.

Bear'-ward, *n.* A keeper of bears.

"The *bear-ward* leads but one brute." — *L'Estrange.*

Beas, (*be'as.*) the anc. *Hyphasis*, one of the great rivers of the Punjab, rising near the Ritauka Pass, in the Himalayas, 13,200 feet above the sea, and joining the Sutlej at Endressa, 30 m. from Umritsir; Lat. 32° 34′ N.; Lon. 77° 12′ E.

Beas'ley's Fork, in *Ohio*, a post-office of Adams co.

Beast, (*bēst,*) *n.* [O. Fr. *beste*; Fr. *bête*; Ir. *biast*; Dn. *beest*; Lat. *bestia*, probably from Gael. *beo*, living; W. *byw.*] Any four-footed animal useful for labor, sport, or food. Any irrational animal as opposed to *man*.

"He is like the *beasts* that perish." — *Ps.* xlix. 12, 20.

—Figuratively, a man debased by sensual indulgence, appetites, &c.

"Me lea's charms were there, Circean feasts,
With bowls that turn'd enamour'd youths to *beasts*." — *Dryden.*

(*Games.*) A game at cards resembling loo.

Beast'ings, *n. pl.* See BEESTINGS.

Beast'ish, *a.* Debased; brutal: resembling a beast.

Beast'like, *a.* Like a beast: brutal.

Beast'liness, *n.* State or quality of being beastly: brutality; coarseness; filthiness; obscenity.

"That their own mother loathed their *beastliness*." — *Spenser.*

Beast'ly, *a.* Having the nature or form of a beast or beasts.

"*Beastly* divinities, and droves of gods." — *Prior.*

—Filthy; bestial; obscene; brutish; against the nature and attributes of man.

Beat, (*bēt.*) *v. a.* (*Imp.* BEAT; *p.p.* BEAT, BEATEN.) [Fr. *battre*, to strike, to beat, from the root *bat*, probably formed from the sound; A. S. *beatan.*] To strike with repeated blows.

"Some have been *beaten* till they know
What wood a cudgel's of by t' blow." — *Hudibras.*

—To bruise, break, or pound: to pulverize or comminute: as, to *beat* hemp. — To hammer out, to forge, to extend or enlarge in surface by beating.

"Nestor furnished the gold, and he *beat* it into leaves." — *Broome.*

—To range over ground, or scour in pursuit of game; as, to *beat* the stubble.

"Together let us *beat* this ample field,
Try what the open, what the covert yield.' — *Pope.*

—To tread: to make a path by marking it with feet-tracks.

"While I this unexampled task essay,
Pass awful gulfs, and *beat* my painful way." — *Blackmore.*

—To thresh: to loosen from the husk by repeated blows.

"She gleaned in the field, and *beat* out that she had gleaned."
Ruth ii. 17.

To beat off. To drive back: to repel. — *To beat out of a thing.* To give it up: to relinquish anything.

"He cannot *beat it out of* his head, but that it was a cardinal who picked his pocket." — *Addison.*

To beat the dust. (*Manege.*) To take in too little ground with his fore-legs, as a horse. To perform his curvets too precipitately or too low. *Webster.* — *To beat up.* To attack suddenly; to make an irruption upon a place; to alarm, disturb.

"Without making the least impression upon the enemy by *beating up* his quarters. — *Lord Clarendon.*

To beat the wing. To move with a fluttering motion. *To beat time.* (*Mus.*) To regulate time in music by the motion of the hand or foot. To strike, brush, or dash against or on, as wind or water.

"With tempests *beat*, and to the winds a scorn." *Lord Roscommon.*

—To overcome; to subdue; to defeat, as in a contest; to vanquish; to conquer.

"He that is *beaten* may be said
To lie in honour's truckle bed." — *Hudibras.*

—To harass, to over-labor; to depress, or perplex.

"So Whackum *beat* his dirty brains
T' advance his master's fame and gains." — *Hudibras.*

(*Mil.*) *To beat an alarm.* To give notice of sudden danger by beat of drum. — *To beat the general.* See GENERAL. — *To beat to arms.* To bring soldiers together, when dispersed, by beat of drum. — For other applications of this verb to military drums, see ASSEMBLY: CALL: CHAMADE: CHARGE: GENERAL: LONG-ROLL: MARCH: PARLEY; RETREAT; REVEILLE: ROGUE'S MARCH: TATTOO; TROOP, &c. — *To beat back.* To drive by violence; to compel to retire.

"Twice have I sallied, and was twice *beat* back." — *Dryden.*

To be beat out. To be exhausted by labor or fatigue. — *To beat down.* To break or batter down: to destroy, as a wall. To press down or flatten, as standing corn by bad weather. To depress; to crush by repeated opposition.

"Our warriors propagating the French language at the same time they are *beating down* their power." — *Addison.*

—To sink or lessen in value or price.

"*Beats down* the price, and threatens still to buy." — *Dryden.*

To beat into. To teach by repeated instruction; to instil; as, *to beat into* his head. — *To beat the hoof.* To walk on foot; to pedestrianize. Vulgarly, *to pad the hoof.*

—*v. i.* To knock, or strike repeatedly.

"And pulpit, drum ecclesiastick,
Was *beat* with fist instead of a stick." — *Hudibras.*

—To move in a pulsatory manner; to throb.

"But on and up, where nature's heart
Beats strong amid the hills." — *Monckton Milnes.*

—To dash, or come at with violence.

"As they are more or less able to resist the impressions of the water that *beats* against them." — *Addison.*

—To palpitate; fluctuate; be in agitation or doubt.

"And hear the heart *beat* with the love it granted." — *Byron.*

(*Naut.*) See BEATING.

(*Sport.*) To run one way and then another, when hunting a stag.

To beat about. To search in various ways; to try to find.

"To find an honest man, *I beat about*." — *Pope.*

To beat up for. To go about to enlist soldiers for the army: as, *to beat up for* recruits. — *To beat upon.* To reiterate; to enforce by repetition.

Beat, *n.* A stroke; a striking: a blow; as, "He, with a careless *beat*." *Dryden.* — A pulsation; a succession of strokes.

"And oh! that quickening of the heart, that *beat*!" — *Byron.*

—A round or course frequently perambulated and trodden; as, a policeman's *beat*.

—A place of habitual resort.

(*Mus.*) [Fr. *battement.*] A transient grace or ornament in the performance of a note, denoting that a kind of shake is to be made by beginning with the half-tone below the given note, and quickly repeating the given note and that: on the contrary, the shake-mark *tr* is effected by beginning on the note above the given one (whether a half or whole tone distant), and repeating the given note and it alternately. The turn differs from both these in using the notes above and below the given one. When, therefore, a whole tone lies below any note marked for a beat, an accidental sharp is supposed to be on the lower note, except that A is seldom thus sharpened in a beat. The beat is therefore the reverse of the shake, but without the turn, and is generally at the distance of a semitone below; and all the notes, excepting C and F, require the note below to be sharpened for the beat. The beat upon B natural, however, is seldom with A sharp, on account of the great harshness arising from the vicinity of the semitone BC. In some cases of regular accent it is recommended not to make the beat with the semitone, unless particularly so marked.

Beat of Drum. See DRUM.

Beat, *a.* A vulgarism, expressing the sense of being utterly fatigued; tired; overspent with exertion; as, "he is dead *beat*."

Beat, Beat'en, *a.* Made smooth by hammering or pressing; worn by continued use.

"What makes you, sir, so late abroad
Without a guide and this no *beaten* road?" — *Dryden.*

—Become trite or common by repetition or frequent use; as, a *beaten* idea.

Beat'er, *n.* One who beats or strikes.

—An implement in plastering, used by laborers for tempering or incorporating the lime, sand, and hair together, when making mortar.

Beatific, Beatifical, (*bē-a-tif'ik, bē-a-tif'ik-al,*) *a.* [Fr. *béatifique*; Lat. *beatus*, happy or blessed, and *facio*, to make.] That has the power to make happy or blessed.

"Than aught divine or holy else enjoy'd
In vision *beatific*." — *Milton.*

Beatifically, (*bē-a-tif'ik-al-li,*) *adv.* In such a manner as to perfect happiness.

Beatification, (*bē-a-tif'i-kā'shun,*) *n.* A making happy or blessed: act of beatifying: as, "The *beatification* of his spirit." — *Bishop Taylor.*

(*Theol.*) An act by which the Pope permits a *Servus Dei*, i. e., an individual who died in good repute as a virtuous and holy man, to be worshipped, and his image to be placed on the altar within the limits of some diocese, province, or town, or within the houses of the religious order to which the deceased belonged: defining at the same time the peculiar mode of worship allowed, by prayers, masses, &c., until the time when he may be duly canonized as a saint. The distinction between beatification and canonization is this: the first is a mere permission to honor and worship in some particular district, and the object of this veneration is styled *Beatus*: canonization is an injunction to venerate the object of it as a saint, *Sanctus*, acknowledged by the whole Church. Originally, it was the bishop of the diocese who allowed the veneration or worship of deceased individuals whom he deemed worthy of it, and when the worship extended to other dioceses, and by degrees to the Church in general, "with the consent, tacit or expressed, of the supreme pontiff," then the worship, which was before that of simple beatification, acquired the character of canonization. But when, in after-times, the question both of beatification and canonization was referred to the Roman See, the pontiffs, in granting the first, always made the distinction: "dummodo propter præmissa canonizatus, aut canonizata, non censeatur." Benedicti XIV., *Opera*, vol. i. *de Servorum Dei Beatificatione.*) In the same chapter, Benedict XIV. determines the regulations as to the proceedings, evidence, &c., to be gone through previous to granting the writ of beatification. It may be granted to two classes of individuals, martyrs and confessors. After beatification has been obtained, a new suit and fresh evidence of sanctity are required in order to obtain the canonization of the same individual, and a particular office is set apart for him. The ceremony of canonization is very expensive, and therefore is not performed very frequently. It is only since the pontificate of Alexander VII. that the ceremony of beatification has been performed in St. Peter's church, with great solemnity. Applications for the honor of beatification are generally made by the friends or relations of the deceased, or by the brethren of the religious order of which he was a member: evidence of his conduct and merits is collected, and laid before a congregation of cardinals and prelates; and counsel is employed by the applicants, while another counsel opposes the petition and endeavors to find flaws in the evidence. This latter office is performed by a legal officer of the Roman See, who has been nicknamed *Advocatus Diaboli*, "the devil's advocate," as he performs what is considered an ungracious part, by opposing the admission of a candidate into the category of the saints.

Beatify, (*bē-at'i-fi,*) *v. a.* [Lat. *beatus*, and *facio.*] To make happy: to bless with celestial enjoyments.

(*Theol.*) In the Roman Catholic Church, to declare by a public act, that a person is blessed, but not canonized, after death.

Beating, *n.* Act of striking, giving, or laying on repeated blows: chastisement by blows; correction.

"Playwright, convict of public wrongs to men,
Takes private *beatings*, and begins again." — *Ben Jonson.*

—Pulsation or throbbing with regularity.

"..... and the fever of the world
Have hung upon the *beatings* of my heart." — *Wordsworth.*

(*Naut.*) In navigation, the manœuvre of sailing against the wind by tacking, or making tacks, in a zigzag direction: as, *beating* up a river.

(*Mus.*) See BEATINGS. — *Beating time*, that motion of the hand or foot used by performers themselves, or some person presiding over the concert, to specify, mark, and regulate the measure of the movements. If the time be common or equal, the beating is also equal: as, down, left, up, right, or one down and one up: if the time be triple or unequal, the beating is also unequal; as, down, left, up, &c.

Beat'ings, or **Beats,** *n. pl.* (*Mus.*) This name, always used in this sense in the plural, expresses the pulsations, throbbings, or beatings, resulting from the joint vibration of two sounds of the same strength and nearly the same pitch: that is, of two sounds differing but little, if at all, in intensity, and which are almost, but not exactly, in unison. When two organ-pipes, or two strings sounded together, are nearly, but not exactly, of the same pitch, i. e., are not in perfect tune, they produce throbbings that may be compared to the rapid beating of the pulse: and to these, Sauveur, the discoverer of the phenomenon, applied the term *battements*, or *B*, which has since been adopted by all writers on the subject. Dr. Smith has, in his *Harmonics*, entered fully into the subject of *B*, and founded thereon his well-known system of *temperament*. In his ninth proposition he says, that "if a consonance of two sounds be uniform without any *B*, or undulations, the times of the single vibrations of its sounds have a perfect ratio: but if it beats or undulates, the ratio of the vibration differs a little from a perfect ratio, more or less, according as the beats are quicker or slower." His experiment in demonstration of this is practical, easy, and satisfactory. "Change," says Dr. Smith, "the first string of a violoncello [or another string] as much as the second. Then screw up the first string, and, while it approaches gradually to a unison with the second, the two sounds will be heard to beat very quick at first, then slower and slower, till at last they make a uniform consonance without any *B*, or undulations. At this juncture, either of the strings struck alone, by the bow or finger, will excite large and regular vibrations in the other, plainly visible: which show that the times of their single vibrations are equal." For the vibrating motion of a musical string puts other strings in motion, whose tension and quantity of matter dispose their vibrations to keep time with the pulses of air propagated from the string that is struck: a phenomenon experimented by Galileo, who observes, that a heavy pendulum may be put in motion by the least breath of the mouth, provided the puffs be often repeated, and keep time exactly with the vibrations of the pendulum. "After the tension," continues Dr. Smith, in pursuing his experiment, "of either string a very little, and the sounds of the two will beat again. But now the motion of one string struck alone makes the other only start, exciting no regular vibrations in it: a plain proof that the vibrations of the strings are not isochronous. And while the sounds of both are drawn out with an even bow, not only an audible but a visible beating and irregularity is observable in the vibrations, though in the former case the vibrations were free and uniform. Now measure the length of either string between the nut and bridge, and when the strings are perfect unisons, mark, at a distance of one-third of that length from the nut, the string with a speck of ink. Then place the edge of the nail on the speck, or very near it, and press the string, when, on sounding the remaining two-thirds with the other string open, a uniform consonance of fifths will be heard, the single vibrations of which have the perfect ratio of 3 to 2. But on moving the nail a little downwards or upwards, that ratio will be increased or diminished, and in both cases the imperfect fifths will beat quicker or slower, accordingly as that perfect ratio is more or less altered. — The *B* furnish a very accurate mode of determining the proportional frequency of vibrations, when the absolute frequency of one of them is known: or the absolute frequency of both, when their proportion is known: for the *B* are usually slow enough to be reckoned, although the vibrations themselves can never be distinguished. Thus, if one sound consists of 100 vibrations in a second, and produces with another acuter sound a single beat in every second, it is obvious that the second sound must consist of 101 vibrations in a second. — In tuning unisons, as in the case of two or more

pipes, or strings, the operator is guided by *B.* Till the unison is perfect, more or less of beating will be heard, as the sounds more or less approach each other. "When the unison is complete," observes Sir John Herschel, "no *B.* are heard; when very defective, the *B.* have the effect of a rattle of a very unpleasant kind. The complete absence of *B.* affords the best means of attaining by trial a perfect harmony. *B.* will also be heard when other concords, as fifths, are imperfectly adjusted. (*Herschel on* SOUND.)

Beatitude, (*bē-at'i-tūd,*) *n.* [Fr. *béatitude;* Lat. *beatitudo,* from *beatus,* from *beo,* to bless, to make happy.] Blessedness; felicity; happiness of heaven.

"The end of . . . all men's aim, is *beatitude.*" —*Kenelm Digby.*

—A declaration of heavenly blessedness made by Christ in the Sermon on the Mount.

(*Theol.*) In the Roman Catholic Church, beatification.

Beaton, DAVID, Cardinal Archbishop of St. Andrew's, B. 1494. He became Abbot of Arbroath in 1525, Lord Privy Seal 3 years later, was sent on several missions to France, received a Cardinal's hat in 1538, and in the following year became primate. On the death of James V., he, by craft and determination, secured to himself the chief power in church and state, being named Lord High Chancellor of Scotland, and papal Legate. He opposed an alliance with England, and especially distinguished himself as a persecutor of the reformers. The trial and burning of George Wishart for heresy took place under his direction, and, a short time afterwards, *B.* was assassinated at St. Andrew's, in May, 1546. With his death, church tyranny came to an end in Scotland.

Beatrice Cenci (*bē-ā-trē'chē chēn'chē*). See CENCI.

Be'atrice, in *Nebraska,* a flourishing city, cap. of Gage co., on Un. Pac., C., B. & Q., and C., R. I. & P. RRs., 40 m. S. of Lincoln; has extensive manuf. interests and a large general trade. *Pop.* (1898) 18,960.

Beattie, JAMES (*beet'te*), an English poet, B. 1735. He was professor of Moral Philosophy in Aberdeen University. In 1771 he visited London, where he became on terms of friendship with Johnson and Reynolds. His principal works are, *The Minstrel,* and an *Essay on Truth.* Died 1803.

Beat'tyville, in *Kentucky,* a post-village, cap. of Lee co., 60 m. E.S.E. of Lexington. *Pop.* (1898) 660.

Beat'yestown, in *New Jersey,* a village of Warren co.

Beau (*bō*), *n.; pl.* BEAUX (*bōz*). [Fr.; from Lat. *bellus,* fair, beautiful, handsome.] One who is fond of fine dress; a fine, gay man; a fop; a gallant; a lover.

"Where none admire, tis useless to excel,
Where none are *beaux,* 'tis vain to be a belle. —*Lyttelton.*

—This term is specially applied to one who pays too much attention to his dress and personal appearance; satirically he has been described as being "a woman in everything but the sex, —a man in nothing except the sex."

Beaucaire, (*bo-kair',*) a town of France, dep. Gard, cap. of a cant., on the right bank of the Rhone, opposite to Tarascon, 13 m. E. of Nimes. Lat. 43° 48′ 32″ N.; Lon. 4° 38′ 50″ E. Its chief consequence and celebrity is derived from its fair, which commences on the 22d, and ends on the 28th July. This was formerly the greatest of all European fairs, and though much fallen off, it is still attended by a vast concourse of people, not from France only, but also from Germany, Switzerland, Italy, Spain, and the Levant. Almost every sort of article, whether of convenience or luxury, is there to be met in the town. It is said that the influx of visitors still amounts to nearly 100,000, and that the business done here exceeds 150,000,000 francs, but both these estimates are probably exaggerated. The accommodations in the town and at Tarascon, not being sufficient for the great and sudden influx of strangers to the "fair," large numbers of them are lodged in tents and other erections in the meadows along the Rhone, where the fair is held. All bills due at this fair are presented on the 27th, and if not met, protested on the 28th. A tribunal, instituted for the purpose, takes cognizance of, and immediately settles, all disputes that grow out of transactions at the fair. Detachments from the garrisons of Nimes and Tarascon assist in keeping order, and everything is conducted with the greatest regularity. The prefect of the dep. is always present, and entertains the leading merchants. The communication between *B.* and Tarascon used to be kept up by a bridge of boats, but this has been replaced by a handsome suspension bridge of a total of 441 metres, or nearly a mile.

Beaucoup, (*bo-koop',*) in *Illinois,* a village of Washington co.

Beaucoup, in *Louisiana,* a small bayou of Caldwell parish, flowing into Bayou Castor.

Beaufet, (*bō'fet*) Same as BUFFET, *q. v.*

Beaufin, (*bif'fin.*) (*Bot.*) See BIFFIN.

Beau'ford, in *Minnesota,* a post-office of Blue Earth co.

Beaufort, (*bo'fort,*) FRANÇOIS DE VENDÔME, DUKE DE. See VENDÔME.

Beau'fort, HENRY, Cardinal-Bishop of Winchester, B. 1370, was the son of John of Gaunt, Duke of Lancaster, and half-brother to Henry IV. He was made bishop in 1404, and held the office of chancellor several times. *B.* received the red hat of a cardinal, and was created papal legate in 1425. He acquired immense wealth, lent large sums to Henry V. and Henry VI., founded the famous Hospital of St. Cross at Winchester, and D. 1447.

Beau'fort, MARGARET, Countess of Richmond and Derby, and mother of Henry VII. of England: B. 1441. She founded St. John's College and Christ's College, Cambridge, and instituted there the *Lady Margaret Professorship of Divinity.* D. 1509.

Beau'fort, or BEAUFORT-EN-VALLÉE, a town of France, dep. Maine et Loire, near the Couesnon, 16 m. E. of Angers. *Manf.* Canvas and coarse linen. *Pop.* 5,786.

Beau'fort, an inland district of the W. division of the Cape Colony, S. Africa; area about 13,000 sq. m. It is chiefly used for pasturage. *Pop.* 7,826. Its capital, of the same name, is on the Gamka, 363 m. E. of Cape Town.

Beau'fort, in *Missouri,* a post-village of Franklin co., about 56 m. W.S.W. of St. Louis.

Beau'fort, in *North Carolina,* an E. county, bordering on Pamlico Sound, at the entrance to Pamlico river, which divides it. *Surface,* level; *soil,* poor and sandy. *Cap.* Washington.

—A port of entry and cap. of Carteret co., at the entrance of Newport River, and near the sea, 168 m. E.S.E. of Raleigh, and 11 N.W. of Cape Lookout. *Trade.* Important in turpeutine, resin, &c. Fort Macon defends the harbor, and a light-house has been erected on Cape Lookout.

Beau'fort, in *South Carolina,* a S. district of that State, bordering on the Atlantic, and on the Savannah River, which separates it from Georgia. *Area,* 1,540 sq. m. It is bounded on the N.E. by the Combahee River, and intersected by the Coosawhatchie, Broad, and Coosaw rivers, which empty into the sea by two main channels. *Soil,* sandy and marshy. *Surface,* generally level. *Prod.* Rice, cotton, Indian corn, &c.

—A delightful city and port of entry of the above district, situated on a small inlet, called Port Royal River, about 50 m. from Charleston and 16 from the sea. It possesses a good harbor, and vessels drawing 16 ft. of water can safely cross the bar. *B.* is the summer residence of the more aristocratic portion of S. Carolina society.—On Nov. 9, 1861, it was entered, and its arms and munitions of war seized by General Sherman, without the least resistance, there being on that day but one white man in town.

Beaufort Bay, in *Alaska,* on the Arctic Ocean; Lat. 70° N.; Lon. 142° W.

Beaugency, a town of France, dep. Loiret, on the Loire, 16 m. S.W. of Orleans, on the railway from Paris to Tours. This is a very ancient town, and occupies a conspicuous place in the history, and civil, foreign, and religious wars of France. It fell successively into the hands of the Huns, Saxons, Normans, and English; but it suffered most during the religious wars of the 16th century. *Manf.* Cloth, wool, &c. *Pop.* 5,557.

Beauharnais, (*bo-hār'nai,*) the name of a noble French family, of which the following are historical personages:—

B., ALEXANDRE, VICOMTE DE, B. at Martinique, 1760. He served under Rochambeau in the war of American Independence. On his afterwards taking up his residence in France, he was elected a deputy to the States General, where he espoused the democratic or liberal party, became president of the National Assembly, and played a conspicuous part in the Revolution. *B.* served with distinction in the French army, but became ultimately a victim to the revolutionary tribunal just previous to the fall of Robespierre, in 1794. His widow, Josephine Tascher de la Pagerie, became the first wife of Napoleon I. —See JOSEPHINE, (EMPRESS.)

B., FRANÇOIS, MARQUIS DE, elder brother of the preceding, B. 1756. He was a major-general in the French army, protested against the unlawful treatment in a letter to the president of the National Assembly, and on Bonaparte becoming First Consul, recommended him to restore the sceptre to the House of Bourbon. He was afterwards ambassador to Spain, but fell into disgrace with Napoleon, and was banished. He returned to Paris after the Restoration, and D. 1823.

B., EUGÈNE DE, Viceroy of Italy, and a Prince of the French Empire, son of Alexandre de *B.* and Josephine; B. in Paris in 1781. After his mother's marriage to Napoleon, he, in 1796, became aide-de-camp to the latter, and served with distinction in the campaigns of Italy and Egypt. *B.* was wounded at Acre, contributed to the victory of Marengo, was created Prince of the Empire in 1805, and Viceroy of Italy. In 1806, he married the Princess Amalie Augusta, of Bavaria; and in the same year was adopted by the Emperor as his son, and appointed governor of Lombardy and Venice. He served in the campaign of 1809 defeated the Austrians at Raab, and distinguished himself at Wagram. His military talents were particularly evinced in the retreat from Moscow, and in the following campaigns of 1813-14. To *B.* may be mainly ascribed the victory of Lützen. After the fall of Napoleon, he retired to Munich, was allowed, by the Treaty of Fontainebleau and the Congress of Vienna, to retain his extensive possessions in Italy, and took his place as Duke of Leuchtenberg among the Bavarian nobles. His children subsequently ranked as members of the imperial family of Russia. D. Feb. 21, 1824.

B., HORTENSE EUGENIE DE. See HORTENSE, (QUEEN OF HOLLAND.)

Beauharnois, (*bō'har-nwaw.*) in *Lower Canada,* a W. county, bounded on the S. by New York, and on the N.W. by the St. Lawrence. *Area,* 717 sq. m. It is watered by the Chateaugay River, and some smaller streams. *Prod.* Wool, oats, and dairy produce. *Pop.* 14,757.

—A post-village of the above co., on Lake St. Louis, 33 m. S.W. of Montreal; *pop.* abt. 1,423.

Beau-ideal, (*bō-i-dē'al.*) [Fr.] An imaginary standard of absolute perfection, as conceived in the mind.—See IDEAL.

Beau'ish, (*bō'ish,*) *a.* Like a beau; foppish; fine. (R.)

Beaujeu, (*bozh-u(r)e',*) a town of France, dep. Rhone, cap. of a can. on the Ardière, 30 m. N.N.W. of Lyons. It is the entrepôt of all the products exchanged between the Saone and Loire. *Pop.* 4,392.

Beaulieu, (*bole-yu(r)e',*) a town of France, dep. Corrèze, cap. of a cant. on the Dordogne, 22 m. S. of Tulle. It has some trade in wine. *Pop.* 2,618.—*B.* is the name of 24 other small towns in France.

Beaulieu, SÉBASTIEN DE PONTAULT DE, a celebrated French military engineer, and marshal of France under Louis XIV.; was the author of *Views and Plans of the Battles and Sieges of Louis XIV.* D. 1674.

Beaulieu, JEAN PIERRE, BARON DE, an Austrian general, B. 1725. He was actively engaged as an artillery officer during the Seven Years' war, and in 1792 commanded the Austrians against the forces whom the French republic sent into the Netherlands, and gained several victories over them. In 1796 he was commander-in-chief in Italy, and his army was routed in several conflicts with General Bonaparte, whose fame was then beginning to dawn. D. 1820.

Beaumarchais, PIERRE AUGUSTIN, BARON DE, (*bō-mar'shay,*) B. at Paris in 1732. He was a man of singular versatility of talent, being by turns politician, artist, dramatist, and merchant.—His father was a watchmaker, and brought up his son to the same profession, in which young Beaumarchais showed considerable skill. He was also remarkably fond of music, and attained great proficiency in playing on the harp and the guitar. *B.* played before the daughters of Louis XV., who, being pleased with his musical skill, admitted him to their concerts, and afterwards to their parties. He now appeared at Versailles in a rich court-dress, which offended a haughty nobleman, who, meeting him one day in one of the galleries, asked him abruptly to look at a valuable watch that he wore, which was out of order. *B.* excused himself, by saying that his hand was very unsteady; the other insisting, *B.* took the watch and dropped it on the floor, simply observing, "I told you so." Notwithstanding this event, he continued to enjoy the patronage of the court, which gave him the opportunity of becoming connected with some of the Fermiers Généraux and great contractors. It was his ill fortune to be involved in several law-suits, some of which made great noise in the world, and gained considerable notoriety in consequence of the memoirs or pleadings of the case, which *B.* wrote and published. These pleadings, which show considerable skill and oratorical power, are inserted in the collection of his works. But his fame as a writer rests on his plays, and chiefly on the two, *Le Barbier de Seville* (1775), and *Le Mariage de Figaro* (1784), which are too well known, both as plays and as operas, to require further notice here. The character of "Figaro" was a happy invention, and the other principal characters, in both plays, are drawn with great skill. The *Mariage de Figaro* alone produced to *B.* 80,000 francs. He wrote a third play, *Le Mère Coupable,* which may be considered as a sequel to the other two, but is inferior to them in many respects, and objectionable in a moral point of view. He also wrote *Eugenie,* and *Les Deux Amis.* The subject of the first is taken from an adventure which occurred to his own sister, and which he relates in his memoirs. Göthe has treated the same subject in his drama of *Clavigo.* At the beginning of the American War of Independence (1777), *B.* entered into a speculation for supplying the Colonies with arms, ammunition, &c.; he lost several vessels, three of which were taken in one day by the English cruisers in coming out of the river of Bordeaux, but the greater number arrived in America, and inspired the Colonists with renewed hope. Among other speculations he engaged to supply Paris with water and with fire-engines. When the French revolution broke out, *B.* showed himself favorable to the popular cause, and entered into speculations to supply corn, muskets, &c. But his activity in that critical period exposed him to suspicion; he was accused and acquitted, then accused again, and being obliged to run away, he escaped to England and afterwards to Germany. He returned to France after the fall of Robespierre, and then entered into a new speculation in salt, by which he lost a large sum. He died in May, 1799. *B.* had considerable talent and other good qualities, but he was very vain and fond of distinction. He undertook an edition of all the works of Voltaire, of whom he was a great admirer: but the edition, notwithstanding all his pains and great expense, proved very indifferent, both as to correctness and execution. His complete works were published at Paris, in 1 vol. 8vo., 1809.

Beaumaris, (*bō-mor'ris,*) a seaport and picturesque bathing resort of England, in N. Wales, co. of Anglesey, at the entrance of the Menai Straits, 4 m. N.N.E. of the Menai Bridge. *Pop.* 2,813.

Beau-monde, (*bō-mōnd,*) *n.* [Fr. *beau,* fine, and *monde,* world.] The fashionable world; people of politeness, gayety and fashion.

Beaumont, FRANCIS, (*bo'mong,*) a celebrated English dramatic poet, and the friend and contemporary of Shakspeare and Ben Jonson; B. 1586. He studied at Oxford, and, in conjunction with his friend and collaborator, Fletcher, was author of nearly 50 plays. They were both admirable delineators of human nature, and, in their lifetime, their dramas were preferred even to those of Shakspeare, whom they made their model. Their works have descended to posterity under the twin-title of authorship — "Beaumont and Fletcher." D. 1616, and was buried in Westminster Abbey. The best edition of the writings of *B.* and *F.* is that of the Rev. A. Dyce, (London, 1834.) See FLETCHER, JOHN.

Beaumont, GUSTAVE AUGUSTE DE LA BONNIÈRE DE, a French publicist and general author, and Member of the Institute: B. 1802. He early entered upon the legal profession, and, in 1831, was sent with De Tocqueville to study the penitentiary system of the United States. He was elected deputy in 1839, and, in 1848, Vice-President of the Constituent Assembly. He was subsequently ambassador to London and Vienna. *B.* first

became known as a writer by his publishing, in conjunction with M. de Tocqueville, *Traité du Système Pénitentiaire aux États-Unis et de son application à la France*, (1832.) Among his other works may be named, *Marie, ou l'Esclavage aux États-Unis*, (1835,)—a work somewhat similar to "Uncle Tom's Cabin;" and *L'Irlande sociale, politique, et religieuse*, (1839.) D. 1866.

Beau'mont, in *Texas*, a city, the capital of Jefferson co., on the Neches river, about 20 m. from its mouth, and 300 from Austin City.

Beaumont', in *Lower Canada*, a village of Bellechasse co., on the St. Lawrence, 9 m. E. by N. of Quebec.

Beaumont'-de-Lomagne, a town of France, dep. Tarn et Garonne, cap. cant., on the Gimone, 21 m. S.W. of Montauban. *Manf.* Coarse cloths, hats, and leather. *Pop.* 5,027.—*B.* is the name of a vast number of other small towns in France.

Beaune, (*bōn'*,) a town of France, dep. Côte d'Or, cap. of an arrond., 23 m. S.S.W. of Dijon. There is a magnificent hospital here, founded in 1444, and endowed by Nicholas Rollin, chancellor to Philip, Duke of Burgundy. It is a fine town, with manufactures of cloth, cutlery, leather, &c. The principal celebrity of *B.*, however, is derived from its being the centre of the trade in the wine that bears its name; that is, the best of the second growths of Burgundy. *Pop.* 11,790.

Beaune, Florimond, a French mathematician, b. at Blois, 1601. His labors and discoveries contributed greatly to the improvement of the modern analytical geometry first introduced by his friend, Descartes. *B.* may be regarded as the proper founder of the Integral Calculus, as he first endeavored to deduce the nature of curved lines from the properties of their tangents. D. 1652.

Beau-plead'er, *n.* [O. Fr. *beau-plaider.*] (*Eng. Law.*) This word, which literally signifies *fair-pleading*, was nevertheless formerly applied to a fine imposed for bad pleading. The fine of Beau-pleader was set at the will of the judge of the court, and reduced to certainty by consent, and annually paid.

Beaupreau, (*bō'prāyo*,) a town of France, dep. Maine-et-Loire, cap. arrond., on the Eure, 28 m. S.W. of Angers. In 1793, the Vendeans obtained, near this town, a complete victory over the Republicans under General Ligounier. *Pop.* 4,203.

Beauregard, (*bō'regär*,) Peter Gustavus Toutant, an American Confederate general, b. in Louisiana, 1816. In 1834, he entered the Military Academy at West Point, where he graduated in 1838, receiving a commission in the United States Artillery, from which he was transferred to the Engineers. Having distinguished himself during the Mexican campaign, in which he was twice wounded, he was highly spoken of in Gen. Scott's despatches for his gallantry during this contest. In 1853, *B.* was appointed, as captain of engineers, to the duty of surveying the coast fortifications, and, later, became Superintendent of the Academy at West Point. In 1861, having resigned his commission in the U. States army, and joined that of the Southern Confederacy, he inaugurated the Civil War by the bombardment of Fort Sumter, in Charleston Harbor, April 12. He also successfully commanded the Confederate army at the battle of Bull Run, July 21, 1861. For this service he was made a general. *B.* was second in command at the battle of Shiloh, April 6, 1862, and in the following year successfully defended Charleston against the combined naval and military forces of the Nationals, during a siege, which for heroism and tenacity of purpose, on both sides, must ever occupy a prominent place in history. After the capture of Richmond, and the collapse of the Confederacy, he surrendered to Gen. Sherman, in April, 1865. After the termination of the war, Gen *B.* devoted himself to civil and industrial pursuits. Died Feb. 20, 1893.

Beaurepaire, (*bawr'pair*,) the name of several cantons and small towns of France.

Beauship, (*bō'ship*,) *n.* Quality or character of being a beau.

—(In a burlesque manner,) a beau; as, "What his *beauship* says." — *Dryden.*

Beauteous, (*bū'tē-us*,) *a.* Beautiful: fair; handsome; elegant in form; pleasing to the sight.

"Prostrate the *beauteous* ruin lies." — *William Pitt.*

Beau'teously, *adv.* In a beauteous manner.

Beauteousness, (*bū'te-us-nes*,) *n.* The state or quality of being beauteous; beauty.

"From less virtue and less *beauteousness*,
The gentiles framed their gods and goddesses." — *Donne.*

Beau'tifier, *n.* One who, or that which, makes or renders beautiful.

Beau'tiful, *a.* Full of beauty; lovely; fair; handsome; elegant; having the qualities that constitute beauty.

"And both were young, and one was *beautiful*."—*Byron.*

See Beauty

Beau'tifully, *adv.* In a beautiful manner.

"Fine by degrees, and *beautifully* less."—*Prior.*

Beau'tifulness, *n.* Beauty; quality or state of being beautiful.

Beau'tify, *v. a.* [*Beauty*, and Lat. *facio*, to make.] To make or render beautiful; to adorn; to grace; to deck; to embellish.

"And the one serves to heighten and *beautify* the other."
Atterbury.

—*v. i.* To become beautiful; to advance in beauty.

"It must be a prospect pleasing to God himself, to see his creation for ever *beautifying* in his eyes."—*Addison.*

Beau'tiless, *a.* Without, or destitute of beauty.

Beauty, (*bū'ty*,) *n.* [Fr. *beauté*, from *beau*, *belle*; Lat. *bellus*, contracted from *benalus*, from *benus*, *bonus*, beautiful, good, pleasant.] The quality of being pretty, handsome, fine, lovely; an assemblage of graces, or proportion of parts, which pleases the senses, particularly the eye or the ear; symmetry or harmony of parts; elegance; grace; loveliness; fairness; gracefulness. — By modern acceptation, *beauty* expresses, in the higher sense, the character of what is naturally, personally, or artistically exquisite or fair. The word *beauty* was first applied to objects perceptible by the sight and by an easy transition, it has been extended to objects perceptible by the sense of hearing; as when we speak of beautiful music, a beautiful tune, voice, &c. The instances of words which properly signify an impression on one sense being used to signify an impression on another sense are very numerous; thus we sometimes pass from the sight to the touch, as when we speak of lightness or heaviness of form and of color; from the touch to the hearing, as a sharp, piercing, thrilling, penetrating, or heavy sound; from the touch to the smell, as a pungent smell; from the touch to the sight, as harsh and soft coloring; from the hearing to the sight, as monotony of color, tone of a picture, harmony of colors; from the taste to the sight, as mellow coloring; from the taste to the hearing, as sweet music. This proneness to transfer words from one object of sense to another does not, however, explain why the term *beauty* should be extended only to agreeable *sounds*, and not to agreeable *tastes* or *odors*. That, however, there is a closer affinity between the perceptions of sight and hearing than between those of sight and any other sense, it is not difficult to perceive; and the fact may be satisfactorily attributed to the following causes: — 1. The *picturesque* effect which custom, in many instances, gives to sounds; as when a tune calls up the image of a person's home or the haunts of his childhood. 2. The *expressive* power of sounds, as in the case of the human voice, when the expression of the countenance corresponds with the tones of the voice and the meaning of the words which it utters. 3. The significant power of sounds, in consequence of conventional speech. In this way they every moment present pictures to the imagination; and we apply to the description as to the thing described (with hardly any consciousness of speaking figuratively) such words as *lively*, *glowing*, *splendid*, *luminous*, *picturesque*. To these considerations should be added, as a cause conspiring powerfully to the same end, the intimate association which in our apprehension is formed between the eye and the ear, as the great inlets of our acquired knowledge, as the only *media* by which different minds can communicate together, and as the organs by which we receive from the material world the two classes of pleasures which, while they surpass all the rest in variety and duration, are the most completely removed from the grossness of animal indulgence, and the most nearly allied to the enjoyments of the intellect. The unconsciousness we have in both these senses of any local impression on our bodily frame may perhaps help to explain the peculiar facility with which their perceptions blend themselves with other pleasures of a rank still nobler and more refined. — But although the epithet *beautiful* is never applied to the perceptions of any sense except those of seeing and hearing, yet it is extended to the results of some intellectual processes, as when we speak of a beautiful chain of reasoning, a beautiful poem, a beautiful metaphor, a beautiful language, a beautiful machine, a beautiful contrivance of nature, &c. When the word *beauty* is thus employed, it is merely a vague term of praise, and is nearly synonymous with *admirable*. The word *beauty* is often applied to a syllogism or a problem; but then it means clearness, point, or precision, or *whatever else be the characteristic excellence of that to which it is applied*. As the effect of beauty in visible objects is to produce admiration, all beautiful objects are also admirable; and thence it was an easy step to apply the epithet beautiful to things which produce admiration, although this feeling did not arise from the cause which produces it in the contemplation of visible objects. Similar transfers may be observed in other words; thus the word *law* properly signifies a general command given by one intelligent being to another; but because the *effect* of such a command is to produce an uniformity of conduct in the persons to whom it is addressed, the term *law* has been extended to those operations of nature in which an uniformity of phenomena prevails, although the *cause* of the uniformity is altogether different. — In the following remarks on the nature and causes of beauty, we shall limit ourselves to the original and appropriate meaning of the word in question, viz., the beauty of *visible objects*. The beauty of visible objects consists of two parts, viz., the *beauty of color* and the *beauty of form*, which, although closely connected with each other, arise from different sources, and from sources of a different character, inasmuch as the one appears to be, in most cases, a simple emotion, and therefore an ultimate fact, of which no explanation can be given, while the other is a pleasure derived from association, which is susceptible of analysis. There cannot, in our opinion, be any doubt that certain colors, and certain arrangements of colors, are naturally, and in themselves, pleasing to the eye. Children are observed to take delight in brilliant colors before they have learned to connect any agreeable ideas with them. The analogy of the other senses would, *à priori*, lead to this conclusion: for as there are certain odors, tastes, and sounds which are naturally pleasing or displeasing to the nose, the tongue, and the ear, so it may be presumed that there are certain colors, and combinations of colors, which are naturally pleasing or displeasing to the eye. Although one branch of beauty is entirely founded on association, the feeling of beauty cannot be derived from association *alone*. It is the province of association to impart to one thing the agreeable or disagreeable effect of another; but association can never account for the *origin* of a class of pleasures different in kind from all the others we know. If there was nothing originally and intrinsically pleasing or beautiful, the associating principle would have no materials on which it could operate. This origin of the feeling of beauty appears to us to consist in the pleasure derived from the contemplation of colors, and is such that the mind *dwells on it with pleasure*. Hence the form of the antelope, the swan, or the tiger, is considered beautiful, because we take a satisfaction in contemplating the movements which those forms are admirably fitted to produce; but the form of the pig's snout is not considered beautiful, because the mind flies with disgust from the filthy purposes for which that animal employs it. So, likewise, we call the outward form of the arms, legs, neck, &c. of the human figure, beautiful, when their form is suited to their respective uses; but no one finds any beauty in the form of the human stomach, or intestines or liver, though equally well fitted for their several ends, because they suggest the notion of processes which men do not willingly contemplate. Perhaps, in strictness, it might be thought that the simple emotion derived from the *color* of objects, is alone properly entitled to be considered as the feeling of beauty; and that the beauty of *form* in any object, derived from a sense of its fitness to its end, is only a pleasing association, allied indeed to the feeling of beauty by a close analogy, but still distinct from it. This question (which in fact is merely verbal), we have not sufficient space to discuss at length: nevertheless, it appears to us that all ages and nations have agreed in speaking of the beauty of *form*, as well as of *color*, and that we are justified in considering as included in the feeling of beauty those emotions which are susceptible of analysis, as well as those which are not. — A certain degree of cultivation is necessary to the perception of beauty. Savage nations appear to be nearly or quite destitute of any notion of it, in the works both of nature and art, or at least their admiration, as in children, is confined to gaudy and shining trinkets, and ornaments of the person. The practice of tattooing, however, is doubtless founded on notions of beauty, more mistaken even than those which formerly led the ladies of Europe to cover their hair with powder and pomatum; or, as it seems now to be the growing fashion, to disguise the natural beauty of their hair with yellowish, red, or golden preparations. In the lower orders of civilized nations, the same indifference to beauty may be generally observed, in proportion to their coarseness and ignorance. The early development of the sense of beauty among the Greeks, which is so strikingly shown both in their mythology and poetry, and in their works of art, is a proof of their early culture and of their great superiority, even in a half savage state, to the barbarous nations by which they were surrounded. Another thing essential to the perception of beauty, is *sensibility of mind*, arising from the development of the social affections, and the cultivation of the benevolent feelings. The custom, prevalent in some countries, of planting flowers on graves, and of offering nosegays to the images of saints or of the Virgin, is a mark at once of a feeling of beauty and of sensibility of mind. On the other hand, persons of a sour, phlegmatic, morose, and misanthropic temperament, are little alive to the beauty of outward objects or works of art. It was, doubtless, from a sense of the incompatibility of a feeling for beauty, with absence of all social and benevolent sympathies, that Milton represents the Devil as insensible to the beauties of Paradise:

"The Fiend
Saw undelighted all delight, all kind
Of living creatures, new to sight and strange."

As on the one hand, all the antisocial passions, as anger, jealousy, envy, fear, &c., are inconsistent with the perception of beauty; so the social passions sharpen and facilitate it, as love and pity, which, as Dryden says, "melts the mind to love." Hence, *loveliness* in the human race is intimately connected with beauty, as the desire of sex is heightened and stimulated by the beauty of form, color, and expression; but it is not identical with it, for lovers are often not only blind to the defects of their mistresses, but sometimes even admire them on that very account: whence love is proverbially said to be blind. A third requisite to the perception of beauty is *serenity* and *cheerfulness of mind*, and the absence of overpowering care or affliction, which engrosses the faculties and prevents them from taking pleasure in the relations of outward objects. This inconsistency is well illustrated by the reflections of Hamlet, when he is oppressed with a sense of the painful task imposed upon him by his father's spirit. (*Act* II. *sc.* 2.) — On the relation of the beauty of outward objects to the beauty of works of art, we can only observe, that of the three arts of design, viz., architecture, sculpture, and painting, the two last are purely *representative* arts, while the first alone creates objects which have a *use* beyond the mere gratification of the taste. The beauty of buildings therefore belongs to the class of objects which we have been above examining; while the beauty of pictures and statues, though closely connected with the same range of ideas, yet forms a class apart, and requires the consideration of additional elements peculiar to itself. These are derived in great measure from the capabilities of the respective arts, as dependent on the materials which they work with and the effects which they are thus able to produce. There are many objects beautiful in nature which cannot be represented with advantage by the painter or sculptor; on the other hand, there are many objects disagreeable in nature which are beautiful in a picture, because a picture is an abstraction, a representation of the color and outline of an object, without any of those accompanying circumstances which in the

reality may cause disgust to the other senses, and thus prevent the mind from enjoying that pleasure which it might otherwise derive through the organ of sight alone. Hence those things in nature which are peculiarly fitted to be subjects for the painter, are properly said to have *picturesque beauty*, as those forms and postures which would appear to most advantage in marble, might, as has been truly remarked, be said to have *sculpturesque beauty*. There are certain general characteristics of these two arts, as, that, while painting best represents expression, sculpture best represents character; and while painting embraces a vast variety of subjects, sculpture confines itself almost exclusively to the human figure and some of the nobler animals, which may be here pointed out; but to determine the peculiar provinces of these two arts, respectively, requires a separate investigation, with reference not to the general subject of beauty, but to the capabilities and advantages of each, and would be materially assisted by a knowledge of those mechanical processes and mysteries of art which the professed sculptor or painter can themselves alone possess. — See ÆSTHETICS; IDEAL; SUBLIMITY.

Beau'ty-beaming, *a.* Diffusing beauty; radiant with beauty.

Beau'ty-spot, *n.* A patch, or spot, placed on the face to direct the eye to some other feature, or to heighten the beauty of the whole.

Beau'ty-wan'ing, *a.* Declining in beauty.

Beauvais, (*bo-vai'*,) an ancient city of France, cap. dep. Oise, on the Therain, 41 m. N. by W. of Paris; Lat. 49° 26′ 7″ N.; Lon. 2° 5′ E.; on a branch line of the railway from Paris to Boulogne. It is a large, but ill-built city. Had the cathedral been finished on its original plan, it would have been the finest Gothic edifice in France, but the choir only is complete. The church of St. Stephen, erected in 997, is celebrated for its fine painted glass windows. *Manf.* Cloths, linens, and flannels. *B.* existed under the Romans, and was held by the Normans and the English, from the latter of whom it was wrested in the 15th century. In 1472, it was besieged by Charles the Bold, Duke of Burgundy, and though without a garrison, the citizens, led on by the heroine Jeanne Fouquet (surnamed *Hachette*), repelled the enemy. An annual festival is still celebrated in honor of this event.

Beaux-esprits, (*bōz-ez-prēz'*,) *n. pl.* A French compound word applied to men of wit or genius. It is now somewhat antiquated, and is almost invariably used in an ironical sense.

Beaver, (*bē'vur*,) *n.* [A. S. *beafer;* Dan. *baever;* Sw. and Goth. *befwer;* Lat. *fiber*, from *fibra*, the edge or bank of a river.] (*Zoöl.*) The common name of the genus *Castor*, family *Sciuridæ*. There are but two species, the European *B.*, *Castor fiber*, and the *American B.*, *Castor Canadiensis*, so much alike that the description of the one may be applied to the other indiscriminately. The *B.* may be readily distinguished from *every other* quadruped by its broad, horizontally flattened tail, which is

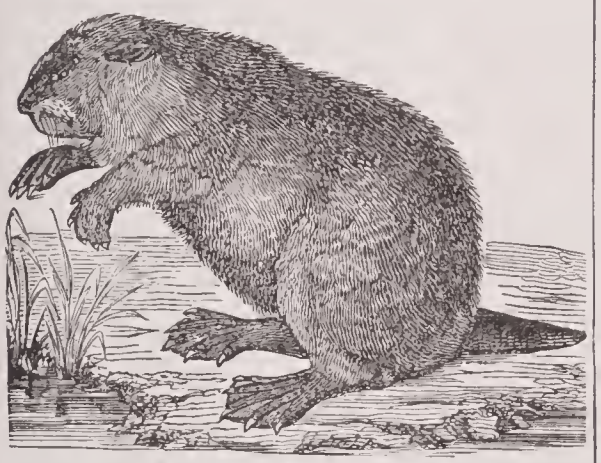


Fig. 328. — AMERICAN BEAVER.
(*Castor Canadiensis.*)

of a nearly oval form, but rises into a slight convexity on its upper surface, and is covered with scales. The hind feet are webbed, and together with the tail, which acts as a rudder, serve to propel it through the water with considerable facility. It is about three feet long, exclusive of the tail, which is one foot more; its color is a deep chestnut, the hair very fine, smooth, and glossy; but it occasionally varies, and is sometimes found perfectly black. The incisor teeth are very large and hard; so hard, indeed, that they were used by the N. American Indians to cut bone and to fashion their horn-tipped spears, till they were superseded by the introduction of iron tools from Europe. Of all quadrupeds the *B.* is considered as possessing the greatest degree of natural or instinctive sagacity in constructing its habitation: preparing, in concert with others of its own species, a kind of arched caverns or domes, supported by a foundation of strong pillars, and lined or plastered internally with a degree of neatness and accuracy unequalled by the art of any other quadruped. But it should seem, however, that the architecture of the *B.* is nowhere so conspicuous as in the northern parts of America. The favorite resorts of the *B.* are retired, watery, and woody situations. In such places they assemble to the number of some hundreds: living, as it were, in families, and building their arched receptacles. From this we may perceive to what a degree animals, unassisted either by language or reason, are capable of concurring for their mutual benefit, and of attaining, by dint of numbers, those advantages which each, in a state of solitude, seems unfitted to possess; for, if we view the *B.* only in the light of an individual, and unconnected with others of its kind, we shall find that many other quadrupeds excel it in cunning, and almost all in the powers of annoyance and defence. When kept in a state of solitude or domestic tameness, it appears calm and indifferent to all about it; without attachments or antipathies; and never seeking to gain the favor of man, nor aiming to offend him. Few subjects in natural history have more attracted the attention of travellers, or have been more minutely described by naturalists, than the instinctive building operations of the *B.*, and they have accordingly had attributed to them powers so marvellous, as to render ridiculous that which, if regarded merely as a high species of animal instinct, could not fail to command universal admiration. The situation of the *B.*-houses is various. Where the *B.* are numerous, they are found to inhabit lakes, ponds, and rivers, as well as those narrow creeks which connect the numerous lakes of North America; but the two latter are generally chosen by them, when the depth of water and other circumstances are suitable, as they have then the advantage of a current to convey wood and other necessaries to their habitations, and because, in general, they are more difficult to be taken than those that are built in standing water. They always select those parts that have such a depth of water as will resist the frost in winter, and prevent it from freezing to the bottom. The *B.* that build their houses in small rivers, or creeks, in which the water is liable to be drained off when the back supplies are dried up by the frost, are wonderfully taught by instinct to provide against that evil by making a dam quite across the river, at a convenient distance from their houses. The *B.*-dams differ in shape according to the nature of the place in which they are built. If the water in the river, or creek, have but little motion, the dam is almost straight; but where the current is more rapid, it is always made with a considerable curve, convex towards the stream. The materials made use of are drift-wood, green willows, birch, and poplars, if they can be got; also mud and stones, intermixed in such a manner as must evidently contribute to the strength of the dam; but there is no other order or method observed in the dams, except that of the work being carried on with a regular sweep, and all the parts being made of equal strength. In places which have been long frequented by *B.* undisturbed, their dams, by frequent repairing, become a solid bank, capable of resisting a great force both of water and ice; and as the willow, poplar, and birch generally take root and shoot up, they by degrees form a kind of regular planted hedge. The *B.*-houses are built of the same materials as their dams, and are always proportioned in size to the number of inhabitants, which seldom exceeds 4 old, and 6 or 8 young ones. Instead of order or regulation being observed in rearing their houses, they are of a much ruder structure than their dams; for, notwithstanding the sagacity of these animals, it has never been observed that they aim at any other convenience in their houses, than to have a dry place to lie on; and there they usually eat their food, which they occasionally take out of the water. It frequently happens that some of the larger houses are found to have one or more partitions, if they deserve that appellation, but it is no more than a part of the main building left by the sagacity of the *B.* to support the roof. On such occasions, it is common for those different apartments, as some are pleased to call them, to have no communication with each other but by water; so that, in fact, they may be called double or treble houses, rather than different apartments of the same house. So far are the *B.* from driving stakes into the ground when building their houses, that they lay most of the wood crosswise, and nearly horizontal, and without any other order than that of leaving a hollow or cavity in the middle. When any unnecessary branches project inward, they cut them off with their teeth, and throw them in among the rest, to prevent the mud from falling through the roof. It is a mistaken notion that the wood-work is first completed and then plastered; for the whole of their houses, as well as their dams, are from the foundation one mass of mud and wood, mixed with stones, if they can be procured. The mud is always taken from the edge of the bank, or the bottom of the creek or pond near the door of the house; and, though their fore-paws are so small, yet it is held close up between them under their throat; thus they carry both mud and stones, while they always drag the wood with their teeth. It is a great piece of policy in these animals to cover the outside of their houses every fall with fresh mud, and as late as possible in the autumn, even when the frosts become pretty severe, as by this means it soon freezes as hard as a stone, and prevents their common enemy, the wolverine, from disturbing them during the winter: and as they are frequently seen to walk over their work, and sometimes to give a flap with their tail, particularly when plunging into the water, this has, without doubt, given rise to the vulgar opinion that they use their tails as a trowel, with which they plastered their houses; whereas that flapping of the tail is no more than a custom which they always preserve, even when they become tame and domestic, and more particularly so when they are startled. In the more northern climates, the habitations of these animals are finished in August, or early in September, when they begin to lay in their stores. During the summer months they regale themselves on the choicest fruits and plants the country affords; but in winter they subsist principally on the wood of the birch, the plane, &c. When the frost is very severe, the hunters sometimes break large holes in the ice; and, on the *B.* resorting to these apertures to breathe the fresh air, they either kill them with their hatchets, or cover the holes with large substantial nets. This being done, they undermine and subvert the whole fabric; when the *B.*, expecting to make their escape in the usual way, fly with precipitation to the water, and, rushing to the opening, fall directly into the net. The *B.* is pursued both for its fur, and for the sake of a peculiar odoriferous secretion, termed *castor* or *castoreum*, *q. v.*, which is contained in two little bags, the inguinal glands, each about the size of a hen's egg. The fur was formerly a most important article of commerce: but the animals have in recent times been exterminated from so many extensive tracts which they once inhabited, that it is now far less considerable than it was half a century ago. To this may be added, that the present custom of using silk and other materials in lieu of *B* fur in the manufacture of hats, has wonderfully lessened the demand for it, as well as reduced the price. The foregoing account relates to the American beaver. The European species does not boast of such architectural habits, but lives in burrows along the banks of the Rhone, the Danube, the Weser, and other large northern rivers; yet, from some of the descriptions which have been given of it, it may be inferred that, considering the material within its reach, its instinctive skill is not greatly inferior to that which dwells on this side of the Atlantic.

Bea'ver, *n.* and *a.* The fur of the beaver; a hat made of its fur; — or, adjectively, anything made of the fur of the beaver; as, a *beaver* hat.

Bea'ver, *n.* [O. Fr. *bevère*, for *beuveur*, drinker; from It. *bevere*, from Lat. *bibere*, to drink.] (*Mil.*) The part of a helmet that covered the lower part of the face, and which, raised up or let down, enabled the wearer to drink.

"I saw young Harry with his *beaver* up." — *Shaks.*

The *B.* was often taken for the helmet itself.

Bea'ver, in *Illinois*, a flourishing township of Iroquois county.

Bea'ver, in *Indiana*, a township of Newton co.
—A township of Pulaski co.

Bea'ver, in *Iowa*, a flourishing township of Butler county.
—A township of Guthrie co.
—A township of Polk co.

Bea'ver, in *Minnesota*, a flourishing township of Fillmore county.
—A post-village of Winona co., on Whitewater River, about 22 m. W.N.W. of Winona.

Bea'ver, in *Missouri*, a post-office of Douglas co.

Bea'ver, in *Ohio*, a township of Columbiana co.

Beaver, in *Oklahoma*, an extreme N. W. co., forming the "pan-handle" of the Territory. *Cap.* Beaver. *Pop.* (1897) abt. 3,750.
—A village, cap. of above co. *Pop.* (1897) abt. 200.

Bea'ver, in *Pennsylvania*, a co. in the W. part of the State, on the frontier of Ohio. *Area*, 650 sq. m. It is watered by the Ohio and Beaver rivers. *Surface*, undulating, with a rich soil. Bituminous coal and limestone are largely found. *Cap.* Beaver.
—A flourishing and fine post-town, cap. of the above co., situated on the Ohio, 28 m. N. of Pittsburg, and 230 W. of Harrisburg.
—A township of Clarion co.
—A township of Crawford co.
—A township of Columbia co.
—A township of Jefferson co.
—A township of Snyder county, 40 m. N.N.W. of Harrisburg.

Bea'ver, in *Texas*, a post-office in Wichita co.

Bea'ver, in *Utah*, a large co. in the southwestern part of that State, bordering on Nevada, and drained by Beaver river. The central part is mountainous, and the soil generally sterile. Lead is found in the county in some abundance. *Pop.* (1898) 3,840.
—A town, cap. of the above co., situated on Beaver river, in a valley surrounded by mountains, in which lead, iron, and copper are abundant. *Pop.* (1898) 2,120.

Bea'ver, in *Washington*, a post-village of Clallam co., 6 m. S. of Olympia.

Bea'ver Bay, in *Minnesota*, a post-village, former cap, of Lake co.

Bea'ver Brook, in *New York*, a post-office of Sullivan co.

Bea'ver Centre, in *Pennsylvania*, a post-office of Crawford co.

Bea'ver City, in *Indiana*, a post-office of Newton co.

Bea'ver Creek, in *Alabama*, Marengo co., emptying into the Tombigbee River.—Another, entering the Alabama River in Wilcox co.
—A township of Dale co.

Bea'ver Creek, in *Colorado*, a post-office of Fremont county.

Bea'ver Creek, in *Illinois*, a township of Bond co., 80 m. S. of Springfield.

Bea'ver Creek, in *Indiana*, a creek entering White River in Martin co.

Bea'ver Creek, in *Iowa*, rises in Boone co., and enters the Des Moines River in Polk co.—A tributary of Iowa River, emptying into the latter near Marengo, in Iowa co.

Bea'ver Creek, in *Maryland*, a township of Washington co.

Bea'ver Creek, in *Michigan*, Lenawee co., a creek flowing into Raisin River, near Adrian.
—A post-office of Gratiot co.

Bea'ver Creek, in *Missouri*, a creek entering White River in Taney co., a little below Forsyth. — Little Beaver Creek enters the above in the same county.

Bea'ver Creek, in *Ohio*, flows into the Maumee, in Wood co.—Another falls into Lake Erie in Lorain co. —A township in Greene county, about 10 m. W.N.W. of Xenia.

Bea'ver Creek, in *South Carolina*, a creek entering into Congaree River, in the S.E. of Lexington District.

Bea'ver Crossing, in *Nebraska*, a post-office of Seward co.

Bea'ver Dam, in *Indiana*, a post-village of Kosciusko co., about 14 m. S.W. of Warsaw.

Bea'ver Dam, in *Kentucky*, a post-office of Ohio co.

Bea'ver Dam, in *North Carolina*, a P. O. of Union co.

Bea'ver Dam, in *Ohio*, a post-village of Allen co., abt. 10 m. N.E. of Lima.

Bea'ver Dam, in *Wisconsin*, a flourishing city of Dodge co., on Beaver Dam creek, about 45 m. N.E. of Madison. There are here many factories and mills, and also the Wayland University. *Pop.* (1897) abt. 6,300.

Beaver Dam Creek, in *Georgia*, rising in Burke co., and entering Briar Creek near Jacksonborough.—Another in Elbert co., flows S.E. into the Savaunah River, about 20. m. E. of Ellerton.

Beaver Dam Creek, in *Michigan*, flows into the Shiawassee River, in Saginaw co.

Beaver Dam Depot, in *Virginia*, a post-office of Hanover co., 40 m. N.E. of Richmond.

Beaver Dam River, in *Wisconsin*, rises in Fox Lake, Dodge co., and flows into Rock River.

Bea'ver Dams, in *Maryland*, a village of Queen Anne co.

Bea'ver Dams, in *New York*, a P. O. of Schuyler co.

Bea'ver Falls, in *Minnesota*, a vill., cap. of Renville co.

Bea'ver Falls, in *New York*, a post-office of Lewis co.

Bea'ver Falls, in *Pennsylvania*, a P. O. of Beaver co.

Bea'ver Head, in *Montana*, a S.W. county bordering on Idaho. The "Great Divide" of the Rockies extends along its S.W. boundary. *Pop.* 4,655. *Cap.* Dillon.

Bea'ver Islands, a group near the N. end of Lake Michigan, between 45° 30′ and 46° 50′ N. Lat., and about 85° 30′ W. Lou.—Big Beaver, the principal one, has an area of about 40 sq. m.

Bea'ver Kill, in *New York*, a P. O. of Sullivan co.

Bea'ver Lake, in *Indiana*, is situated in Jasper co., and is the largest of the lakes in that State, covering 1,600 acres.

Bea'ver Lick, in *Kentucky*, a post-office of Boone co.

Bea'ver Meadows, in *Pennsylvania*, a post-village of Carbon co., 11 m. from Mauch Chunk, and about 100 N.W. of Philadelphia; the neighborhood abounds in rich coal mines.

Bea'ver Pond, in *South Carolina*, a post-office of Lexington District.

Bea'ver-rat, *n.* The musk-rat.

Bea'ver Ridge, in *Tennessee*, a P. O. of Knox co.

Bea'ver River, in *Minnesota*, a township of Renville co.

Bea'ver River, in *New Hampshire*, a river rising in Rockingham co., in the S.E. part of the State, and falling into the Merrimac, near Lowell.

Bea'ver River, in *New York*, rises in Herkimer co., in the N.E. of the State, and falls into Black River, in Lewis co.

Bea'ver River, in *Pennsylvania*, a river formed by the union of the Mahoning and Shenango, in the W. part of the State; flows S. into the Ohio, near the town of Beaver.

Bea'ver Springs, in *Pennsylvania*, a post-office of Snyder co.

Bea'verteen, *n.* (*Manf.*) A kind of fustian made of coarse twilled cotton, shorn after dyeing.

Bea'vertou, in *Alabama*, a post-office of Jones co.

Bea'verton, in *Illinois*, a village of Boone co., about 12 m. N.E. of Rockford.

Bea'verton, in *Upper Canada*, a post-village of York co., on Lake Simcoe, at the entrance of Beaverton River, 75 m. N. by E. of Toronto.

Bea'vertown, in *Pennsylvania*, a post-village of Snyder co., about 14 m. S.W. of New Berlin.

Bea'ver Valley, in *Alabama*, a post-office of St. Clair co.

Bea'ver Valley, in *Delaware*, a P. O. of New Castle co.

Bea'ver Valley, in *Pennsylvania*, a post-office of Columbia co.

Bea'verville, in *Illinois*, a post-office of Iroquois co.

Bea'vin's Gulch, in *Montana*, a mining district or camp, some m. N. of Virginia City.

Beb'eerine, *n.* (*Chem.*) A white, bitter powder, obtained by the same process as quinine, from the bebeeru. *Form.* $C_{38}H_{21}O_6$.—The sulphate, occurring in the form of shining scales, is used in medicine as a tonic and febrifuge.

Bebeeru, *n.* (*Bot.*) See NECTANDRA.

Beblind', *v. a.* To blind.

Beblub'bered, *a.* [From *be* and *blubber.*] Foul or swelled with weeping.

Becafico, (*bĕk'a-fē'ko,*) *n.*; *pl.* BECAFICOES. [It. *beccafico*, from *beccare*, to peck, and *fico*, a fig; Sp. *becafigo*; Fr. *becfigue.*] (*Zoöl.*) The Fig-eater, *Sylvia hortensis*, a small bird of the warbler family. It is an inhabitant of the southern part of Europe, and principally of the island of Cyprus. It is highly prized by gourmands for the delicacy of its flavor.

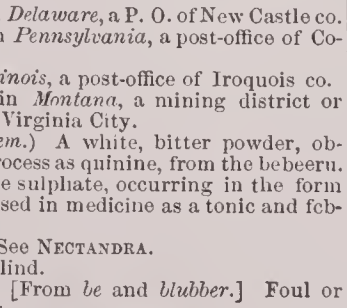


Fig. 329.—BECAFICO. (*Sylvia hortensis.*)

Becalm, (*be-käm',*) *v. a.* To make calm or quiet; to still; to appease.

"Perhaps prosperity *becalmed* his breast;
Perhaps the wind just shifted from the east."—*Pope.*

—To keep from motion, as a ship when without wind. "A man *becalmed* at sea."—*Locke.*

Becalm'ing, *n.* A calm at sea.

Became', *imp.* of BECOME, *q. v.*

Be'can, or **Bekan,** a parish of Ireland, co. Mayo, in the barony of Costello; *pop.* about 5,000.

Becaucour', in *Lower Canada*, a village of Nicolet co., at the union of the Becancour River with the St. Lawrence, 80 m. S.W. of Quebec.

Because, (*bē-kâz',*) *conj.* [A. S. *be* for *by*, and *cause.*] By cause; for this cause that; on this accouut that; for the cause or reason next explained.

Because of, (*prep.*) On account of; by reason of.

"Such as lengthens fibres without breaking, *because of* the state of accretion."—*Arbuthnot.*

Beccabunga, *n.* [Lat. *beccabunga*; L. Ger. *beckebunge.*] See BROOKLIME.

Beccafumi, DOMENICO, (*bek-ka-foo'me,*) an Italian shepherd, B. at Siena, 1484, who became one of the best painters of the Sienese school. His *St. Sebastian* is one of the finest pictures in the Borghese Palace, Rome. D. 1549.

Beccaria, CESARE BONESANA, MARQUIS DE, an Italian political philosopher, B. at Milan, 1738. He is chiefly known as author of the celebrated *Treatise on Crimes and Punishments*, which first appeared in 1764, and advocated great reforms in criminal legislation. It passed through 6 editions in the first two years, and was soon read all over Europe. It brought, however, a storm of persecution on the author, who was protected by the Austrian governor of Milan, and made professor of Political Philosophy. D. 1793.

Beccaria, in *Pennsylvania*, a township of Clearfield co., 16 m. S. of Clearfield.

Beccles, a town of England, co. Suffolk, on the Waveney, 95 m. N.E. of London, and 13 S.E. of Yarmouth. Malting is the principal industry. *Pop.* 4,648.

Bec de Cuillier, (*bec' dē kwēēl'yair,*) *n.* [Fr.] (*Surg.*) An instrument used for the extraction of balls. It consists of an iron rod, 7 or 8 inches long, having at one extremity a small cavity, into which the ball is received to be drawn outwards.

Bee Figue, *n.* (*Zoöl.*) The French name for the *Becafico* and other species of birds of the Warbler family.

Bechamel, (*bĕsh'a-mel,*) *n.* [Fr. *béchamelle*; Ger. *bechamel.*] (*Cookery.*) A kind of fine, white broth or sauce, thickened with cream.

Bechance', *v. a.* [From *be* and *chance.*] To befall; to happen to.

"All happiness *bechance* to thee at Milan."—*Shaks.*

Bechance', *adv.* By accident; by chauce; fortuitously.

Becharm', *v. a.* To charm; to captivate.

Beche de Mer, (*bāsh' de mār'.*) [Fr.] (*Zoöl.*) See HOLOTHURIA.

Becher, JOHN JOACHIM, (*bek'er,*) an eminent German chemist, B. at Speier, 1630; author of the first theory of chemistry. He was of a roving disposition, residing for some time at Vienna, and assisting in a variety of manufactures; and afterwards at Haarlem, where he invented a machine for throwing silk. D. 1684. His principal works are, *Physica Subterranea*, *Institutiones Chymicæ*, and *Epistolæ Chymicæ.*

Bechstein, JOHANN MATTHIAS, (*bek'stine,*) a celebrated German ornithologist, who, intended for the Church, relinquished theology for natural history; and, in 1785 was made professor of the Botanic Institute of Salzmann, at Schnepfenthal. In 1791 he proposed to the Duke of Gotha to create a forest-school; but not meeting with success, he resolved to establish one, at his own cost, at Kemnote, near Walterhausen. He afterwards published a journal devoted to forest science, called *Diana*; and in 1800 offered his services to the Duke of Saxe-Meiningen, who gave him the direction of a botanic academy, newly founded at Dreissacker. B. at Walterhausen, 1757; D. 1822.—Bechstein's whole life was spent in enriching natural history with most important observations. He published many valuable works, of which may be named, *German Natural History*, *Forest Entomology*, *Complete Course of Forest Science*, and the *Natural History of Cage-birds*, which latter has been translated into English, and has passed through several editions.

Beckelsville, (*bek'telz-vil,*) in *Pennsylvania*, a post-office of Berks co.

Beck, *n.* [A. S. *becc*; Icel. *beckr.*] A small stream or brook. This word enters into the composition of the names of many English places; as Wel*beck*, Sand*beck*, &c. The German word *bach* has the same signification, and in like manner forms part of the names of various places; as Gries*bach.*

—[A. S. *beacen*, *beacn.*] A sign or signal with the hand or head; a nod; implying a command or call.

"Quips, and cranks, and wanton wiles,
Nods, and *becks*, and wreathed smiles."—*Milton.*

—*v. i.* To make a sign with the head or hand; to nod.

—*v. a.* To notify by a motion of the head or hand, amounting to a call or command.

Beck, ANTHONY. See BEKE.

Beck'er. The name of several Germans known as writers, poets, musicians, painters, &c., but whose biographies do not call for any special notice.

Beck'er, in *Minnesota*, a co. in the W.N.W. of the State. *Area*, abt. 1400 sq. m. The Buffalo River, the Red River of the North, and other smaller streams, drain it. *Surface*, hilly. *Pop.* 9,400. *Cap.* Detroit City.

Beck'ersville, in *Pennsylvania*, a P. O. of Berks co.

Beck'et, *n.* (*Naut.*) A piece of rope placed so as to confine a spar or another rope; a handle made of rope in a circular form.

—A spade for digging turf.

Beck'et, (ST. THOMAS A',) Archbishop of Canterbury, the son of a Loudon merchant, the story that his mother was a convert from Mohammedanism is false. B. 1117, and studied at Oxford and Bologna, and entered the church. Henry II., in 1158, made *B.* his Chancellor, and in 1162 he was appointed to the primacy. He now laid aside all pomp and luxury, and led a life of monastic austerity. In the controversy which immediately arose, respecting the limits of civil and ecclesiastical authority, *B.* asserted against the king the independence of the Church, and refused to sign the "Constitutions of Clarendon." By a council or parliament, held at Northampton, in 1164, *B.* was condemned and suspended from his office. He escaped, in disguise, to France, where he obtained the protection of its king. In response to his excommunication of the clergy who signed the "Constitutions," and some of the king's officers, the king, in 1166, banished all the relations of *B.*, and forbade all communicatiou with him. War with France followed. Peace was made in 1169, between Henry and Louis, and two papal legates, Gratian and Vivian, were sent by Pope Alexander III., to settle the dispute with *B.* The conference took place in France, but was fruitless, the legates resolutely siding with their co-ecclesiastic. In 1170, a meetiug took place between the king and the Archbishop at Fretteville, where they were professedly reconciled, and *B.* returned to Canterbury. He at once published the Pope's sentence of suspension against the Archbishop of York, and other prelates, who had crowned Prince Henry. The king's angry expressions, on learning this, induced four of his barons (Richard Brito, Reginald Fitzurse, Hugh de Morville, and Wm. Tracy) to go immediately to Canterbury; and after unsuccessfully remonstrating with *B.*, they followed him into the cathedral, and murdered him ou the steps of the altar, 31st Dec. 1170. The king denied all share in this deed and was absolved; but in 1174 he did penance at the murdered prelate's tomb. *B.* was canonized by Alexander III., in 1172. His remains were, in 1220, translated to a splendid shrine, which attracted crowds of pilgrims, and was loaded with rich offerings. This immense treasure was seized by Henry VIII., and the shrine destroyed in 1538.

Beck'et, in *Massachusetts*, a post-township of Berkshire co., 135 m. W. by S. of Boston.

Beck'et Centre, in *Massachusetts*, a post-office of Berkshire co.

Beck'etsville, in *Alabama*, a small village of Tallapoosa co.

Beckett's Store, in *Ohio*, a P. O. of Pickaway co.

Beck'ford, WILLIAM, an English author, B. in London, 1760. He was the son of a wealthy London merchant, was inoculated with a passion for architecture and the fine arts, and, in erecting the once famous Fonthill Abbey, spent in a very few years the sum of $1,365,000. An excellent scholar, and possessed of a fine taste in almost every branch of art, he collected in his "Abbey" one of the finest and most extensive libraries in Europe, and his pictures and objects of *vértu* were almost unequalled. His vast expenditure, and the loss of a large portion of his West India property, rendered it necessary to sell his mansion, which, with all its rich and rare contents, was sold in 1822. On this occasion, the catalogues alone brought the sum of $36,000. But his chief claim to remembrance rests on his Oriental romance of *Vathek.* *B.* was also the author of many other works, and D. 1844.

Beck'ley, in *West Virginia*, a village, capital of Raleigh co., about 50 m. S.E. of Charleston, and 10 m. W. of New River.

Beck'leysville, in *Maryland*, a post-office of Baltimore co.

Beck'mann, JOHANN ANTON, a German author, B. 1739. He was a professor at Göttingen, and his principal work, the *History of Discoveries and Inventions*, has obtained a wide celebrity. D. 1811.

Beck'on, *v. i.* To make a sign to another by nodding, winking, or a motion of the hand or finger, &c.

"I see a hand you cannot see,
Which *beckons* me away."—*Tickell.*

—*v. a.* To nod or make a significant sigu to another.

"With this his distant friends he *beckons* near,
Provokes their duty and prevents their fear."—*Dryden.*

Beck'on, *n.* A beck; a nod; a sign made without speaking; as, "At the first *beckon*."—*Lord Bolingbroke.* (R.)

Beck's Creek, in *Illinois*, a post-office of Shelby co.

Beckshcrick, (*bek'she-rik,*) two towns of Hungary, the *Great* and the *Little*, standing on the river Theiss; the former 45 m. from Temesvar, and the latter 10; *pop.* of the former, 15,317.

Beck's Mills, in *Indiana*, a post-office of Washington co.

Beck's Mills, in *Pennsylvania*, a post-office of Washington co.

Beck's Station, in *Indiana*, a P. O. of Hamilton co.

Becloud', *v. a.* To cloud; to obscure; to darken; to overshadow.

Become, (*be-kum',*) *v. i.* (*Imp.* BECAME; *pp.* BECOME.) [A. S. *becuman*—*be* and *cuman*; Ger. *kommen.*] To come to, or come to be; to enter into some state or condition; to be; to be made; to be changed to.

"So the least faults, if mixed with fairest deed,
Of future ill *become* the fatal seed."—*Prior.*

To become of. To be the fate of; to be the end of; to be the subsequent, or final condition of.

"Perplex'd with thoughts, what would *become*
Of me, and all mankind."—*Milton.*

—*v. a.* To go or enter into; to suit or be suitable to; to be appropriate to; to befit; to accord with; to add grace to; to be worthy of.

"She . . . bowed low, that her right well *became*,
And added grace unto her excellence." — *Faërie Queene.*

Becom'ing, *a.* That pleases by propriety or fitness; fit; suitable; appropriate; befitting; comely; graceful.

"To make up my delight
No odd *becoming* graces." — *Sir J. Suckling.*

Becom'ingly, *adv.* After a becoming or proper manner.

Becom'ingness, *n.* Congruity; state or quality of being fit, appropriate, or becoming.

Becquerel, (*bek'ker-el,*) Antoine César, an eminent French physician, and member of the Institute; b. 1788. In early life he served in the French army in Spain as an officer of Engineers. In 1815, he resigned his commission as "chef de bataillon" of the Engineers, and devoted himself to scientific pursuits. In 1829, *B.* became Professor of Physics in the Museum of Natural History. He has been a voluminous writer on chemistry and electricity, and his industry in the collecting of facts is very remarkable. His principal works are, *Traité de l'Electricité et du Magnétisme* (Paris, 1834–40); *Traité d'Electro-Chimie; Traité de Physique appliquée à la Chimie et aux Sciences Naturelles; Eléments de Physique terrestre et de Météorologie* (1847); and *Traité de l'Electricité et du Magnétisme* (1855). He invented a new psychometer in 1866. D. Jan. 1878.

Becrip'ple, *v. a.* To cripple; to lame; to maim. (R.)

Bec'tive, a parish in Ireland, in the co. Meath. Here are the ruins of a fine abbey, built in 1146.

Bed, *n.* [A. S. *bed;* Icel. *bed;* Du. *bedde;* Ger. *bett.* Etymology uncertain.] Something to rest or sleep on; a couch; an article of furniture to sleep or rest on.

"Oh! a mighty large *bed!* bigger by half than the great *bed* at Ware." — *Farquhar.*

—Lawful cohabitation; marital connection.

"George, the eldest son of this second *bed*." — *Lord Clarendon.*

—A plat of earth in a garden, slightly banked or raised above the surrounding level.

"Herbs will be tenderer and fairer, if you take them out of *beds*." *Bacon.*

—The channel of a river, or of any volume of water.

"Down sunk a hollow bottom, broad, and deep,
Capacious *bed* of waters." — *Milton.*

—The superficial earthwork, or ballast of a railway.

To be brought to bed. To be delivered of a child; often used with the particle *of;* as, "she was *brought to bed of* a daughter."

"Ten months after Florimel happen'd to wed,
And was *brought* in a laudable manner *to bed*." — *Prior.*

To make the bed. To put the bed in order after it has been used.

"I keep his house . . . and *make the beds* and do all myself." *Shaks.*

To put to bed. To deliver of a child.

(*Hist.*) In early ages it was the practice of mankind to stretch themselves upon the skins of animals, which was the custom of the Greeks and Romans, and of the ancient Britons before the Roman invasion; after which event, the skins, spread for this purpose on the floors of apartments, were changed for heath and rushes; and, in the course of time, the introduction of agriculture supplied the more civilized of the English with the greater comfort and convenience of straw beds. The beds at the inns of this period were filled with the soft down of reeds, and those of the Roman patricians with feathers. In Wales, as late as the end of the 12th century, the beds of the humbler class were stuffed with rushes, and straw was used in the royal chambers of England at the close of the 13th. Beds appear to have been the chief domestic treasures in England during the 14th century, and were considered of sufficient importance to be named in the wills of the sovereigns and the chief nobility. Anne, Countess of Pembroke, for instance, in 1367, gave to her daughter a bed, "with the furniture of her father's arms." Edward, the Black Prince, bequeathed to his confessor, Sir Robert de Walsham, a large bed of red camora, with his arms embroidered at each corner; while to another friend he left another bed of camora, powdered with blue eagles; and, in 1385, his widow gave "to my dear son, the king, my new bed of red velvet, embroidered with ostrich feathers of silver, and heads of leopards of gold, with bonghs and leaves issuing out of their mouths."—The great chamber was often used as a sleeping-room by night and a reception-room by day. Shaw, in his *Decorations of the Middle Ages,* gives the interior of a chamber in which Isabella of Bavaria receives from Christine of Pisa her volume of poems. The queen is seated on a couch covered with a stuff in red and gold, and there is a bed in the room furnished with the same material, to which are attached three shields of arms. The walls of the chamber were either hung with tapestry or painted with historical subjects. In the East, the bed was anciently, and is still, a *divan,* or broad low step around the sides of a room, like a low sofa, which answered the purpose of a sofa by day for reclining, and of a bed by night for sleeping, (*Exod.* viii. 3; 2 *Sam.* iv. 5–7.) Sometimes it was raised several steps above the floor, (2 *Kings* i. 4; *Psalms* cxxxii. 3.) It was covered very differently, and with more or less ornament, according to the rank of the owner of the house. The poor had but a simple mattress or sheep's-skin; or a cloak or blanket, which also answered to wrap themselves in by day, (*Exod.* xxii. 27; *Deut.* xxiv. 13.) Hence it was easy for the persons whom Jesus healed, to take up their bed and walk, (*Mark* ii. 9-11) Bedsteads, however, were not unknown, though unlike those of modern times. (See *Deut.* iii. 11; 1 *Sam.* xix. 15; *Amos,* vi. 4.) The Jews only laid off their sandals and outer garments at night.—In our country, as in Europe, the modern bed is a case or sack of ticking, filled with chaff, wool, feathers, or any other soft material, and placed upon a raised woodeu or iron framework, which is called the *bedstead.*

(*Hygiene.*) Few people, perhaps, give sufficient heed to the fact, that, out of the allotted term of man's life—the threescore and ten years of the Scriptnre,—TWENTY-THREE YEARS, at least, are passed in oblivion, in a state of unconscious sleep, stretched lethargically in bed, not only wasting the oil of life in unprofitable repose, but, by excess of inaction, weakening the frame, and impairing it for the responsible duties it is left to perform. That the bed is the necessary vehicle for the great natural medicine of life,—sleep,—no one will deny. It is against the *abuse* of the bed that the few remarks we have to make are advanced,—against the *manner* in which it is made to minister to luxurious ease, and encourage indolent and enervating habits, and the wanton sacrifice of time to which the bed ministers from being made so sensually soft and tempting. Were our beds more simply fashioned, and made of articles more conducive to health, the hours now wasted in idleness or sleep would be most materially abridged, and beneficially improved. The modern bed of luxury is so near in all its features to the couch of Morpheus, as fabled by the Roman poet, that, with its downy feathers, deep and sweeping curtains, it seems less the instrument to bodily rest and repose than the courted residence of profound oblivion. As a general rule, feather beds are more hurtful than beneficial, by absorbing all the animal impurities given off by the body in sleep, and afterwards returning them to the sleeper; and when it is remembered how many years a feather bed is used before its feathers are cleaned and purified, it seems a marvel that more injurious effects are not the consequence. The bed should stand with the head to the wall, in the centre of the room, raised two feet from the floor; the bottom should be made of laths instead of ticking, as admitting a freer circulation; a couple of mattresses, the top one made of horse-hair and cotton, or wool, or instead, what is better, the French spring mattress, will be found more conducive to health and rest than a feather or down bed. The curtains should never be close drawn round the entire bed, and the top of the bed should be open. Children, as a rule, should never sleep on feather beds, or be closely surrounded by curtains. For the invalid, numerous contrivances have been invented, in the shape of beds in which both air and water have been employed as a sustaining medium; of the latter, one of the most useful is made by filling a series of cylinders of vulcanized India rubber (like bolsters) with water, and confining them together by cords, which, with a sheet and blanket over all, makes a light, elastic bed, which has the advantage of accommodating itself to every motion of the patient's body.—See REST, and SLEEP.

(*Geol.*) A layer; a stratum.—See STRATUM.

(*Gunnery.*) See MORTAR-BED.

(*Masonry.*) The *beds of a stone* are the two surfaces which generally intersect the face of the work in horizontal lines, or in lines nearly so; the higher surface is called the *upper-bed,* and the lower the *under-bed.* In the general run of walling, they are the two surfaces which are placed level in the building.—In cylindrical vaulting, the *beds of a stone* are those two surfaces which intersect the intrados of the vault, in lines parallel to the axis of the cylinder.—In conical vaulting, with an horizontal axis, they are those two surfaces, which, if produced, would intersect the axis of the cone.—The *bed of a slate* is the lower side placed in contiguity with the boarding or the rafters.—A *bed-moulding* is that portion of a cornice which is situated immediately below the corona.

(*Mech.*) The foundation, or solid and fixed part of a machine upon which the working parts are fastened; as, "the *bed* of a lathe;" "the *bed* of an engine."
Worcester.

(*Law.*) The channel of a stream; the part between the banks worn by the regular flow of the water.

From bed and board. See DIVORCE.

Bed, *v. a.* To lay in a place of rest or security; as, to *bed* a stone.

"Let coarse bold hands from slimy nest,
The *bedded* fish in banks outwrest." — *Donne.*

—To sow or plant: to lay in any hollow place.

—To lay in horizontal order; to stratify.

"Your *bedded* hairs, like life in excrements,
Start up, and stand on end."—*Shaks.*

—*v. i.* To go to bed; to cohabit with; to use the same bed with; to occupy a bed.

"They have married me:
I'll to the Tuscan wars, and never *bed* her."— *Shaks.*

Beda. See BEDE.

Bedab'ble, *v. a.* To moisten; to sprinkle or wet with moisture.

"*Bedabbled* with the dew, and torn with briars."— *Shaks.*

Bed'agat, *n.* A name applied to the sacred books of the Buddhists in Burmah.

Bedag'gle, *v. a.* To bemire; to soil clothes by letting them sweep the ground in walking.

Bédarieux, (*bed'ah-roo,*) a town of France, dep. Hérault, on the Orb, 20 m. N. of Beziers. It is neat and well-built, and is one of the most industrious towns of its size in France. *Manf.* Cloth, stuffs, hosiery, hats, paper, soap, &c. *Pop.* 9,995.

Bedark'en, *v. a.* To obscure; to darken.

Bedash', *v. a.* To bespatter; to bemire by throwing dirt upon; to wet with water thrown upon.

"That all the standers-by had wet their cheeks,
Like trees *bedash'd* with rain."—*Shaks.*

Bedaub', *v. a.* To daub over; to besmear; to soil with anything thick or dirty.

"Pale, pale as ashes, all *bedaub'd* in blood."— *Shaks.*

Bedaz'zle, *v. a.* To dazzle greatly; to confound the sight by too strong a light; to make dim by lustre.

"My mistaken eyes,
That have been so *bedazzled* by the sun."— *Shaks.*

Bedaz'zlingly, *adv.* In such a manner as to bedazzle.

Bed'-bug, *n.* (*Zoöl.*) See BUG.

Bed'-chair, *n.* A chair for the sick, with a movable back, to sustain them while sitting up in bed.

Bed'-chamber, *n.* An apartment or chamber for a bed, or for sleep and repose.

Lords of the B. are officers of the English Royal Household under the *Groom of the Stole.* (See GROOM.) The Lords of the *B.* consist usually of the prime nobility of England. Their high office—an object of great ambition, from the access it gives to the person of the sovereign—is performed by ladies called *Ladies of the Bed-chamber,* and *Bed-chamber Women,* in the reign of a queen. Queen Victoria has eight Ladies of the Bed-chamber, and three extra; and eight Bed-chamber Women, and one extra. In 1839, Sir Robert Peel, on forming a new ministry, made the unusual request to be permitted to change the ladies of the bed-chamber, a request which he said circumstances justified. This being declined, he resigned his premiership.

Bed'clothes, *n. pl.* Coverlets, blankets, sheets, &c., for a bed.

"And in his sleep does little harm, save to his *bedclothes* about him."—*Shaks.*

Bed'der, Bedet'ter, *n.* The nether stone of an oil-mill.

Bed'ding, *n.* [A. S. *bedding, beding.*] A bed and its furniture; a bed; the materials of a bed, whether for man or beast.

"Arcite return'd, and as in honour tied
His foe with *bedding,* and with food supply'd."—*Dryden.*

(*Geol.*) The state or position of beds and layers.

Bed'dington, in *Maine,* a township of Washington co., about 38 m. E. by N. of Bangor; *pop.* 134.

Bede, or BEDA, (*bēēd,*) surnamed the "VENERABLE," an English monk and ecclesiastical historian, b. at Durham, 673. He was ordained priest about 703, and had already obtained a wide reputation for learning and piety. His whole life was spent quietly in his monastery at Yarrow, devoted to study and writing. His most important work is the *Ecclesiastical History of England,* published about 734, and highly esteemed as one of the most trustworthy sources of early English history. It was written in Latin, and was translated into English by Alfred the Great. The earliest printed edition appeared in 1474. He also wrote, among other works, a *Chronicle* from the Creation to A.D. 725, and he completed a Saxon translation of the Gospel of St. John on the day he died, 26th May, 735. His remains lie in Durham Cathedral, and his church at Yarrow was restored in 1866.

Bedeck', *v. a.* To deck; to adorn; to grace.

"That so *bedeck'd,* ornate, and gay."— *Milton.*

Bedeguar, (*bed'e-gār,*) *n.* [Per. *bâdâwardah.*] An excrescence, which makes its appearance on different species of wild roses, and which is produced by the puncture of a small insect, *Cynips rosæ.* It is lightly astringent, and was formerly employed as a lithontriptic and vermifuge.

Bede'-house, *n.* [A. S. *bead,* prayer, and *house.*] An alms-house; a dwelling-house formerly set apart for religious persons dwelling near the church, in which the founder was interred, and for whose soul they were required to pray.

Bedel, (*bēd'l,*) *n.* [L. Lat. *bedellus.*] An officer of a university, whose functions resemble those of a marshal in heading processions of dignitaries, students, &c. This term is confined to Oxford and Cambridge universities, England.

Be'delry, *n.* The limit or extent of a bedel's functions.

Bedes'man, *n.* A prayer-man; a man who prays for another.

Bedevil, (*be-dev'l,*) *v. a.* To throw into utter disorder and confusion, as if by the agency of evil spirits.

—To spoil or corrupt.

Bedev'illed, *a.* Thrown into utter disorder or confusion.

"*Bedevilled* . . . worse than St. Bartholomew."— *Sterne.*

Bedew, (*be-dū',*) *v. a.* To moisten, as if with dew; to moisten gently.

"*Bedew* her pasture's grass with English blood." — *Shaks.*

Bedew'er, *n.* Any one who, or anything which, bedews.

Bed'fellow, *n.* One who lies with another in the same bed; a bed-companion.

"Misery acquaints a man with strange *bedfellows*." — *Shaks.*

Bed'ford, JOHN, PLANTAGENET, DUKE OF, Regent of France, 3d son of Henry IV. of England, b. 1390. He was created Constable of England in 1403, and sent to succor Harfleur in 1416. In 1422, Charles VI. of France died, and long years of war followed between the rival claimants for the crown, Charles VII. and Henry VI. *B.* secured the alliance of the Dukes of Burgundy and Brittany, and obtained a long series of military successes. The tide turned at the siege of Orleans, which was raised by Joan of Arc. The Duke of Brittany had previously abandoned the English cause; the Duke of Burgundy did the same in 1435; and *B.* died at Rouen, Sept., 1435.

Bed'ford, JOHN RUSSELL, DUKE OF, K. G., distinguished for his princely patronage of letters, the fine arts, and every branch of social industry; b. 1766. He was versed in literature, fond of science, and a passionate lover of agriculture; to the improvement of which he devoted years of his life, and the expenditure of vast sums of

money. *B.*, was the father of the celebrated statesman, John Russell (*q.v.*) Died in 1839.

Bed'ford, an inland co. of England, having N. and N.W. the counties of Huntingdon and Northampton; S. Hertford; E. Huntingdon, and Cambridge; and W. Buckingham and Northampton. *Area.* 295,582 acres, of which about 250,000 are arable, meadow and pasture. *Surface*, diversified; *soil*, fertile. *Prod.* Cereals and beans, and large quantities of vegetables for the London markets. *Prin. towns.* Bedford, Biggleswade, Leighton, Buzzard, Luton, and Dunstable. This county was part of the Saxon kingdom of Murcia. *Pop.* (1895) 166,000.

BEDFORD, a borough and cap. of above co., on the Ouse, 45 m. N.N.W. of London. *Manf.* Straw-plaiting.—John Bunyan was imprisoned from 1660 to 1672 in the jail here; and in it he wrote the first portion of the *Pilgrim's Progress.* *Pop.* (1898) 28,023.

Bed'ford, in *Illinois*, a post-village of Pike co., on the Illinois river, about 54 m. S.E. of Quincy.

—A village of Henderson co.

Bed'ford, in *Indiana*, a flourishing city, the cap. of Lawrence co., situated on an elevation, 3 m. from the E. fork of the White river, and 75 m. S.S.W. of Indianapolis. *Pop.* (1898) 3,930.

Bed'ford, in *Iowa*, a post-town, cap. of Taylor Co., on the Chic., Burl. & Quincy R.R., 70 m. S.E. of Council Bluffs. *Pop.* (1898) 2,350.

Bed'ford, in *Kentucky*, a township and village, cap. of Trimble co., about 40 m. from Frankfort, and 6 from the Ohio River.

Bed'ford, in *Massachusetts*, a prosperous post-township of Middlesex co., on Concord River, 14 m. N.W. of Boston. Near the village are mineral springs, with good accommodations for visitors.

Bed'ford, in *Michigan*, a post-township of Calhoun county.

—A township of Monroe co.

Bed'ford, in *Minnesota*, a village of Wright co., on the Mississippi River, about 33 m. N.W. of St. Anthony.

Bed'ford, in *Missouri*, a post-village of Livingston co., on Grand River, about 85 m. E. by S. of St. Joseph.

Bed'ford, in *New Hampshire*, a post-township of Hillsborough co., abt. 20 m. S.E. of Concord.

Bed'ford, in *New York*, a village of Saranac township, Clinton county, on the Saranac river, 140 m. N. of Albany.

Bed'ford, in *New York*, a village and railroad station of King's co., on the Long Island Railroad; now part of the borough of Brooklyn, New York.

Bed'ford, in *New York*, a thriving post-village of Westchester co., 125 m. S. by E. of Albany.

Bed'ford, in *Ohio*, a post-village and township in Cuyahoga county, on the Cleveland and Pittsburg railroad.

—A township of Meigs co.

—A township in Coshocton co.

Bed'ford, in *Pennsylvania*, a S. county bordering on Maryland; area, about 1,000 sq. m. It is intersected by numerous streams, among which is the Raystone, a branch of the Juniata river. The surface is mountainous, being traversed by many ridges of the Alleghany range. The soil is mostly unfit for cultivation, but *B.* is rich in iron ore, and mines of stone coal are extensively worked. Capital, Bedford.

—A post-borough, cap. of the above county, in a township of the same name, 104 m. W.S.W. of the city of Harrisburg, and a few miles east of the chief elevations of the Alleghany Mountains.—Distant about a mile and a half from the town of Bedford are the celebrated saline and sulphurous springs. The principal, the *Mineral* or *Anderson's Spring*, contains carbonic acid, sulphate of magnesia, chlorides of calcium and sodium, and carbonate of iron, but not in large quantities; hence, the main action of the water is diuretic. At some distance from the springs, there is a chalybeate water; and about 10 m. S.W. of *B.*, at Milliken's Cove, a strong sulphurous spring. The climate of *B.* is agreeable, and the springs are much resorted to.

Bed ford, in *Tennessee*, a central co., area about 550 sq. m. The surface is undulating, and the soil, extensively cultivated, is fertile, and watered by Duck River. *Cap.* Shelbyville.

Bed'ford, in *Virginia*, a county bounded N.E. by the James River, S.W. by the Staunton River, and N.W. by the Blue Ridge Mountains. Here are the splendid Peaks of Otter (see *Fig.* 159), 420 feet above the sea. The county is highly picturesque and productive. Capital, Liberty.

Bed'ford City, in Quebec, a post-village of Missisquoi co., about 45 m. S.E. of Montreal.

Bed'ford Island, a coral reef, enclosing a lagoon, in the S. Pacific, Lat. 21° 8′ 30″ S.; Lon. 136° 38′ W.

Bed'ford Level, an E. district of England, comprising about 450,000 acres of what is called the "Fen" country, in the counties of Cambridge (including the whole of the Isle of Ely), Suffolk, Norfolk, Huntingdon, Northampton, and Lincoln. It was a mere waste of fen and marsh, until the time of Charles I., when, in 1634, a charter was granted to Francis, Earl of Bedford, who undertook to drain the level, on condition of being allowed 95,000 acres of the reclaimed land. He accomplished the undertaking at an enormous expense, and it now forms one of the most fertile and grain-productive districts in the kingdom.

Bed'ford Station, in *New York*, a post-office of Westchester co.

Be'dias, in *Texas*, a post-office of Grimes co.

Bedight, (*be-dīt'*,) *v. a.* [A.S. *dihtan*, to set in order.] To array or deck with ornaments or finery; to adorn; to decorate.

"The maiden, fine *bedight*, his love retains." — *Gay.*

Bedim', *v. a.* To make dim; to obscure or darken.

"I have *bedimm'd*
The noontide sun. — *Shaks.*

Bedizen, (*be-di'zn*,) *v. a.* [*Be* and *dizen*. Of uncertain etymology.] To dress over-much; to adorn gaudily; to deck showily.

"Remnants of tapestried hangings . . . with which he had *bedizened* his tatters." — *Sir Walter Scott.*

Bed'lam, *n.* [Corrupted from *Bethlehem*.] The name of an hospital for lunatics, in St. George's Fields, London, originally founded in 1545, in the buildings of a religious house, called Bethlehem, of which it retained the name. The name is often applied in England, in a general sense, to any mad-house or lunatic asylum; also to a madman, a lunatic, a dweller in Bedlam; and, adjectively, to anything belonging to a mad-house; as, "A *bedlam* beggar." — *Shaks.*

Bed'lamite, *n.* An inhabitant of a madhouse; a madman.

"In these poor *bedlamites* thyself survey,
Thyself less innocently mad than they." — *Fitzgerald.*

Bed'maker, *n.* A person who makes beds. A term used principally at the English universities of Oxford and Cambridge.

"I was deeply in love with my *bedmaker*, upon which I was rusticated forever." — *Spectator.*

Bed'mar, ALFONSO DE LA CUEVA, MARQUIS OF, Cardinal Bishop of Oviedo, an eminent Spanish diplomatist; B. 1572. He was sent ambassador to the republic of Venice by Philip III., in 1607, and, in 1618, he took part with Don Pedro of Toledo, governor of Milan, and the Duke d'Ossuna, then Viceroy of Naples, in a conspiracy to overthrow the republic of Venice, by firing the arsenal, pillaging the mint and the treasury of St. Mark, and massacring the Doge and senators. The plot failed, and many Frenchmen and Spaniards were arrested and executed. *B.* was allowed to retire. He was created cardinal in 1622, was afterwards Spanish governor of the Netherlands, made himself detested by the Flemings, and retired to Rome, where he D. 1655.

Bed'minster, in *New Jersey*, a township of Somerset co.

Bed'minster, in *Pennsylvania*, a post-township of Bucks co., 35 m. N. of Philadelphia.

Bed'-moulding, *n.* (*Arch.*) See BED.

Bednore, (*bed-nore'*,) a town of Hindostan, cap. of a dist. of Mysore; Lat. 13° 50′ N., Lon. 75° 6′ E.; 150 m. N.W. of Seringapatam, and 360 W.N.W. of Madras. It is situated on one of the best roads in the W. Ghants, which leads from Mangalore. When Hyder Ali took it, in 1763, it was said to be 8 m. in circumference, and it afforded him considerable plunder. In 1783, it was taken by the English, who, in the following year, were dislodged by Tippoo Saib. It has no manufactures, but possesses an increasing trade.

Bed of Justice, [Fr., *Lit de Justice.*] (*Hist.*) Literally, the seat or throne upon which the king of France was accustomed to sit when personally present at parliaments. From this original meaning, the expression came, in course of time, to denote a solemn proceeding resorted to by the monarch, in order to carry some measure against the will of the parliament. A bed of justice was a solemn session of the king in the parliament, for the purpose of registering or promulgating edicts as ordinances. According to the principle of the old French constitution, the authority of the parliament, being derived entirely from the crown, ceased when the king was present; and consequently all ordinances enrolled at a bed of justice were acts of the royal will, and of more authenticity and effect than decisions of parliament. The ceremony of holding a bed of justice was as follows: — The king was seated on the throne, and covered; the princes of the blood-royal, the peers, and all the several chambers were present. The marshals of France, the chancellor, and the other great officers of state, stood near the throne, around the king. The chancellor, or, in his absence, the keeper of the seals, declared the object of the session, and the persons present then deliberated upon it. The chancellor then collected the opinions of the assembly, proceeding in the order of their rank; and afterwards declared the determination of the king in the following words: "*Le roi, en son lit de justice, a ordonné et ordonne qu'il sera procédé à l'enregistrement des lettres sur lesquelles on a délibéré.*" The last bed of justice was assembled by Louis XVI., at Versailles, on the 6th of August, 1788, at the commencement of the French Revolution, and was intended to enforce upon the parliament of Paris the adoption of the obnoxious taxes, which had been previously proposed by Calonne, at the Assembly of Notables.

Bedouins, BEDOWEENS, *n. pl.*, (*bĕd'oo-een.*) [Fr. *bédouins*; Ar. *bedâwi*, rural, dwelling in the desert, from *badâ*, to lead a nomadic life.] Numerous and warlike tribes of Arabs, who dwell in the deserts of Arabia, Egypt, and N. Africa. They are supposed to be the descendants of Ishmael the "wild man," whose "hand was against every man, and every man's hand against him." (*Gen.* xvi 12,) B. C. 1920. The Bedouins live at a distance from cities and villages, in families under sheikhs, or in tribes under emirs. Their dwellings are huts, tents, ruins, and caverns. With their herds and their beasts of burden, which carry what little property they possess, they wander in search of fresh water and pasture. They are good horsemen, and generally fond of hunting. The more peaceful tribes exchange horses and fat cattle for arms and cloth with neighboring nations. Other hordes are open robbers; and it is dangerous to travel through their country without a guard or a passport, which the different chiefs sell. Terrible encounters have been the consequence of travellers refusing to part with their property without resistance. Notwithstanding this, even the predatory Bedouins hold the rites of hospitality sacred; and the most defenceless enemy is sure of their protection if they have once allowed him shelter. But the Bedouin considers every one his enemy who is not his brother, kinsman, or ally. Ever careful of his own safety, he attacks no camp or caravan unless sure of his superiority. To a determined resistance he yields, and saves himself by speedy flight. A terror to neighboring nations, the rapacious Bedouin lives in a state of constant watchfulness,—poor, ignorant, wild, rude, but free and proud of his liberty. He is remarkable for a temperance in diet amounting almost to abstinence. His mode of life has undergone little change since the time of Moses, (B. C. 1571–1451,) and Mohammed, (A. D. 570–632,) but since the conquest of Northern Africa in the 7th century, the Bedouin has enjoyed a wider field for rapine, which extends from Arabia to the Atlantic Ocean.

Bed'-pan, *n.* A necessary utensil for the service of a bed-ridden person.

Bed'-piece, Bed-plate, *n.* (*Mach.*) The foundation-plate of an engine, a lathe, &c.

Bed'post, *n.* A post at the corner of a bed.

Bedrag'gle, *v. a.* [*Be* and *draggle*.] To soil in the dirt, as garments, &c.

"Poor Patty Blount, no more be seen
Bedraggled in my walks so green." — *Swift.*

Bedrench', *v. a.* To drench; to soak with water; to wet through.

Bed'rid, Bedrid'den, *a.* [A. S. *bedrida*.] Confined to the bed by age or infirmity.

"Lies he not *bedrid?*" — *Shaks.*

Bed'right, BED'RITE, *n.* The privilege of the marriage-bed.

"Whose vows are that no *bedrite* shall be paid
Till Hymen's torch be lighted." — *Shaks.*

Bed'room, *n.* A sleeping apartment; a lodging-room.

Bedrop', *v. a.* To sprinkle, as with drops.

Bed'-side, *n.* The side of the bed.

Bed'-site, *n.* A place set apart in a room for a bed.

Bed'staff, *n.* A wooden pin formerly used to stick in the sides of a bedstead, to hold the clothes in a fixed position.

"Hostess, accommodate us with a *bedstaff*." — *Ben Jonson.*

Bed'stead, *n.* A frame for supporting a bed.

"Chimneys with scorn rejecting smoke;
Stools, tables, chairs, and *bedsteads* broke." — *Swift.*

Bed'-steps, *n. pl.* Steps for mounting an unusually high bed.

Bed'-straw, *n.* Straw used for beds.

(*Bot.*) The *Galium verum*, used formerly to fill beds with straw. See GALIUM.

Bed'swerver, *n.* One who is false to the marriage-bed; one who swerves from his proper bed.

"She 's a *bedswerver*, even as bad as those
That vulgars give the boldest titles to." — *Shaks.*

Bed'-tick, *n.* A case of linen or cotton cloth, used for containing the feathers, or other material, that constitutes a bed.

Bed'-time, *n.* The hour of going to rest; the usual time of retiring to sleep.

"I would it were *bed-time*, Hal, and all well." — *Shaks.*

Bedu'ck', *v. a.* To duck in water; to immerse.

Bedung', *v. a.* To cover, or manure with dung.

Bedust', *v. a.* To sprinkle or cover with dust.

Bed'ward, *adv.* Toward bed.

"As merry as when our nuptial day was done,
And tapers burnt to *bedward*." — *Shaks.*

Bedwarf', *v. a.* To stunt; to hinder in growth; to make little.

Bed'-work, *n.* Work done in bed; work performed without manual toil.

"They call this *bedwork*, mapp'ry, closet war." — *Shaks.*

Bedye', *v. a.* To dye or stain.

Bee, *n.* [A. S. *beo*, probably from *buan*, *byan*, to inhabit, to dwell; Du. *bye*; Lat. *apis*; Fr. *abeille*.] (*Zoöl.*) The generic name of a family of Hymenopterous insects, for the classification of which, see APIDÆ. — Of all the insect tribe, none have more justly excited the attention and admiration of mankind than the Bee; and yet, although it has engaged the study of naturalists for two thousand years, we still occasionally find, in the economy of this social and industrious little animal, some obscurely known or unelucidated fact, which is thought worthy of the labors of those who devote their time and abilities to the pursuit and advancement of this interesting branch of natural science. — The most important species is the HONEY BEE, or HIVE BEE, *Apis mellifica*, so long celebrated for its wonderful polity, the neatness and precision with which it constructs its cells, and the diligence with which it provides during the warmth of summer a supply of food for the support of the hive during the rigors of the succeeding winter. In its natural state, the Honey-Bee generally constructs its nests in hollow trees; but so universally is it now domesticated that we rarely find it otherwise than hived in our country, where they have been probably imported early from Europe. — Honey and wax are the two valuable articles of commerce for which we are indebted to this useful insect. Now, if we examine the structure of the common Bee, the first remarkable part which presents itself is the proboscis, ligula or tongue. It is an instrument serving to extract honey from flowers, and is adapted both for lapping and sucking; is tubular in form, though not strictly a tube, and complicated in structure. When thus sucked or lapped up out of the nectary, the honey is conveyed to the honey sac, which corresponds to the crop in other insects, where it undergoes but little if any change, and is transferred or disgorged into the cells destined to receive it. While the bee is busy extracting the sweets of

the flowers, it becomes covered with the *farina* or pollen of the anthers; this pollen it wipes off with the brushes of its legs, collects every particle together, and kneads it into two little masses, which it lodges on the broad

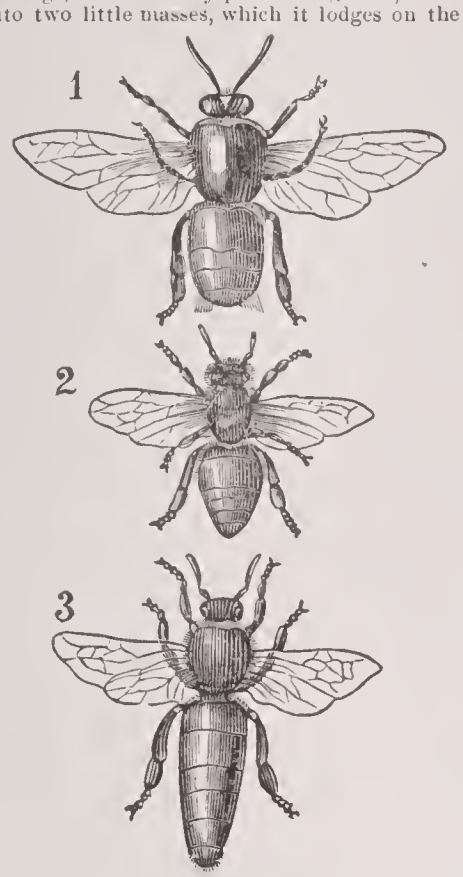


Fig. 330. — HONEY-BEE.

1. The male, or Drone; 2 the neuter, or Worker; 3 the female, or Queen.

surface of the tibia of each hind leg, where a series of elastic hairs over-arches a concavity, and acts as a sort of lid or covering, (*d*, *Fig.* 331.) Thus employed, the Bee flies from flower to flower, increasing its store of honey, and adding to its stock of kneaded pollen, which is called *bee-bread*. The abdomen is divided into six annulations or rings, which are capable of being contracted or extended at pleasure; and the insect is internally furnished with a honey-bag, a venom-bag, and a sting. The honey-bag, which is as transparent as crystal, contains the honey which the bee has brushed from the flowers, the greatest part of which is carried to the hive, and poured into the cells of the honeycomb, while the remainder serves for the bee's own nourishment. Wax is a peculiar secretion in little cells beneath the scales of the abdomen. It is from honey that the wax, by some internal process, is elaborated. The wax oozes out between the abdominal rings, in the form of little laminæ;

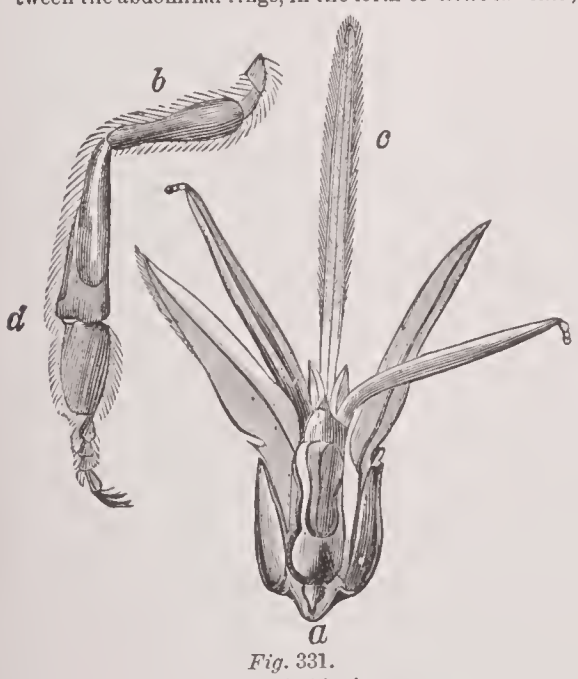


Fig. 331.

a. Proboscis of the hive-bee.
c. The tongue.
b. The binder-leg of the worker-bee.
d. The part on which the pollen is carried.
(Magnified.)

it is then worked with the mouth, and kneaded with saliva that it may acquire the requisite degree of ductility for the construction of the comb, which is finished with a substance called *propolas*, a glutinous or gummy resinous matter procured from the buds of certain trees.—The *sting* is composed of three parts: namely, the sheath, and two extremely small and penetrating darts, each of which is furnished with several points, or barbs, which, rankling in the wound, render the sting more painful. This instrument, however, would prove but a feeble weapon, if the bee did not poison the wound. The sharp-pointed sheath first enters, and this being followed by the barbed darts, the venomous fluid is speedily injected. Sometimes the sheath sticks fast in the flesh, and is left behind; but the death of the bee invariably follows.—Having examined the bee singly, we now proceed to an inquiry into its habits as a member of a social community. Viewed in this light, we behold an animal active, vigilant, laborious, and disinterested; subject to regulations, and perfectly submissive. All its provisions are laid up for the community; and all its arts are employed in building a cell, designed for the benefit of posterity —A bee-hive contains three kinds of individuals,—a queen, drones, and workers; the queen is a female, and not only the ruler, but in great part the mother of the community; the drones are males, and the workers are abortive females. The sole office of the queen appears to be the laying of eggs, and this occupies her almost incessantly, as a single one only is deposited in each cell, thus causing her to be in continual motion; she is slow and majestic in her movements, and differs from the workers in being larger, having a long r body, shorter wings, and a curved sting. The queen is accompanied by a guard of workers, an office which is taken in turn, but never intermitted; in whatever direction she wishes to travel, these guards clear the way before her, always with the utmost courtesy turning their faces towards her; and when she rests from her labors, approaching her with humility, licking her face, mouth, and eyes, and appearing to fondle her with their antennæ. — The drones are all males: they are smaller than the queen, but larger than the workers; they live on the honey of flowers, but bring none home, and are wholly useless, except as being the fathers of the future progeny: when this office is accomplished, they are destroyed by the workers. A buzzing commences in the hive, the drones and the workers sally forth together, grapple each other in the air, hug and scuffle for a minute, during which operation the stings of the workers are plunged into the sides of the drones, who, overpowered by the poison, almost instantly die. — The workers are the smallest bees in the hive, and by far the most numerous; they have a longer lip for sucking honey than either of the others; their thighs are furnished with a brush for the reception of the pollen of flowers, and their sting is straight. The workers do the entire work of the community; they build the cells, guard the hive and the queen, collect and store the honey, elaborate the wax, feed the young, kill the drones, &c. The average number of these three kinds of bees in a hive is, one queen, 200 drones, and 30,000 to 40,000 workers, or six to eight quarts by measurement. The eggs are long, slightly curved, and of a pearly white color; when laid, they are covered with a glutinous matter, which instantly dries, attaching them to the bottom of the cell. The queen, under normal conditions, lays all the eggs, and is capable of depositing as many as four thousand in a day. She ordinarily mates but once, flying from the hive, from which the male or drone bees follow. Seminal fluid, sufficient to impregnate the eggs she will lay in from three to five years, is stored in a sac at the time of mating. She is able to control the opening of the sac so that the eggs may or may not be fertilized. If fertilized, they develop workers or queens, according to the quality and kind of food given to the young or larvæ; then the production of queens or workers also depends on the size or shape of the cell in which they are developed. If not fertilized, they produce drones or males. The time it takes to develop also influences the production of queens, workers or drones, the queen being produced in 15½, the workers in 21 and the drone in 24 days from the oviposition to the imago or adult state. The eggs hatch in a few days, and produce little white maggots, which immediately open their mouths to be fed; these the workers attend to with untiring assiduity. In six days each maggot fills up its cell; it is then roofed in by the workers, spins a silken cocoon, and becomes a chrysalis. When the queen-bee has an inclination to deposit her eggs, she goes forth, accompanied by six or eight working bees as a guard, whose stomachs are filled with honey. She is very deliberate in her motions, and seems to proceed with great caution. She first looks into a cell, and if she finds it perfectly empty, she draws up her long body, inserts her tail into the cell, and deposits an egg. In this way she slowly proceeds till she has dropped ten or twelve eggs, when, perhaps feeling exhausted, she is fed by one of the attendant bees, who have surrounded her all the time. This is done by the bee ejecting the honey from its stomach into the mouth of the queen. When this has been done, the bee goes away, and another takes its place. The operation of laying her eggs again goes on, and is succeeded by the same mode of feeding,—the attendant bees frequently touching the antennæ of the queen with their own. When the operation of laying the eggs is completed—and it generally occupies some time—the queen retires to that part of the hive which is most filled with bees. During her progress, the surface of the comb is very little intruded upon, and the space seems purposely to be left unoccupied. Some few of the cells, however, in a brood-comb, are passed over by the queen, and afterwards filled either with honey or farina. These serve as deposits of food, from which the neighboring brood may be fed more readily, as such cells are never covered with wax. — The queen, for nearly a year, lays no eggs that are destined to produce queens; it therefore follows that, if any evil befall her, the hive is left without a queen. It sometimes happens that she dies, or is taken away by the owner of the hive, to observe the result. For twelve hours, little notice is taken of the loss; it appears not to be known, and the workers labor as usual. After that period, a hubbub commences; work is abandoned; the whole hive is in an uproar; every bee traverses the hive at random, and with the most evident want of purpose. This state of anarchy sometimes continues for two days; then the bees gather in clusters of a dozen or so, as though engaged in consultation, the result of which seems to be a fixed resolution to supply her loss. A few of the workers repair to the cells in which are deposited the eggs of the workers; three of these cells are quickly broken into one, the edges polished, and the sides smoothed and rounded, a single egg being allowed to remain at the bottom. When this egg hatches, the maggot is fed with a peculiarly nutritive food, called royal bee-bread, which is never given to any maggots, but such as are to produce queens. Work is now resumed over the whole hive, and goes on as briskly as before; on the sixteenth day the egg produces a queen, whose appearance is hailed with every demonstration of delight, and who at once assumes sovereignty over the hive. When, under ordinary circumstances, a young queen emerges from the chrysalis, the old one frequently quits the hive, heading the first swarm for the season, and flying to some neighboring resting-place, is observed by the owner, captured, placed under a new hive, and a new colony is immediately commenced. Before a swarm leaves the hive, sure indications are given of the intended movement; the workers leave their various occupations and collect in groups, especially near the door of the hive, as though in consultation on the important event about to take place. — As the summer advances, many queens are hatched, but the workers do not allow them instant liberty, as severe battles would take place between them and the reigning queen, in which one would be killed; the workers, therefore, make a small hole in the ceiling of the royal cell, through which the captive queen thrusts her tongue, and receives food from the workers. In this state of confinement the young queen utters a low querulous note, which has been compared to singing. When the reigning, or newly created queen, finds one of these captives, she uses every effort to tear open the cell and destroy her rival. To prevent this, the workers often interpose, pulling her away by the legs and wings; to this she submits for a short time, when, uttering a peculiar cry, called her voice of sovereignty, she commands instant attention and obedience, and is at once freed from her assailants. The cocoons spun by the maggots of the workers and drones completely envelop the chrysalis; but that spun by the maggot of the queen appears imperfect, covering only the upper end of the chrysalis. It has been supposed that they are thus designedly exposed to the attacks of other queens, and their destruction, before emerging, facilitated. When the chrysalis of the queen is about to change to a perfect insect, the bees make the cover of the cell thinner by gnawing away part of the wax; and with so much nicety do they perform this operation, that the cover at last becomes pellucid, owing to its extreme thinness. —The combs of a bee-hive comprise a congeries of hexagonal cells, built by the bees as a receptacle for honey, and for the nurseries of their young; each comb in a hive is composed of two ranges of cells, backed against each other. The base or partition between this double row of cells is so disposed as to form a pyramidical cavity at the bottom of each. There is a continued series of these double combs in every well-filled hive—the spaces between them being just sufficient to allow two bees, one on the surface of each comb, to pass without touching. Each cell is hexagonal, the six sides being perfectly equal. This figure ensures the greatest possible economy of material and space; the outer edges of the cells are slightly thickened, in order to gain strength; the same part is also covered with a beautiful varnish, which is supposed to give additional strength. The construction of several combs is generally going on at the same time: no sooner is the foundation of one laid, with a few rows of cells attached to it, than a second and a third are founded on each side, parallel to the first, and so on till the hive is filled — the combs which were commenced first being always in the most advanced state, and therefore the first completed. The design of every comb is sketched out, and the first rudiments laid by a single bee. This foundress-bee forms a block out of a rough mass of wax, drawn partly from its own resources, but principally from those of other bees, which furnish wax from small sacs, in which it has been secreted, that are situated between the segments of the body of the bee; taking out the plates of wax with their hind-feet, and carrying it with their fore-feet to their mouths, where it is moistened, masticated, and rendered soft and ductile. The foundress-bee determines the relative position of the combs, and their distance from each other, the foundations which she marks serving as guides to the ulterior labors of the wax-working bees, and of those who build the cells, giving them the advantage of the margins and angles already formed. The mass of wax prepared by the assistants is applied by the foundress-bee to the roof or bottom of the hive, and thus a slightly double convex mass is formed; when of sufficient size, a cell is sculptured on one side of it by the bees, who relieve one another in the labor. At the back, and on each side of this first cell, two others are sketched out and excavated. By this proceeding the foundations of two cells are laid, the line betwixt them corresponding with the centre of the opposite cells. As the comb extends, the first excavations are rendered deeper and broader; and when a pyramidal base is finished, the bees build up walls from its edges, so as to complete what may be called the prismatic part of the cell. The cells intended for the drones are considerably

larger and more substantial than those for the workers, and being formed subsequently, they usually appear nearer the bottom of the combs. Last of all are built the royal cells for the queens. Of these there are usually three or four, sometimes ten or twelve in a hive, attached completely to the central part, but not unfrequently to the edge of the comb. The form of the royal cells is an oblong spheroid, tapering gradually downwards, and having the exterior full of holes. The mouth of the cell, which is always at the bottom, remains open until the maggot is ready for transformation, and it is then closed like the rest. When the queen has emerged, the cell in which she was reared is destroyed, and its place is supplied by a range of common cells. The site of this range may be always traced by that part of the comb being thicker than the rest, and forming a kind of knot. The common breeding-cells of drones and workers are occasionally made the depositories of honey; but the cells are never sufficiently cleansed to preserve the honey undeteriorated. The finest honey is stored in new cells constructed for the purpose of receiving it, their form precisely resembling that of the common breeding-cells. These honey-cells vary in size, being larger or smaller according to the productiveness of the sources from which the bees are collecting, and according to the season. It is remarkable that all animals which have been long under the protection of man seem to lose a part of their natural sagacity. In those countries where the bees are wild, and unprotected by man, they are always sure to build their waxen cells in the hollows of trees; but with us they appear improvident in their choice, and the first green branch which stops their flight, is deemed sufficient for their abode. It does not even appear that the queen chooses the place where they are to alight; for numbers of the swarms, when they conceive a predilection for any particular branch, spontaneously settle on it; others follow their example, and at last the queen herself, finding the majority of the swarm convened together, condescends to place herself among them. The queen being settled, the rest of the swarm soon flock around her, and in about a quarter of an hour the whole body seems to be perfectly at rest. When a hive sends out several swarms in a year, the first is always the best, as well as the most numerous; for, having the greatest part of the summer before them, they have the more time for making wax and honey, and consequently their labors are the most valuable to their proprietor. Though the swarm is principally made up of the younger bees, those of all ages generally compose the number of emigrants; and as a single hive sometimes contains upwards of 40,000 inhabitants, such a vast body may well be supposed to work with great expedition.

Bee, *n.* A body or gathering of persons, who, through mere benevolence, meet at one time and unite in doing a job of work, or contributing articles of necessity for the benefit of a newly settled person or family. [Canada and U. States.]

(*Mus.*) A combination of reeds, connected with the mouthpiece of an oboe, and other similar wind instruments.

—*pl.* (*Naut.*) Pieces of plank bolted to the outer end of a ship's bowspirit, used to reeve the foretopmast-stays through.

Bee, in *Texas*, a S. county, watered by the streams Aransas, Blanco, Medio, Papelota, and Chiltepin. *Area*, about 1,000 sq. m. *Soil*, light, sandy, and generally poor. *Cap.* Beeville. *Pop.* (1898) 7,500.

Bee'be Plain, in *Vermont*, a post-office of Orleans co.

Bee'be Springs, in *Alabama*, a village of Etowah co.

Bee'-bird, *n.* (*Zoöl.*) See Fly-catcher.

Bee Branch, in *Arkansas*, a P. O. of Van Buren co.

Bee'-bread, *n.* [*bee* and *bread.*] A brown, bitter substance, the pollen of flowers collected by bees, as food for their young.

Beech, *n.* [A. S. *bece, boc*; Ger. *buche*; Lat. *fagus*; Gr. *phēgos*, from *phagō*, to eat.] (*Bot.*) A forest-tree, genus Fagus, *q. v.*

Beech, in *Missouri*, a post-office of Dunklin co.

Beech Creek, in *Pennsylvania*, a post-township of Clinton co.

Beechen, (*bēch'n,*) *a.* Pertaining to the beech; consisting of the wood or bark of the beech.

Beech'er, Catherine Esther, an American authoress, and eldest daughter of Dr. Lyman Beecher, b. 1800. For 10 years she was directress of a ladies' seminary at Hartford, Conn., during which time she published a *Manual of Arithmetic* and a series of elementary books of instruction in Theology, and Mental and Moral Philosophy. In 1832, she removed with her father to Cincinnati, and for two years acted as principal of an institution devoted to female instruction in that city. Being compelled by failing health to resign this labor, Miss *B.* devised a plan for the promotion of female Christian education, through a National Board, with normal schools and competent teachers. The completion of this scheme has been the object of her life, and for its promotion she has written, among other works, *Domestic Service; Duty of American Women to their Country*; *Treatise on Domestic Economy*; *Physiology and Calisthenics* (1856); and *Common Sense applied to Religion* (1857). D. 1878.

Beecher, Charles, an American divine and writer, b. 1815, brother of the preceding. His works include the *Incarnation, or Pictures of the Virgin and her Son* (1849); *Pen Pictures of the Bible* (1855), &c.

Beech'er, Edward, D.D., an American divine and polemical writer, and elder brother of the preceding, was b. in 1804, and graduated at Yale in 1822, in which university he was appointed tutor in 1825. He filled the office of pastor at Park Street Chapel, Boston, from 1826 to 1831; that of President of Illinois College, Jacksonville, 1831–1844, and pastor at Salem Street Church, Boston, 1846–56. He was, in 1864, pastor of a church at Galesburg, Ill., and was author of *Baptism, its Imports and Modes*; *The Conflict of Ages*, &c. Died in 1895.

Beech'er, Harriet. See Stowe.

Beech'er, Henry Ward, an eminent American author and divine, and another scion of a highly gifted family, b. in 1813, at Litchfield, Conn. He graduated at Amherst College in 1834, and studied theology under his father, Dr. Lyman Beecher, at Lane Seminary. He first settled as a Presbyterian minister at Laurenceburg, Ind., in 1837, removed in 1839 to Indianapolis, and became Pastor of the Plymouth Church, Brooklyn, N. Y., an organized body of worshippers calling themselves "Orthodox Congregational Believers," in 1847. In 1850 he published *Lectures to Young Men*, and *Industry and Idleness*; in 1855, *The Star Papers*, a series of articles contributed to the "New York Independent," and, in 1858, a second series of the same. *Life Thoughts*, 25,000 copies of which were sold soon after publication, appeared in 1858. *B.* is said to have had the largest and wealthiest uniform congregation in the U. S., and he was also very popular as a public lecturer. In April, 1865, he was requested by the U. S. government to deliver an oration at Fort Sumter, on the anniversary of its fall, and the replacing upon it of the national flag. He edited the *Christian Union* from 1870 to 1881. His *Life of Jesus* and *Yale Lectures on Preaching* are among his latest works. A complete ed. of *B.'s Sermons* was pub. in 1870. D. 1887.

Beech'er, Lyman, D.D., an American divine and miscellaneous writer, distinguished not only for his own personal merits, but as the father of the gifted subjects of the five preceding notices, was b. at New Haven, Conn., in 1775. After being educated at Yale, he studied theology under the auspices of President Dwight, and, in 1798, was ordained and settled at East Hampton, Long Island. He removed to Litchfield, Conn., in 1810, where he remained till 1826; during which period of time he was engaged in the promotion and furtherance of many works tending to religion and education. In the last-named year, he became Pastor of the Hanover Street Church, Boston, and remained so until 1832, when he became Pres. of the Lane Theological Seminary at Cincinnati. This appointment he resigned in 1842, and retired to Boston, and eventually to Brooklyn, where he d. 10th Jan., 1863. His chief writings consist of sermons and addresses, and a work on *Political Atheism*. A collection of his literary labors was published in Boston, in 1852. His *Autobiography and Correspondence*, edited by his son, Rev. H. W. Beecher, in 2 vols., was published in New York, in 1864–5.

Beech'ey, Frederick William, an Arctic explorer and author, b. in London, 1796. He entered the navy early in life, and in 1818–19 took part in the great Arctic expeditions under Sir John Franklin and Sir Edward Parry. In 1821 he surveyed the N. coast of Africa. In 1825 he commanded in another Polar expedition, and the results of this voyage, which lasted three years, were published under the title of *Narrative of a Voyage to the Pacific and Behring's Straits, to Coöperate with the Polar Expedition in* 1825–8; and largely contributed to the progress of geographical enterprise and physical science. In 1856, he was elected President of the Royal Geographical Society. D. 1856.

Beech Fork, in *Kentucky*, a P. O. of Washington co.

Beech'gall, *n.* An excrescence on the leaf of a beech, which contains the maggot of a fly.

Beech Grove, in *Indiana*, a post-office of Rush co., about 35 m. E. by S. of Indianapolis.

Beech Grove, in *Tennessee*, a vill. of Coffee co.

Beech Hill, in *West Virginia*, a P. O. of Mason co.

Beech Land, in *Kentucky*, a P. O. of Washington co.

Beech Land, in *Ohio*, a post-office of Licking co.

Beech'-mast, *n.* The fruit or nuts of the beech-tree.

Beech'-oil, *n.* The expressed oil of the mast of the beech.

Beech Spring, in *Virginia*, a post-office of Lee co.

Beech'-tree, *n.* The beech.

Beech'wood, in *Wisconsin*, a P. O. of Sheboygan co.

Beech Woods, in *Arkansas*, a P. O. of Newton co.

Beech'y, *a.* Made of beech.

Beechy Mire, in *Indiana*, a post-village of Union co.

Bee Creek, in *Illinois*, a post-office of Pike co.

Bee Creek, in *Missouri*, a village of Platt co., 35 m. N.W. of Independence.

Bee'der, a large prov. of Hindostan, in the Deccan; chiefly between Lat. 17° and 20° N., having on the N. Aurungabad and Berar; E. Hyderabad and Gundwana; S. Hyderabad, and W. Beejapoor and Anrungabad; it is included in the Nizam's dominions, and divided into 7 districts. It is hilly but not mountainous, and watered by many rivers, of which the Manjera and Godavery are the chief, and is generally fertile. It is but thinly peopled, the Hindoos being to the Mohammedans as three to one; before the conquest by the latter it was comparatively populous. Three languages, the Telinga, Mahratta, and Canarese, are spoken. The Bhamenee dynasty reigned here after the Mohammedan conquest, and fixed on the city of Beeder as the capital. The Moguls conquered it at the end of the 17th, and the Nizam early in the 18th century, whose successors now hold it.

Beeder, a fortified city, and cap. of the above prov., 13 m. N.W. of Hyderabad, and 325 E.S.E. of Bombay. It possesses some fine architectural remains, and was formerly famous for its *tutenague* ware.

Bee'-eater, *n.* (*Zoöl.*) The *Merops apiaster*, a bird that feeds upon bees. See Meropidæ.

Beef, *n.* [Fr. *bœuf*; Lat. *bos, bovis*; Gr. *bous*, probably from *boskō*, to feed.] The flesh of an ox, bull, or cow. — The plural, Beeves, is applied to oxen, bulls, and cows, when fit for food.

(*Hygiene.*) Beef is one of the most nutritious articles in the class of animal food, and, though less easily digestible than mutton, it is, in cases of great debility, and where, from impoverished blood, the vital powers are very slow, preferable to every other kind of flesh-creating aliment. As mutton is preferable, as an article of food, for the early and later periods of life, beef is the most suitable for youth and middle age, both because it requires more mastication in the eating, and also for its possessing more lasting and sustaining properties; for, being slower of digestion, it remains longer in the stomach as a supporting agent. — See Food.

—*a.* Consisting of the flesh of black-cattle or neat-cattle; *i. e.*, of the ox, bull, or cow.

Beef-eater, *n.* A hearty, well-fed person; — so called from the nutritive properties of beef.

—[O. Fr. *buffetier*, from *buffet*, a side-board.] A name popularly given in England to the "Yeomen of the Guard," attached to the court of the English sovereigns. Differences of opinion exist as to the origin of this term: but it is generally believed to be derived from the French *buffetier*, from their waiting at the royal table on great occasions. They were first constituted by Henry VII. in 1485, and have continued as a royal institution, and with nearly the same costume, to the present day.

(*Zoöl.*) See Buphaga.

Beefing, *n.* A term used, in some parts of England, to denote a bullock sufficiently fat to be slaughtered.

Bee'-flower, *n.* (*Bot.*) See Ophrys.

Beef-steak, *n.* A steak or collop of beef broiled, or for broiling.

Beef-steak Club. The name of a convivial and social club, founded in London during the reign of Queen Anne. It was limited to 60 members, consisting of the most eminent statesmen, wits, artists, and men of letters of the period. It flourished until the year 1867, when it became extinct. During its existence of upwards of 150 years, it comprised on its roll of membership many of the most illustrious names in English history and literature. At its meetings, the club invariably dined off beef-steaks, and each member wore at his button-hole a silver gridiron attached to a silk ribbon.

Beef-tea', *n.* (*Med.*) An infusion of beef, much used in debilitating maladies, and during convalescence. It may be made as follows: take 2½ pounds of *lean beef*; cut it in small pieces, and place it in three parts of water in an earthen pipkin; let this simmer, but *never boil*, until the liquor is condensed to 1½ pints; then strain carefully. It ought to be entirely free from fat or grease.

Beef-wood, *n.* See Casuarina.

Bee'-garden, *n.* An enclosure to keep hives of bees in.

Bee'-glue, *n.* See Propolis.

Beehive, (*bē'hīve,*) *n.* [*Bee*, and A.S. *hyfe*, house.] A case or box in which bees are kept. They are usually made of straw or wood. The former substance is still preferred by some, the honey being liable to melt in wooden hives during hot weather. Glass hives, or hives with glass doors or windows, so as to observe the motions of the bees, are now much used, while in Greece and Turkey the hives are principally made of earthenware. The shape of a *B.* is not of much consequence, but it is considered of importance to have the hive so constructed as to be enlarged above or below at pleasure. *B.* should always be situated in the neighborhood of flowers. Honey made from heather-flowers is much esteemed in Scotland; and when the season of the heather-bloom comes on, a large number of hives are removed to the moors and hills. In Egypt, hives are removed from place to place on the Nile in barges, in order to reach the places where particular flowers are in season. The moveable comb hive, has, in this country at least, entirely replaced the antiquated straw hives, the combs are built in frames, side by side, and thus easily removed and replaced.

Bee'hive-house, *n.* (*Arch.*) A term applied to small, round, stone huts which are found in Ireland. They are very rudely built, and are supposed to be the relics of the most ancient architecture of the island. The doors have flat tops, and are wider down below than above, as in the buildings of Egypt. When a *B.-H.* is found alone, it is mostly near the site of an ancient oratory. This favors the notion that they were the dwellings of the priests. When two or three *B.-H.* are clustered together, they are usually connected by a passage, and are often underground, resembling the Picts' houses, or earth huts, found on the north-east coast of Britain. Ruins of *B.-H.* exist in the western islands of Scotland.

Beek'man, in *New York*, a post-township of Dutchess co., 14 m. S.E. of Poughkeepsie, watered by Fishkill Creek.

Beek'mantown, or **Beek'man,** in *New York*, a post-village and township of Clinton county, on the west shore of Lake Champlain, near the town of Plattsburg.

Beeld, Bield, *n.* A term used, in some parts of England and Scotland, to denote a place of refuge or protection.

Bee'ler's Station, in *West Va.*, a P.O. of Marshall co.

Bee'-line, *n.* A straight line drawn from one place to another, like the course of a bee's flight.

Beel'zebub, ("The Prince of the Devils," *Matt.* xii. 24.) (*Script.*) This name is derived from Baal-zebub, an idolatrous deity among the Ekronites, signifying *lord of flies, fly-baal, fly-god*; whose office was to protect his worshippers from being tormented by the gnats and flies, with which that region was infested. It is sometimes written *Beel-zebue*, which signifies, probably, the *dung-god*. The Jews seem to have applied this appellation to Satan, as being the author of all the pollutions and abominations of idol-worship.

Bee'-master, *n.* One who keeps bees.

Bee'merville, in *New Jersey*, a P. O. of Sussex co.

Henry Ward Beecher

1813–1887

Bee'mol, *n.* (*Mus.*) See BEMOL.
Bee'-moth, *n.* (*Zoöl.*) See WAX-MOTH.
Been, (*bin.*) [A. S. *beon.*] The past participle of the verb *to be.*
Beer, *n.* [A. S. *beor, bere,* barley; Ger. *bier;* Fr. *bière.* See ALE.] A fermented liquor which has not undergone the process of distillation, prepared from any of the cereals, as wheat, beans, peas, &c., but chiefly from barley flavored with hops and other bitter ingredients. The constituents of all the varieties of the *B.*, ale, porter, &c., are the same, differing only in the quantity of water, or in color, from the malt being more or less charred in the kiln-drying.—Nearly all seeds contain a large quantity of starch; and when they begin to germinate, a peculiar nitrogenous substance, called *diastase,* is formed. This product, acting as a ferment, converts the starch into sugar. This process is called *malting,* and the subsequent partial conversion of the sugar into alcohol is called *brewing.* The two processes are intimately connected together. In malting, the barley is first placed in a large tank or trough, and water is then run in, until there is sufficient to cover the grain. The barley then absorbs the water, and swells up; the amount of water absorbed showing the excellence of the barley. After remaining in the trough for about forty hours, the water is drained off, and the grain is thrown out on the floor. It lies in a heap, or *couch,* as it is called, for twenty-six hours. During this time more of the superfluous water drains away, and the grain rises about ten degrees in temperature. This is caused by the incipient germination of the barley. A primitive stem and little rootlets begin to appear. This process is technically called *sweating;* and as soon as the temperature rises high enough, the partial germination is stopped by a process called *flooring.* The warm grain is spread along the floor to a depth of 15 inches, and is repeatedly turned and re-turned with spades over a larger space, until the layer is only six inches deep. After undergoing this process, in which the radicles attain their greatest length, the grain is removed to a drying-kiln, and submitted to various degrees of heat, according to the quality of malt required. During the heating, the *cornings,* or shoots, drop off; they are afterwards separated from the grain by wire sieves. (See MALT.) The different varieties of malt, known under the names of *pale, amber,* and *brown,* can be produced from the same kind of barley by varying the heat of the drying-kiln. Pale malt is produced at the proper temperature; amber malt is slightly scorched; and brown malt is scorched to the full extent that the kiln will permit. Pale, amber, or brown malt is selected according as the beer is to be pale ale, brown ale, or porter. Before 1730 the ordinary malt liquors in London were *ale, beer, and twopenny.* It was a common custom to call for a tankard of *three threads,*—meaning an equal mixture of three kinds of malt liquor. This was very troublesome to the publican; and a brewer named Harwood invented a beverage which united the flavors of beer, ale, and twopenny. It was called *entire,* or the *entire butt;* and as it was a healthy, nourishing liquor, very suitable for porters and working-men, it received the name of *porter.* In brewing, the malt undergoes six processes: 1. the grinding; 2. the mashing, or infusing with hot water; 3. the boiling of the worts with hops; 4. the cooling; 5. the fermenting; 6. the clearing, storing, &c. In the first process the dried malt is ground into a coarse powder. When ground into fine powder, it is liable to coagulate into heaps, while undergoing the second operation, namely, the mashing with hot water. This is conducted in a large receiver, called a mash-tun, made with wooden staves and hoops. Water previously heated to 160° Fahr., in a copper, is run into this mash-tun, and the crushed malt is shaken into it until there is sufficient to absorb the whole of the water, when thoroughly stirred up, either with long poles or with stirrers worked by machinery. Diastase, which was slightly formed during the process of fermentation, is at this period of the process again developed, and the starch contained in the grain is rapidly converted into grape sugar. As the temperature of the water falls to 140° Fahr., a fresh supply of water, at 190° Fahr., is added to the mixture; after remaining from two to three hours on the malt, the water, which assumes a very sweet taste, is run off into a vessel called an *underback.* This running is termed the first mash, and the tun is filled up with a fresh supply of hot water, called the second mash; these two mashes are afterwards run together. The mixed fluids in the underback are called the *sweet worts.* In order to brew a definite quality of beer, it is necessary that the brewer should prepare his worts in a regular manner. The quantity of saccharine matter present is ascertained by means of an instrument called a *saccharometer,* similar in principle to the hydrometer. (See SACCHAROMETER.) When the sweet worts are reduced to the proper strength, they are pumped up from the underback into a covered boiler, when they are boiled for some time, together with a certain quantity of hops. When the boiling is complete, the hops are drained off, and the boiled wort is set to cool in large shallow pans or vats, and is then ready for fermentation. For this purpose, the wort is run into fermenting-vats, a certain quantity of yeast being added. When fermentation has proceeded sufficiently far, it is stopped by skimming off the surface froth, until the beer stops working. The beer is now run into vats, or casked into casks, and nothing remains to complete the operation but the fining process, which is effected by adding to the beer a solution of isinglass dissolved in acid beer. There is hardly a substance sold which is more frequently adulterated than beer. Large quantities of quassia are annually imported for no other purpose than to replace hops in the manufacture of bitter ale. Adulteration of beer has of late become so systematized, that there are men who make a regular trade of beer-doctoring. Among the hundreds of ingredients used for this purpose may be reckoned quassia, gentian, and wormwood, to give bitterness; ginger, orange-peel, and caraway, to impart pungency; alum and blue vitriol, to enable the beer to preserve a frothy head; cocculus indicus, nux vomica, and tobacco, to intoxicate; and salt, to promote thirst. The natives of Abyssinia, and many tribes of Africa, brew beer from millet-seed, and also from the seeds of the *Poa abyssinica.* Millet-seed is also used as a source of brewing beer, by the inhabitants of the lower Himalaya, the Crim Tartars, and the natives of Sikkim. Long before the landing of the Spanish in South America, the Indians brewed maize-beer, or *chica;* it is still made by them, and has a bright yellow color, and an agreeable acid taste. The production of beer in the U. S. has reached 39,000,000 hectrolitres a year, as against over 6,000,000 in Canada, Central and South America, and Mexico. The number of breweries throughout the world in the year 1895 was estimated by the Viennese *Gambrinus* at 42,988, and their output at 214,269,958 hectolitres (or 5,659,726,670 gallons).
Beer, [Heb., "a well."] (*Script.*) A station of the Hebrews in Moab, where God gave them water.
Beerb'hoom, or BIRB'OOM, (*Virabhumi,* the "land of heroes.") A dist. of Hindostan, British presidency of Bengal, lying chiefly between Lat. 23° 25′ and 24° 25′ N., and Lon. 86° and 88° E.: having N. the dist. of Bhaugulpoor, E. Moorshedabad and Nuddea; S. Burdwan and the Jungle Mehals; and W. Ramgur. *Area,* 3,870 sq. m. It is hilly, covered with jungle, and but thinly inhabited. *Prod.* Coal, iron, rice, sugar, and silk. *Prin. towns.* Soory, Nagore, Serampoor. *Pop.* abt. 1,000,000.
Beer Creek, in *Ind.*, Jay co., flows into the Wabash.
Beer'-house, *n.* A house or tavern where beer is sold.
Bee Ridge, in *Missouri,* a village of Knox co.
Beers, in *Pennsylvania,* a village in Alleghany co.
Beersheba, (*beer-she'ba,*) [Heb., the "Well of the Oath."] (*Anc. Geog.*) A city at the S. extremity of the Holy Land, 28 m. S.W. of Hebron. Few places have been noticed in history during so many centuries as Beer-sheba. Abraham called that place Beer-sheba, because there they sware both of them, when he made a covenant with Abimelech. And Abraham planted a grove in Beer-sheba, and called there on the name of the Lord, the everlasting God. (*Gen.* xxi. 14, 31.) About B. C. 1804, Abimelech went to Isaac from Gerar, and they sware one to another; and it came to pass the same day, that Isaac's servants came and told him concerning the well which they had digged, and said unto him, we have found water. And he called it Sheba: therefore the name of the city is Beer-sheba unto this day. (*Gen.* xxvi. 23, 33.) The town that afterwards rose here was first assigned to Judah, and then to Simeon. Here Samuel established his sons as judges. It was a seat of idolatry in the time of Uzziah. After the captivity, it was repeopled by the Jews, and continued a large village many centuries after the coming of Christ. Dr. Robinson found its site at Bir-es-Seba, on the border of the great desert south of Canaan—the ruins of a small straggling city, and two deep stone wells of excellent water, surrounded by stone troughs, and bearing the marks of great antiquity.
Beers'ville, in *Indiana,* a village of Knox co., on the Western fork of White River.
Beer'y, *a.* Of, or resembling beer; bemused by beer; as, he is a *beery* customer.
Bees, (St.) Head, a promontory on the N.W. coast of England, being the most W. point of the county of Cumberland, about 3 m. S. of Whitehaven. Lat. 54° 30′ 55″ N.; Lon. 3° 37′ 24″ W. There is a light-house here, 333 feet above the sea.
Beesha, (*be'sha,*) *n.* (*Bot.*) A genus of plants, order *Graminaceæ,* nearly allied to the Bamboo, but differing from it in having the seed enclosed in a fleshy pericarp. Two species are known, both natives of the E. Indies.
Bees'ley's Point, in *New Jersey,* a post-office of Cape May co.
Bees'kow, a town of Prussia, prov. Brandenburg, on the Spree, 18 m. S.W. of Frankfort-on-the-Oder. *Manf.* Cloth, linen, beer, leather, &c. *Pop.* 4,704.

Bee Spring, in *Kentucky,* a P. O. of Edmonson co.
Beest'ings, (also, but incorrectly, written BIESTINGS.) [A. S. *beosting, bysting;* Ger. *beest;* Du. *biest.*] The first milk yielded by a cow after calving.
Bees'-wax, (*bēz'waks,*) *n.* (*Chem.*) It is now generally admitted that this useful substance, obtained from the honeycomb after the expression of the honey, is a true animal secretion; for bees feed on sugar only, and continue to deposit it in large quantities. At ordinary temperatures, *B.-W.* is a tough solid yellow substance, having a specific gravity of 0·96, and fusing at about 145°. When exposed to the air in thin slices, it becomes bleached; but nitric acid is generally employed for this purpose. Chlorine cannot be used for this purpose, as it is eliminated in suffocating fumes of hydrochloric acid when the wax is burned. Wax consists chemically of myricine, insoluble in boiling alcohol; cerine, a crystalline substance slightly dissolved by boiling alcohol; and ceroleine, which is dissolved in cold alcohol. The process for bleaching wax is simple but tedious. The wax is cut in pieces, melted, and agitated with a small portion of very dilute sulphuric acid, which facilitates the separation of impurities. When perfectly clean and bright, it is sliced by a cutting-machine into very thin sheets, and exposed to light and air for eight or ten weeks, during which time it is remelted once or twice.—See CANDLES; VEGETABLE WAX.
(*Med.*) Wax is a principal ingredient in many pharmaceutical preparations, entering into nearly all the kinds of ointments and plasters, and some few of the cerates, in the Pharmacopœia. Its active principle is attributed to the white, crystalline substance called *cerine.* There are two kinds of *B.-W.* in the shops, the natural yellow *cera flava,* and the white *cera alba.* The latter is obtained by bleaching the former.
Beet, *n.* [Du. *biet;* Ger. *beete;* Lat. *beta.*] (*Bot.*) The common name of the genus BETA, *q. v.*
Beethoven, LUDWIG VON, (*ba-to'vain,*) one of the greatest musical composers of modern times, was B. at Bonn, in 1770. His genius was very early displayed, and his musical education was begun by his father, and continued by the court organist who introduced him to the works of Sebastian Bach and Handel. He soon attempted composition, and showed wonderful facility in improvisation. About 1790, he settled at Vienna, where Mozart quickly recognized his marvellous powers. When about 40 years of age, he was attacked with deafness, which became total, and lasted through life. He became, gradually, the victim of morbid irritability, and hopeless melancholy, ending in confirmed hypochondria, and, finally, dropsy and delirium. He continued to compose, however, long after he had ceased to hear himself play, and received homage and honors from all parts of Europe. D., unmarried, at Vienna, in March, 1827. The works of *B.* are very numerous, and in every variety of style—orchestral, chamber-music, pianoforte, and vocal music. Among the most celebrated are the opera of *Fidelio;* the oratorio of the *Mount of Olives;* the cantata *Adelaide; Sinfonia Eroica* (Heroic Symphony); *Sinfonia Pastorale* (Pastoral Symphony); *Concerto in C Minor; Sonata Pathétique;* and the *Sonata with Funeral March.* Vast power, intense passion, and infinite tenderness are manifested in all his compositions, which abound no less in sweetest melodies than in grand and complicated harmonies. His Life has been written by Schlosser, Von Seyfried, and others; and an English translation of his Letters, by Lady Wallace, was published in 1866. A statue of *B.*, by Hülmel, was erected at Bonn, in 1845.
Beetle, (*bē'tl.*) *n.* [A. S. *betl,* or *bytl,* from *beatan,* to beat; from *bat.*] An instrument to beat with. Specifically, a heavy wooden instrument resembling a mallet or rammer used to drive stones into pavements, &c.

"They are as shards, and he their *beetle.*"—*Shaks.*

—*n.* [A. S. *bitel,* probably from *bitan,* to bite.] (*Zoöl.*) This term is commonly used to designate those insects which are covered by a strong horny substance; the abdominal part of the body being protected by two sheaths under which the wings are folded. Hence the term is synonymous with COLEOPTERA, *q. v.*
—*v. a.* To use the instrument called a beetle.
—*v. i.* To jut; to be prominent; to hang over.

"Each *beetling* rampart, and each tower sublime."—*Wordsworth*

Bee'tle-brow, *n.* An overhanging or prominent brow.
Bee'tle-browed, *a.* Having prominent brows.

"Enquire for the *beetle-brow'd* critic."—*Swift.*

Bee'tle-head, *n.* A stupid, obtuse fellow.
Bee'tle-headed, *a.* Having a head like a beetle; stupid; obtuse.

"A *beetle-headed,* flap-ear'd knave."—*Shaks.*

Bee'tle-stock, *n.* The handle of a beetle.
Beet'ling, *n.* (*Manf.*) A process applied to cotton shirting, in which the yarn is so treated as to give the cloth a hard appearance, in imitation of linen. It was first employed upon linen shirting. A number of wooden stampers, placed in a row, strike upon the cloth as it passes under them, producing the effect required.
Bee'town, in *Wisconsin,* a post-village and township of Grant co., 24 m. S.S.E. of Prairie du Chien.
Beet'race, in *Iowa,* a post-office of Appanoose co.
Beet'-radish, Beet'-rave, *n.* [Fr. *betterave.*] The red beet, *Beta vulgaris.* See BETA.
Beet'-root, *n.* See SUGAR.
Beeves, *n. pl.* See BEEF.
Bee'ville, in *Texas,* a town, the capital of Bee co.
Befall', *v. a.* [A. S. *befeallan.*] To fall to; to happen to; to occur to.
—*v. i.* To happen; to come to pass.

"Whatever chance *befall:*—
'Tis better to have lov'd, and lost,
Than never to have loved at all."—*Tennyson.*

Beffroi. See BELFRY.
Befit', *v. a.,* [*be* and *fit.*] To fit; to suit; to be suitable; to become.

"Blind is his love, and best *befits* the dark."—*Shaks.*

Befit'ting, *p. a.* Fit; suitable; becoming.
Beflat'ter, *v. a.* To flatter much, or to an undue extent.
Beflow'er, *v. a.* To scatter or rain over with flowers, or with pustules, &c.
Befoam', *v. a.* To foam over; to cover with foam. (R.)
Befogged, (*be-fŏgd',*) *a.* To be involved in a fog.
Befool', *v. a.* To fool; to infatuate; to delude.

"Men *befool* themselves infinitely."—*South.*

Before', *prep.* [A. S. *beforn,* or *beforan.*] Near the fore part; in front of; as, to stand *before* the fire.

"Who shall go
"*Before* them, in cloud and pillar of fire." — *Milton.*

—In advance of; previous to; anterior to.

"*Before* this treatise can become of use." — *Swift.*

—In preference to; prior to; superior to, in dignity, order, &c.; as, "The eldest son is *before* the younger in succession." In presence of; in sight of; face to face.

"See we fall *before* thee!
Prostrate we adore thee." — *Dryden.*

—In the power of; noting the right of choice.

"And all the year, *before* thee for delight." — *Dryden.*

Before the beam. (*Naval Arch.*) An arc of the horizon

comprehended between a line which crosses a ship's length at right angles, and some object at a distance before it; or between the line of the beam and that point of the compass which the stem points to.

Before the wind. (*Naut.*) In the direction of the wind, so as to be impelled by its full force.

Before', *adv.* Further onward; in front; on the fore part.

"And that which was *before*, came after." — *Butler.*

—In time preceding; sooner than; hitherto.

"You tell me, mother, what I knew *before*,
The Phrygian fleet is landed on the shore." — *Dryden.*

Before'-cited, *a.* Cited previously.

Before'hand, *adv.* In a state of anticipation; previously; antecedently; often followed by *with*.

"Quoth Hudibras, I am *beforehand*
In that already, *with* your command." — *Hudibras.*

—At first; by way of preparation; preliminary.

"When the lawyers brought extravagant bills,
Sir Roger used to bargain *beforehand*." — *Arbuthnot.*

—*a.* In an accumulative state as regards wealth or property.

"Stranger's house is at this time rich, and much *beforehand*." *Bacon.*

Before'-mentioned, *a.* Mentioned before.

Before'time, *adv.* Aforetime; formerly; of old time.

Befort, or **Belfort**, (*bĕ'for*,) a town of France, in the former dep. Haut-Rhin, on the Savoureuse, 38 m. S.S.W. of Colmar. It is a strong place, and was fortified by Vauban. It resisted successfully, for several months, a formidable German army in 1870, and did not surrender till after the close of the war. *B.* has manufactures of importance.

Befoul', *v. a.* [A. S. *befylan*.] To make foul; to soil; to pollute.

Befrec'kle, *v. a.* To freckle; to cover with various spots.

Befriend', *v. a.* To favor; to act as a friend to.

"Brother-servants must *befriend* one another." — *Swift.*

Befriend'ment, *n.* The act of befriending, or being a friend to.

Befringe', *v. a.* To decorate as with a fringe; to supply with fringe.

"Clothe spice, line trunks, or, flutt'ring in a row,
Befringe the rails of Bedlam and Soho." — *Pope.*

Befurred, (*be-fĕrd'*,) *a.* Covered with fur.

Beg, *n.* [Turk. *beg*.] See Bey.

Beg, *v. a.* [Sw. *begæra*, to ask, to crave; Ger. *begehren*.] To ask or supplicate in charity; to ask earnestly; to crave, solicit, petition, supplicate; to entreat for.

"See how they *beg* an alms of flattery." — *Young.*

—To take anything for granted; to assume without evidence or proof.

"We have not *begged* any principles or suppositions." — *Burnet.*

—*v. i.* To ask alms or charity; to practise beggiug; to live upon alms.

"I cannot dig; to *beg* I am ashamed." — *Luke* xvi. 3.

Beg, (Lough,) a small lake of Ireland, co. Antrim, adjoining Lough Neagh; length 4 m., breadth 1½.

Be'ga, Big'gah, *n.* [Hindoo, *bighâ*.] A land-measure of Bengal, equal to about a third of an acre.

Be'ga, Cornelius, an eminent Dutch painter of cattle and landscape subjects, b. 1620. He was one of the most distinguished pupils of Adriau van Ostade. D. 1664.

Begau', *imp.* of *Begin*, q. v.

Begard, (*be-gär'*,) a town of France, dep. Côtes-du-Nord, 3 m. N.W. of Guingamp: *pop.* 4,600.

Begem', *v. a.* To deck or adorn with gems, or as with gems.

"These lonely realms bright garden isles *begem*." — *Shelley.*

Beget', *v. a.*, (*imp.* begot, begat; *pp.* begot, begotten.) [A. S. *begetan*, — *be*, and *getan*, to get.] To get or gain; to obtain; to attain. Specifically, to procreate; to generate.

"T was he the noble Claudian race *begat*." — *Dryden.*

—To cause; to produce, as an effect.

"Love is *begot* by fancy, bred
By ignorance, by expectation fed."—*Granville.*

Beget'ter, *n.* One who begets, procreates; a sire; a father.

"No share of that goes back to the *begetter*,
But if the son fights well, and plunders better." — *Dryden.*

Beg'gable, *a.* Which may be begged.

Beg'gar, *n.* One who begs; one who lives by begging; a suppliant; a petitioner. There must necessarily exist in every country certain persons who have not the means, ability, or perhaps, the will, to earn a livelihood for themselves, and who are thus dependent for subsistence upon the charity of others. These constitute the poor; when they have to solicit charity, they are beggars. The laws of several of the U. States punish begging as an offence.

—One who assumes what he does not prove; as, "These shameful *beggars* of principles." — *Tillotson.*

—*v. a.* To reduce to beggary; to impoverish.

"The miser with heav'n, . . . cheaply wipes his score,
Lifts up his eyes, and hastes to *beggar* more." — *Gay.*

—To exhaust; to deprive.

"For her own person,
It *beggar'd* all description." — *Shaks.*

Beg'gar-brat, *n.* A beggar's child; a child that begs.

Beg'garliness, *n.* The state of being beggarly; meanness of living; poverty.

Beg'garly, *a.* Like a beggar; mean; contemptible; extremely poor; in the condition of a beggar.

"The *beggarly* last doit." — *Cowper.*

—Produced, or occasioned by beggary.

Beg'garly, *adv.* Meanly; indigently; despicably.

"Hath he revealed, that it is his delight to dwell *beggarly*?" *Hooker.*

Beg'gar my Neigh'bor, *n.* (*Games.*) An easy game at cards, played chiefly by children. The whole pack is dealt out to two players, and the cards are held with the backs upward; each player then turns up a single card in turn. When you play an *ace*, your adversary must give you four cards; three for a *king*, two for a *queen*, and one for a *knave;* and when the requisite number are laid down, you win the trick, and place the cards so won at the bottom of those in your hand. If, however, your opponent turns up an *honor*, while paying for that which you have previously paid, you must pay for it in a similar manner, according to its value, and so on until the cards of one or the other are exhausted. The player who first exhausts his adversary's hand, and gets all the cards into his own, is said to *beggar his neighbor*.

Beg'gar's-lice, *n.* (*Bot.*) The prickly fruit or seed of certain plants (as some species of *Echinospermum* and *Cynoglossum*) which fasten on the clothing of those who pass by them.

Beg'gary, *n.* State of a beggar, of one in extreme indigence; poverty in the utmost degree.

"My virtue then shall be,
To say there is no vice but *beggary*." — *Shaks.*

Beghards, Beguards, (*beg'hards*,) *n. pl.* (*Eccl. Hist.*) A term applied to several religious orders, as well as heretics, during the Middle Ages. It was probably first used to describe those half monks of the third order of St. Francis, who arose in the 11th century. They must not be confounded with the later sectaries, a branch of the *Fraticelli*, condemned by the 15th General Council, that of Vienna, 1311-1312. This mistake was so often made at the time that Pope John XXI. or XXII., by a decretal, declared the last-mentioned to be execrable impostors, and in no way connected with the *B.* of the third order of St. Francis. Mosheim shows the name is derived from the Old German word *beggen*, or *beggeren*, to beg, with the word *hard* subjoined; that it signified, to beg earnestly and heartily; and he accounts by this derivation for the indiscriminate manner in which it was applied to so many orders and sects. The subject is involved in inextricable confusion from the many conflicting accounts of different authorities. The *B.* disappeared about the end of the 14th century.

Baghar'mi, or Bagir'mi, in Central Africa, a country divided from the kingdom of Bornou in the W. by the Shari or Grand River, and bounded on the N. by Lake Tsad, and on the E. by the Waday kingdom. It extends southward to about 10° N. Its greatest length is about 240 m.; breadth 150; and general elevation about 1,000 feet above the sea. *Rivers*, Bénuwé, Logon, and Shari. According to Dr. Barth's *Travels in Central Africa*, the soil, partly composed of sand, and partly of lime, produces the grains and fruit common to that region. The inhabitants are generally pagans, but Mohammedanism has been introduced among them. They are physically superior to the neighboring races, the women being especially handsome. The Sultan, tributary of the kingdom of Bornou, is absolute in his own dominions. *Cap.* Mesna. *Pop.* about 1,500,000.

Begild', *v. a.* To overlay with gold or gilding.

Begin', *v. i.* (*imp.* began; *pp.* begun.) [A. S. *gynnan*, *aginnan*, and *beginnan*, from the root *gin*, *gen*, or *gyn*; Gr. *ginomai*, to come into being, to be or become.] To be or become; to take rise; to come into existence; to commence.

"Ere the base laws of servitude *began*,
When wild in woods the noble savage ran." — *Dryden.*

—To do the first act; to take the first step; to commence any action or state.

"We poets in our youth *begin* in gladness;
But thereof comes in the end despondency and madness."
Wordsworth

—*v. a.* To enter upon; to commence; to originate.

"They have been awaked, by these awful scenes, to *begin* religion." — *Watts.*

—To trace from anything, as the first ground.

"The apostle *begins* our knowledge in the creatures, which leads us to the knowledge of God." — *Locke.*

Begin'ner, *n.* The person who begins; one in his rudiments; one who first enters upon anything; an inexperienced person; a tyro; a young practitioner.

Begin'ning, *n.* The first cause, act, state, or origin.

"Wherever we place the *beginning* of motion." — *Swift.*

—That which is first; commencement; entrance into being.

"In the *beginning* God created the heaven and the earth." *Gen.* i. 1.

—The first ground, materials, or rudiments.

"That is the true *beginning* of our end." — *Shaks.*

Begin'ningless, *a.* With no beginning; having no beginning.

Begird', *v. a.* (*imp.* begirt, begirded; *pp.* begirt.) [A.S. *begyrdan*, — *be* and *gyrdan*, to gird. See Gird.] To gird round about; to bind; as, with a band or girdle. To surround; to encompass; to enclose; to encircle.

"Abroad *begirt* with men, and swords, and spears,
His very state acknowledging his fears." — *Prior.*

Beg'lerbeg, *n.* [Turk., from *beg*, pl. *begler*. See Bey.] Formerly, in the Turkish empire, the title of the governor-generals of the provinces. They were next in rank to the Grand Vizier.

Beg'lerbeglic, *n.* The province governed by a beglerbeg.

Beg'leys, in *Kentucky*, a post-office of Perry co.

Begnaw, (*be-naw'*,) *v. a.* To bite; to gnaw; to eat away; to nibble largely; to corrode.

"The worm of conscience still *begnaw* thy soul." — *Shaks.*

Begone! *interj.* [*be*, imper. of the verb *to be*, and *gone*, participle of *go*.] Get you gone! go hence! Away! Depart!

"*Begone!* dull Care, I prithee *begone* from me."
Musical Companion, 1687.

Begonia, (*be-go'ni-a*,) *n.* (*Bot.*) A genus of plants, order *Begoniaceæ*. The species are natives of tropical regions, but many are now cultivated in all countries as ornamental plants. The leaves are oblique or unequal, (more developed on one side of the midrib than on the other,) and are often richly tinged with crimson. The flowers are of a delicate pink color, and grow in cymes. The young stems and leaves of the species *B. malabarica* and *tuberosa* are used as pot-herbs in the countries where they grow wild. Of the numerous species which adorn our conservatories, *B. argyrostigma* and *discolor* are perhaps the most beautiful. *B. discolor*, or two-colored *B.*, is a Chinese species, and is remarkable for the very rich crimson of the under-surface of the leaf, which is short and broad.

Begonia'ceæ, *n. pl.* (*Bot.*) An order of plants, alliance *Cucurbitales*. Diag. Dry fruit and placentæ projecting and meeting in the axis. Herbaceous plants or succulent under-shrubs, with an acid juice; the *B.* have perfectly unisexual flowers, with a superior calyx, generally colored pink, consisting, in the sterile flowers, of from two to four pieces, and in the fertile flowers of from

Fig. 332. — BEGONIA MALABARICA.

1. Fertile flower. — 2. Fruit. — 3. The same, cut through horizontally. — 4. Seeds. — 5. One seed magnified. — 6. The same, cut through to show the embryo in its natural position in the albumen.

five to eight. The stamens are numerous: the style simple; the stigmas three, often forked, and having a wavy or twisted appearance. These latter originate from a three-cornered, three-celled ovary, containing a multitude of little seeds, which changes to a thin-sided capsule with three extremely unequal wings. The leaves are always more or less unequal-sided, and have highly-developed membranous stipules at their base. They are chiefly found in tropical countries, particularly in Asia and America. The order has only 159 species in 3 genera, the typical one being the *Begonia q. v.*

Begored', *a.* [*be* and *gore*.] Besmeared with gore or blood.

Begot', Begot'ten, *pp.* of Beget. Procreated; generated.

"But base *begotten* on a Theban slave."—*Dryden.*

Begrease', *v. a.* [*be* and *grease*.] To grease; to anoint, daub, or soil with grease, or any unctuous matter.

Begrime', *v. a.* To make grimy; to soil with dirt much impressed; to bespatter with smut.

"As Diana's visage is now *begrim'd*, and black
As my own face."—*Shaks.*

Begrim'er, *n.* A person who begrimes another.

Begrudge', *v. a.* To grudge: to envy the possession of.

Begshehr, (*beg-sher'*,) a river, lake, and town of Turkey in Asia, prov. of Karamania. The lake is about 20 m. long, and from 5 to 10 broad, containing many small islands. It is supposed to be the ancient *Caralites*.

Begta'shi, *n.* A religious order in the Ottoman empire, which had its origin in the 14th cent. The name is believed to be derived from that of a celebrated dervish, Hadji Begtash, to whom also the order appears to owe its institution. The members use secret signs and passwords as means of recognition, in the same way as is done by the Masonic orders, some of them indeed appearing to be identical with those of freemasonry. Although numbering many thousands of influential persons in its ranks, the society does not appear to exercise any material influence in the religion or politics of Turkey.

Beguile, (*be-gīl'*,) *v. a.* [*be* and *guile*. See GUILE.] To impose on by guile, artifice, or craft; to delude; to deceive.

"And often did *beguile* her of her tears."—*Shaks.*

—To elude, evade, or cheat by craft, or artifice.

"When misery could *beguile* the tyrant's rage."—*Shaks.*

—To wile away; to pass pleasantly; to amuse.

"With these sometimes she doth her time *beguile*:
These do by fits her phantasy possess."—*Sir J. Davies.*

Beguile'ment, *n.* Act of beguiling or deceiving.

Beguil'er, *n.* A person who, or anything which, beguiles, evades, or deceives.

Beguil'ingly, *adv.* In manner to beguile or deceive.

Beguilt'y, *v. a.* [*be* and *guilty*.] To make guilty. (o. & R.)

Beginage, (*bā'gēen-ăzh'*,) *n.* [Fr.; Ger. *Beguinenhäuser*.] A convent of Beguines.

Beg'uines, Beguit'tæ, (*bā'gēens*,) *n. pl.* [Fr.] (*Eccl. Hist.*) An order of "praying ladies," as Mosheim styles them, which rose in the Netherlands, and spread through France and Germany during the 12th and 13th centuries. They were pious women, virgins, or widows, who formed themselves into societies, under the direction of a superior of their own sex. The first establishment of which any record remains was at Nivelles, in Brabant, founded, according to some authorities, in 1207, and, according to others, in 1224. They soon became so numerous that Matthew Paris speaks of 2,000 Beguines in Cologne and its neighborhood, about the year 1243. They are still to be met with in some parts of France, Holland, and Germany, where they devote themselves to attendance on the sick, and the education of young females.

Be'gum, *n.* A title given in India almost exclusively to sovereign ladies, princesses, or other females of the highest rank.—This term is sometimes satirically applied, in English society, to a wealthy lady, whether European or Hindoo, who visits, or comes to reside in, England.

Begun', *pp.* of BEGIN, *q. v.*

Behaban', a town of Persia, prov. Fars, in a fruitful country, about 3 m. E. of the ruins of the ancient city of Aragian. *Pop.* about 10,000.

Behaim. See BEHEM.

Behalf, (*bē-haf'*,) *n.* [A. S. *behabban*—*be*, and *habban*, to have. See BEHOOVE.] Need; necessity; profit; convenience; advantage; favor; cause; support; account; sake; part; side.

"He might in his presence, defy all Arcadian knights, in the *behalf* of his mistress's beauty."—*Sir P. Sidney.*

Behap'pen, *v. a.* To happen, or befall to.

Behar. See BAHAR.

Behave, (*bē-hāv'*,) *v. a.* To hold; to restrain; to govern; to carry or bear; to conduct; to manage. (Used with the reciprocal pronoun.)

"To their wills wedded, to their errors slaves,
No man, like them, they think, *himself behaves.*" *Sir J. Denham.*

—*v. i.* To act; to conduct one's self; as to have *behaved* well or ill.

Behavior, (*bē-hāv'i-ẽr*,) *n.* The way in which a man has, possesses, or demeans himself generally, or on a specific occasion. Conduct; deportment; demeanor; manner.

"A gentleman that is very singular in his *behaviour.*" *Sir R. Steele.*

(*Law.*) Carriage of one's self, with respect to propriety, morals, and the requirements of law. Surety of being of good *B.* is a larger requirement than surety to keep the peace.

Behbehan, (*be'be-han*,) a town of Persia, prov. of Fars, 130 m. from Shiraz, in a fertile plain; *pop.* abt. 4,000.

Behead, (*bē-hed'*,) *v. a.* To cut off the head; to decapitate; to shorten by the head.

Behead'ing, *n.* The act of cutting off the head. See DECAPITATION.

Beheld', *pret.* and *pp.* of BEHOLD, *q. v.*

Be'hem, MARTIN, a celebrated geographer, B. at Nürnberg in 1436. In 1480, he went to Portugal, accompanied Diego Cam on an expedition of discovery along the coast of Africa, and rendered valuable services. In 1492, he revisited his native city and there constructed the famous terrestrial globe, on which are traced his discoveries. He then returned to Portugal, and D. at Fayal, in 1506. Attempts have been made to prove that *B.* was the discoverer of America, but without success.

Behemoth, (*bē'hē-moth.*) [Heb., beasts, the plural of greatness, for the Great Beast, or the Water-ox.] (*Scrip.*) A huge amphibious animal, described in *Job* xl. 15–24. It has been identified by some commentators with the elephant, but more generally with the hippopotamus, *q. v.*

Beh'enic Acid. (*Chem.*) A crystalline fat acid, fusing at 170°, found in the oil of Ben, or *Moringa oleifera*,—the basis of Macassar oil.

Behest', *n.* [*be*, and A. S. *hæse*, from *hatan*, to call, name, or command.] Declared will or order; command; precept; mandate.

"On high *behests* his angels to and fro
Pass'd frequent."—*Milton.*

Behind', *prep.* [A. S. *behindan*.] On or at the hinder part; on or at the back of; in the rear of; following another; posterior to.

"Which he had caused his horsemen to take *behind* them on their horses."—*Knolles.*

—Remaining after; left after the departure of.

"I must be cruel only to be kind;
Thus bad begins and worse remains *behind.*"—*Shaks.*

—Inferior to in dignity, worth, or attainments; as, he is *behind* the age.

—*adv.* In the rear; backward; as, to look *behind* one.

—Remaining; not yet brought forward, or presented.

"We cannot be sure that we have all the particulars before us; and that there is no evidence *behind.*"—*Locke.*

—Past; backward, or posterior in time of order or succession.

Behind'hand, *a.* [*behind* and *hand*.] In arrears; as, to be *behindhand* in one's payments.—In a state of backwardness; as, to be *behindhand* with work. (Generally followed by *with*.)

"Consider whether it is not better to be half-a-year *behindhand with* the fashionable part of the world, than to strain beyond his circumstances."—*Spectator.*

Beh'men, or BÖHME, JACOB, a religious mystic, B. in Upper Lusatia, Germany, in 1575, and settled as a shoemaker at Görlitz, in 1595. In 1610 he commenced the publication of a series of works in which he professed to enjoy a revelation of inward light from the Holy Ghost, that enabled him to perceive the secrets of nature and religion. He was opposed by Gregorius Richter, primate of Görlitz, and was compelled to retire to Dresden, but eventually returned to his home, where he D. in 1624. The Behmenites, as a religious sect, may be said to be extinct, but *B.* has still many devoted admirers at the present day. It is impossible, within our limits, to give an intelligible account of the system of *B.* Formerly his doctrines were viewed with great contempt by all but his own immediate followers; but latterly this unlettered rustic, this man of earnest principle and pious heart, has come to occupy a high place among the philosophers of his country. Hegel places him at the head of modern speculative philosophers, and Tieck and Novalis were enthusiastic admirers of his writings. Professor Maurice, in his article on Moral and Metaphysical Philosophy, (*Encyclopædia Metropolitana*,) says, "That his obscurity was in a great degree the effect of unacquaintance with scientific language; but that through it all may be traced deep thoughts respecting God and man, by which philosophers might be greatly profited." After Behmen's death, his opinions spread over Germany, Holland, and England. His works were translated into English by the celebrated William Law, of Oxford. Henry More has written upon the views of Behmen, and it is said that many autograph extracts from the works of Behmen were found among the papers of Sir Isaac Newton.

Beh'menites, *n. pl.* (*Eccl. Hist.*) Disciples of the tenets of BEHMEN, *q. v.*

Behn, APHRA, (*bain*,) a miscellaneous writer in the reign of Charles II. of England. Her writings, consisting of novels, poems, and plays, were relished in their day, but are now only remembered for their immorality. D. 1687.

Behold', *v. a.*, (*imp.* and *pp.* BEHELD.) [A.S. *behealdan*, *pp. behealden*, from *healdan*, to hold.] To hold or keep the eyes fixed upon; to look steadfastly on; to look upon; to view; to consider; to regard with attention.

"Man looks aloft, and with erected eyes,
Beholds his own hereditary skies."—*Dryden.*

—*v. i.* To look; to direct the eyes to an object; to direct or fix the mind or attention.

"*Behold* the child, by Nature's kindly law,
Pleased with a rattle, tickled with a straw."—*Pope.*

Beholden, (*be-hōld'n.*) *pp.* or *a.* Holden or bound in gratitude; obliged; indebted.

"Wherein I must acknowledge myself *beholden* to you."—*Bacon.*

Behold'er, *n.* One who beholds; an eye-witness; a spectator.

"Was this the face,
That, like the sun, did make *beholders* wink?"—*Shaks.*

Behold'ing, *ppr.* Fixing the eyes upon; looking on; seeing; contemplating; regarding with attention.

"*Beholding* heaven, and feeling hell."—*Moore.*

Behon'ey, *v. a.* [*be* and *honey*.] To make sweet with honey.

Behoof, (*be-hūf'*,) *n.* [From A. S. *behafian*. See BEHOOVE.] Need; necessity; advantage; profit; benefit.

"Which careful Jove, in Nature's true *behoof*,
Took up, and in fit place did reinstate."—*Milton.*

Behoove, (*be-hōv'*,) *v. a.* [A.S. *behafian*, to be fit, to have need of; Ger. *behūf*, allied to *haben*, to have.] To be fit, or meet for; to be needful, or necessary for.

"But should you lure the monarch of the brook,
Behooves you then to ply your finest art."—*Thomson.*

Behoove'ful, *a.* Useful; profitable; advantageous. (R.)

"Madam, we have culled such necessaries
As are *behooveful* for our state to-morrow."—*Shaks.*

Behove'. See BEHOOVE.

Behring, VITUS, (*ba'ring*,) a Dane, B. 1680, entered the service of Russia, and was appointed by the Empress Catherine to command an expedition of discovery in the Sea of Kamtschatka. He left St. Petersburg in February, 1725, and after exploring several rivers, travelled overland by the way of Yakutsk, on the Lena, to Okhotsk, then crossed over to Bolcheretsk, and arrived at Nischnei Kamtschatka-Ostrog. Here he built a small boat, and sailed on the 20th of July, 1728, coasting Kamtschatka till he reached, in Aug., (67° 18′ N. Lat. by his observations,) a cape, which, from the land beyond it trending so much to the westward, he supposed to be the north-easternmost point of Asia. In this conjecture, however, as has since been proved, *B.* was mistaken; the point reached by him must have been Serdre Kamen; but with this conviction on his own mind, and the approach of winter, he determined to retrace his steps, and he returned in safety to Nischnei Kamtschatka. In 1733 he took command of another expedition, fitted out on a very large scale. After several exploratory excursions, he stationed himself at Yakutsk, directing various detachments of his officers down the rivers on different points of the Frozen Ocean. In 1740 he reached Okhotsk, where vessels had previously been built for him, in which he sailed for Awatska Bay, where he founded the present settlement of Petropaulovski, and passed the winter. His discoveries to the northward being deemed sufficiently satisfactory, he was now directed to proceed to the eastward towards the American continent. He left Awatska in June, 1741, steering to the S.E., but having reached the parallel of 46° without seeing land, he altered his course to the N.E., and on the 18th of July, (having been forty-four days at sea,) he descried very high mountains covered with snow in Lat. 58½° N., having made, according to his reckoning, 50° of E. Lon. from Awatska. He now followed the coast to the northward, but his crew suffering from sickness, he resolved to return to Kamtschatka, when, Nov. 3, 1741, he was wrecked on the island which now bears his name, and D. on the 8th of the following month. The survivors of his crew reached Kamtschatka in a small vessel which they built from the wreck, and thus some account of this ill-fated voyage was preserved.

Behr'ing's Island, a small island in the Pacific Ocean, Lat. 55° 22′ N., Lon. 166° E., the most W. of the Aleutian chain. It is 90 m. long, rocky and desolate, uninhabited, and only remarkable as the place where the great navigator whose name it bears, breathed his last.

Behr'ing's Strait, the channel which separates the N.E. of Asia from the N.W. corner of America, and which connects the N. Pacific with the Arctic Ocean. It is formed, in its narrowest part, by two remarkable headlands, the extreme points E. and W. of the continents to which they belong: Cape Prince of Wales, on the American coast, in Lat. 65° 46′ N., Lon. 168° 15′ E.; and East Cape, on the shore of Asia, Lat. 66° 6′ N., Lon. 169° 38′ W. The distance between these two points is about 36 m.; but N. and S. of them, the land on both sides rapidly recedes, and, on the N. especially, it trends so sharply that the name of "strait" is not very applicable to any part beyond the capes in that direction. It is usual, however, to regard it extending along Asia from Tchukotskoi Noss, in 64° 13′, to Serdre Kumen in 67° 3′ N., which gives it a length of 400 m.; its width between Tchukotskoi Noss (173° 24′) and Cape Rodney, on the opposite shore of America, (166° 3′ W.,) is about 250 m. Shoal water appears to be principally confined to the bays and inlets on the American side. There are a few islands scattered here and there along the strait; and one of some size, St. Lawrence or Clerke's Island, lies at a short distance S. from its entrance. The temperature is low, and N. of the two capes there is always a store of ice throughout the year. Fogs and hazy weather are almost perpetual, and the strait is frozen over every winter. This strait was discovered in 1728, by Vitus Behring, (*q. v.*,) but the complete results of the discovery were left for Capt. Cook, who, in 1788, made a thorough and accurate survey of both coasts. It may, perhaps, be interesting to know, that a very old Japanese map of the world, now in the British Museum, lays down the leading features of this strait with surprising accuracy.

Bei'la, or BELA, an inland town of Beloochistan, cap. prov. of Lus, on a rock, on the N. bank of the Poorally; Lat. 26° 11′ N., Lon. 66° 36′ E., and 50 m. N. of the Indian Ocean. It is a clean and tidy town, inhabited mostly by Hindoos.

Be'ing, *p.pr.* [From BE.] Existing; existing in a certain state.

—*n.* Existence; a particular state or condition, as opposed to non-existence, or nonentity.

"Thee, Author of all *being*,
Fountain of Light."—*Milton.*

—A person existing; any living creature, whether material or spiritual, actual or ideal.

"Ah fair, yet false! ah *being* form'd to cheat
By seeming kindness, mixt with deep deceit!"—*Dryden.*

—An intelligent or living existence or spirit, in contradistinction to a thing without life.

—*adv.* Since; for as much as; inasmuch as.

"And *being* you have
Declined his means."—*Beaumont and Fletcher.*

Bei'ra, a province of Portugal.—See BEYRA.

Beiram. See BAIRAM.

Beirout, Beyrut. See BEYROUT.

Beit, (*bite*,) an Arabic word, which properly signifies a tent or hut, but is likewise employed to denote any edifice or abode of men. It is often found as a component part of proper names in the geography of those countries that have become subject to the Arabs, as, *Beit-al-Harâm*, i. e. "the edifice of the sanctuary." The Hebrew word, corresponding to the Arabic *Beit*, is *Beth*, which we find employed in a manner perfectly analogous in the Old Testament; in the name *Bethlehem* (in Arabic *Beit-Lahm*, or *Beit-al-Lahm*), i. e. "the house of bread." The same word, *Beth*, is, in Syriac, still more extensively used as a component part of geographical names.

Beit-el-Fakih, (*bite-el-fa-ke*,) a maritime town of Arabia, 100 m. W. of Sana, on the Red Sea. This place, the hottest in Tehama, is the centre of the Yemen trade in coffee. *Pop.* 10,000.

Beith, a flourishing inland town of Scotland, county of Ayr, 9 m. S.W. of Paisley. *Manf.* Cottons and muslins. The famous Dunlop cheese is made in the neighborhood. *Pop.* about 6,000.

Be it so. A phrase of supposition or anticipation, equal to *suppose it to be so*; or of permission, as, *let it be so.*

"My gracious duke,
Be't so she will not here, before your grace."—*Shaks.*

Beita'llah, *n.* [Ar., "house of God."] The name of the temple at Mecca, which contains the KAABA, *q. v.*

Beja, (*baizh'ah.*) a town of Portugal, 36 m. from Evora. It stands on a hill and is surrounded by walls flanked by forty towers. *Pop.* about 6,000.

Bejapoor, (*bej'a-poor*,) a large prov. of the Deccan, Hindostan, comprised partly in the British dom. and partly in those of the Rajah of Sattara and the Nizam, and containing the Portuguese territory of Goa. It extends from 15° to 18° N. Lat., and between 73° and 78°

E. Lon., having N. prov. Aurungabad; E., the same prov. and that of Ilyderabad; S., the Toombudra and Wurda rivers; and W., tho Indian Ocean; length, 320 m., by 200 m. average breadth. Its W. districts are very mountainous, being intersected by tho W. Ghauts. The principal rivers are the Krishna, or Kistnah, Toombudra, and Beema. The Krishna is remarkable as forming the boundary between two regions in which distinct languages and architectural characteristics prevail; N. of that stream the Mahratta tongue is spoken, and the roofs of the ordinary houses are pitched and thatched; S. of its banks the Canara language prevails, and the houses are flat-roofed and thatched with mud and clay. The Ramooses, a tribe resembling the lower castes of the Mahrattas, with the thievish habits of the Bheels, but more subdued and civilized, inhabit the hills joining the Ghauts in Sattara, between Poonah on the N., Coolapoor, and Bejapoor, E. After the dissolution of the Bhamanee empire of the Deccan, in 1489, Adil Shah established in *B.* a dynasty which lasted till 1689. The country was afterwards ruled by the Mahrattas, and after long years of anarchy, was partially subjected by the English in 1818.

Bejapoor, (*Vijayapura*, "the impregnable city,") the ancient cap. of the above prov. under the Bhamanee dynasty, is 115 m. S.E. of Sattara. Lat. 16° 46′ N.; Lon 75° 47′ E. In the beginning of the 17th century, it was a city of great size and grandeur, but at present it consists merely of an immense number of mosques, &c., with a population of 20,000.

Be'jar, a fortified town of Spain, prov. of Salamanca, and 48 m. S. of Salamanca city. *Manf.* Woollens: it is also famous throughout Spain for its hams. There are mineral waters close by. *Pop.* 12,751.

Bejann'dice, *v. a.* [*be* and *jaundice*, q. v.] To infect, or infuse with jaundice.

Bejes'nit, *v. a.* [*be* and *Jesuit.*] To make Jesuitical; to initiate into, or infect with, Jesuitism.

Bejum'ble, *v. a.* [*be* and *jumble.*] To make a medley of; to throw into confusion.

Be'kah, *n.* [Heb. *beka*, half part, from *bâka*, to split.] (*Script.*) A half-shekel; in weight, five pennyweights; in money, about 5 cents. This sum, each Israelite over 20 years old was obliged to pay as a poll-tax for the service of the Temple.

Beke, Charles Tilstone, ph.d., f.s.a., f.r.g.s., an English geographer, explorer, and author, b. in London, 1800. In 1834, he published *Origines Biblicæ*; or, "Researches in Primeval History:" one of the first attempts to reconstruct history on the principles of the young science of geology. *B.*'s historical and geographical studies of the East led him to consider the great importance of Abyssinia for commercial and other intercourse with Central Africa; and he accordingly proceeded to Shoa, in S. Abyssinia, which country he reached in the beginning of 1851. Thence, he went alone into the interior, where he explored Godjam and the countries lying to the W. and S., previously almost entirely unknown to Europeans. The result of these researches was published in *A Statement of Facts*, &c. (1st edit., Lond. 1845). On his return to Europe, there appeared, successively, from his pen, *An Essay on the Nile and its Tributaries*, (London, 1847:) *On the Sources of the Nile in the Mountains of the Moon*, (1848;) *On the Sources of the Nile*, (1849;) and *Mémoire Justificatif en Réhabilitation des Pères Paez et Lobo*, (Paris, 1848.) Among his other works are, *On the Geographical Distribution of Languages in Abyssinia*, (Edin. 1849;) and *The Sources of the Nile, with the History of Nilotic Discovery* (London, 1860.) — Dr. *B.* left England, in Nov. 1865, on a fruitless mission to obtain the release of his fellow-countrymen in Abyssinia (*q. v.*), and published *The British Captives in Abyssinia*, in 1867. D. 1874.

Bel, (*Myth.*) the chief idol of the Babylonians. — See Baal.

Bela'bor, or **Bela'bour,** *v. a.* [*be* and *labor.*] To ply with diligence or assiduity; to employ one's self carefully upon.

"If the earth is *belaboured* with culture, it yieldeth corn." *Barrow.*

—To beat soundly; to thump; to cudgel.

"He sees virago Nell *belabour*,
With his own staff, his peaceful neighbour."—*Swift.*

Belace', *v. a.* To inflict punishment with a strap; to chastise with a rope's end.

Belair', in *Georgia*, a post-village of Richmond co., 10 m. W. of Augusta.

Bel Air, in *Illinois*, a village of Clarke co.

Belair', in *Illinois*, a village of Crawford co.

Belair', in *Maryland*, a town, the capital of Harford co., 22 miles N. E. of Baltimore. *Pop.* in 1891, 1,416; in 1897 (est.), 1,696.

Belair', in *South Carolina*, a village of Lancaster co.

Belair', in *Vermont*, a village of Orleans co., on Barton river, 40 miles N. by E. of Montpelier.

Belam', *v. a.* To beat or bang. An expression used in some parts of England.

Belamour, (*bĕl'a-mōōr,*) *n.* A flower, but of what kind is unknown.

"Her snowy hrows like budded *belamours*." — *Spenser.*

Bel and the Dragon. (*Eccl. Hist.*) The name of an apocryphal and uncanonical book of Scripture. It was always rejected by the Jewish church, and is extant neither in the Hebrew nor Chaldee language, nor is there any proof that it ever was so; hence St. Jerome terms it "the fable of Bel and the Dragon."

Belat'ed, *a.* Late in time; benighted; too late.

Belat'edness, *n.* A being too late.

Beland, (*bĕ-lawd',*) *v. a.* [*be* and *laud.*] To laud, or praise highly.

Belay', *v. a.* [*be* and *lay.*] (*Naut.*) To make a rope fast by turns round a pin or coil, without hitching or seizing it.

Belay'ing-pin, *n.* (*Naut.*) A wooden pin, made of ash, and turned in a lathe, 16 inches long and 1¾ inch in diameter at the upper end; used for belaying a rope.

Bel'bend, in *Pennsylvania*, a post-office of Luzerne co.

Belbeys, (*bel'bez,*) a town of Lower Egypt, on the E. bank of the Nile, 28 m. from Cairo; *pop.* abt. 5,000.

Belch, (*belsh,*) *v. a.* [A. S. *bealcan*, from *bælc*, the stomach; allied to *bulge*, *bilge.*] To swell or heave out; to eject, as wind from the stomach; to eructate.

"And, when they're full,
They *belch* us." — *Shaks.*

—To eject violently from within; to cast forth.

"All heav'n appear'd
From those deep-throated engines *belch'd*." — *Milton.*

—*v. i.* To eject wind from the stomach.

"The symptoms are, . . . *belchings* and distensions of the bowels."—*Arbuthnot.*

—To issue out, as by eructation.

"The waters boil, and, *belching* from below,
Black sands as from a forceful engine throw."—*Dryden.*

Belch, Belching, *n.* The act of throwing out from the stomach, or violently from within; eructation.

Bel'cher, Sir Edward, f.r.s., an English naval officer and explorer, b. 1799. In 1836 he was commissioned to explore the western coasts of America and the Indies, and was absent six years; during which time he had sailed around the world. On his return he published a *Narrative* of his voyage. In 1852, he commanded the expedition in search of Sir John Franklin, and brought home the crews of the ice-bound vessels, Oct. 1854. He afterwards published *The Last of the Arctic Voyages*, (London, 1855.) D. 1877.

Bel'cher, in *New York*, a post-office of Washington co.

Bel'chertown, in *Massachusetts*, a thriving post-township of Hampshire co., 70 m. W. by S. of the city of Boston.

Belch'ité, a small town of Spain, 22 m. S.S.E. of Saragossa; *pop.* 2,878. Here, on June 18, 1809, the Spanish, under General Blake, were completely routed by the French under Suchet.

Bel'dam, Bel'dame, *n.* [Fr. *belle*, fine, or handsome, and *dame.*] Originally, a good dame; now, by corruption, an old woman; an old witch, hag, or weird-like woman.

"I weep for woe, the testy *beldam* swore."—*Dryden.*

—Grandmother, a counter-equivalent to *belsire*, grandfather. (Poet. and R.)

"To show the *beldame* daughters of her daughter."—*Shaks.*

Bel'den, in *Indiana*, a post-village of Wabash co., on the Wabash River, 34 m. W.S.W. of Fort Wayne.

Bel'denville, in *Wisconsin*, a post-village of Pierce co., 14 m. E. of Prescott.

Beleaguer, (*be-lē'gėr,*) *v. a.* [Ger. *belägern*, *be*, by, and *lagern*, to lay.] To surround with an army; to blockade, or block up; to besiege.

"The Trojan camp, then *beleaguered* by Turnus and the Latins."—*Dryden.*

Beleaguerer, *n.* One who beleaguers; one who besieges a place.

Belect'ure, *v. a.* [*be* and *lecture.*] To administer a lecture to; to bore with unwelcome advice or reproof; to lecture frequently.

Belee', *v. a.* [*be* and *lee.*] To place on the lee, or in a position not exposed to the wind.

Belem, (*be'lem,*) a town of Portugal, 2 m. from Lisbon. It is historically interesting as the place from whence Vasco de Gama set sail on his voyage of Oriental discovery. It was taken in November, 1807, by the French, the royal family of Portugal embarking from its quay for Brazil as they entered. In 1833, it was occupied by Dom Pedro's troops. *Pop.* about 5,000.

Be'lem, in *Brazil.* See Para.

Be'lemnite, *n.* One of the Belemnites, q. v.

Be'lemnites, *n.* [Gr. *belemnon*, an arrow or dart.] (*Pal.*) A genus of fossil mollusca. — See Belemnitidæ.

Belemnit'idæ, *n. pl.* (*Pal.*) A family of fossil mollusca belonging to the class *Cephalopoda*, or Cuttle-fishes. The shell of these animals consists of an internal horny pen, as in other dibranchiate cephalopods of a spatuliform shape, broad in front, narrow posteriorly, and provided laterally with two small wing-shaped expansions, which unite posteriorly, and form a large conical cavity, at the bottom of which are transverse partitions, separating the whole into numerous small chambers pierced laterally with a siphon, and containing air. This posterior portion receives externally a calcareous deposit of a regular conical shape, more or less thick, and sometimes of considerable length. It is this terminal portion that is generally called the *Belemnite*. It is sometimes 10 inches long, which indicates that the entire animal, with its arms outstretched, must have been several feet in length. The spatuliform part with the wings is called the *guard*, and tho chambered conical cavity is called tho *phragmo-cone*, (a septum or division.) The object of this structure is evidently to support the body of the animal when it was alive, and give solidity to it, while at the same time, being divided into chambers filled with air, it was light, and thus well adapted for supporting it in the water. It was lodged in the middle of the fleshy body of the animal, which in structure must have resembled the recent genus *Onychoteuthis*, and, to judge of some specimens of the shell, must have been four or more feet in length. Nearly a hundred species of the genus *Belemnites* have been found in a fossil state, ranging from the lias to the gault, and distributed over all Egypt. The *phragmo-cone* of the belemnite is exceedingly delicate, and usually owes its preservation to the infiltration of calcareous spar. The *guard* is very variable in proportions, being sometimes only half an inch longer than the phragmo-cone, at others one or two feet in length. The animals appear to have been gregarious, from the exceeding abundance of their remains in many localities, and to have lived at a moderate depth of water. The *B.* is popularly known under the names of *Spectre-candle*, *Arrow-head*, *Thunder-stone*, *Tick*, *Petrified finger*, &c.

Fig. 333. BELEMNITES SULCATUS.

Be'len, in *New Mexico Territory*, a post-office of Valencia co.

Belesis, (*bel'e-sis,*) a Chaldæan, who raised Arsaces to the throne of Media, for which he was rewarded with the government of Babylon, B. C. 770. When Sardanapalus, with his gold and silver, was burnt in his palace, *B.* was permitted to take away the ashes, and extracted therefrom immense treasures.

Bel-esprit, (*bĕl'es-pree',*) *n.*; *pl.* Beaux-esprits, (*bōz'es-pree'.*) [Fr. *belesprit*, fine wit.] A man of fine spirit, wit, or genius.

Belew's Creek, in *Missouri*, a post-office of Jefferson co.

Belfast', the chief commercial and manufacturing city of Ireland, in the counties Antrim and Down, at the confluence of the river Lagan with Carrickfergus Bay, 102 m. N. of Dublin, and 78 S.E. of Londonderry. It is after Dublin the largest and most important town in Ireland. The houses, mostly of modern construction, are of brick; the streets are wide, airy, well-paved, and flagged. There are many fine religious edifices here, while of educational establishments the principal is Queen's College, opened in 1849. Numerous literary and scientific institutions flourish, and everything about betokens a wealthy and prosperous state of things. *B.* is the nucleus of the Irish linen manufacture. This trade is now in a flourishing condition, and rapidly increasing. The other chief branches of industry are linen and cotton weaving, iron founding on an extensive scale, and bleaching. There are also print and chemical works, oil, alabaster, and barilla mills, tanneries, felt manufactories, ship-building yards, &c. *B.* has railway communication with nearly the entire country, and steamship traffic with London, Liverpool, Glasgow, and Fleetwood. The bay is peculiarly favorable to the purposes of commerce, being safe and easy of access, and permitting vessels drawing 16 ft. water at neaps, and 18 ft. water at spring-tides, to reach the quays. The imports into *B.* annually average $40,000,000 and the exports $37,000,000. *Pop.* in 1895, 255,950.

Belfast', in *Iowa*, a post-village of Lee co., on the Des Moines River, 18 m. W.S.W. of Fort Madison.

Belfast', in *Maine*, a sea-port, and seat of justice of Waldo co., 30 m. S. of Bangor, and 30 m. from the ocean, at the head of Penobscot Bay. The town, pleasantly situated but indifferently built, is divided into two parts by the Passaggassawakeag River, or stream. Vessels of the largest class may enter the harbor, and the town is extensively engaged in coastwise commerce and to some extent in the fisheries and other industries. *Pop.* (1890) 5,294; (1898) 5,350.

Belfast', in *New York*, a post-township of Alleghany co., 60 m. S.E. of Buffalo, on the Genesee River.

Belfast', in *Ohio*, a post-office of Clermont co.

—A village of Highland county, 72 m. S. by W. of Columbus.

Belfast', in *Pennsylvania*, a twp. of Fulton co.

—A post-office of Northampton co.

Belfast, in *Tenn.*, a post-vill. of Marshall co.

Bel'ford, in *North Carolina*, a village of Nash co.

Bel'fort, in *France.* See Befort.

Bel'fry, *n.* [Fr. *beffroi*, a tower, from Celt. *bereffreid* — *ber*, to carry, and *freid*, fear, alarm; L. Lat. *belfredus.*] (*Arch.* and *Mil.*) That part of a steeple wherein the bells are hung; and more particularly the timber-work by which the bells are supported. — The name seems derived from that of an old warlike machine called the *beffroi*, or *belfry*, used in military sieges in the ancient and medieval times. It was a movable tower, as high as the walls of the besieged town. The object of such towers was to cover the approach of troops. Sometimes they were pushed on by pressure, sometimes by capstans and ropes. The highest were on six or eight wheels, and had as many as twelve or fifteen stories or stages; but it was usual to limit the height to three or four stages. They were often covered with raw hides, to protect them from the flames of boiling grease and oil directed against them by the besieged; and there was a hinged drawbridge at the top, to let down upon the parapet of the wall, to aid in landing. The lower stage frequently had a ram, while the others were crowded with archers, arbalisters, and slingers; or there were bowmen on all the stages except the top, which had a storming or boarding party. — See Battering-ram.

Belgæ, (*bel'je.*) (*Hist.*) An ancient Celtic people, who originally settled in Germany, and passed at an early period into Gaul, whither they were attracted by the superior fertility of the soil. Cæsar, who quartered his legions in their country during the winter B. C. 54–55, describes them as one of the three great tribes among whom Gallia was distributed. He also refers to a nation of Belgæ, as inhabiting the southern portions of Britain; but the history of this people, and its identity or otherwise with the Gallic tribe of the same name, is involved in obscurity. — See Belgium.

Belgaum, (*bel-gawm'*,) a strongly fortified town of Hindostan, in the British presidency of Bombay, 55 m. N.W. of Dharwar; Lat. 15° 52′ N., Lon. 74° 42′ E. It was taken by the English in 1818. *Pop.* about 8,000.

Bel'gard, a town of Prussia, prov. Pomerania, cap. of a circle, 16 m. S.S.W. of Cœslin, at the confluence of the Leitnitz with the Persante, and almost entirely surrounded by water. *Manf.* Cloth. *Pop.* 5,447.

Bel'gian, *a.* [See BELGIC.] (*Geog.*) Belonging, or relating to Belgium, or the Netherlands.

—*n.* A native of Belgium.

Belgic, (*bel'jik,*) *a.* [Lat. *Belgicus,—Belgæ*, the Belgians.] Pertaining, or relating to the *Belgæ*, the ancient possessors of the Low Countries, (now the Netherlands.)

Belgiojoso, (*bel-jo-yo'so,*) CRISTINA TRIVULZIO, PRINCESS DI, B. in Milan, 1808. Devoted to Italy and liberty, she could not make up her mind to live at Milan under Austrian despotism, and took up her residence in Paris, where she became a leader of fashion, and a distinguished cultivator of literature and art. Sympathizing with her countrymen in their endeavor to free themselves from the Austrian yoke, she, in 1847, raised, and equipped at her own expense, a cavalry force of 200 men. For this act her property was confiscated, and she was banished, whereupon she retired to a farm in Asia Minor. Eventually her sentence of banishment was revoked. Under M. Arago she studied mathematics, and she is said to have been conversant with the Chinese language. She is author of *Récits Turco-Asiatiques*, *Asie Mineure*, *Histoire de Maison de Savoie*, &c. D. at Milan, 1871.

Belgiojo'so, a town of Northern Italy, prov. Pavia, 9 m. E. of the latter city, and 23 S.S.E. of Milan. It is well built, has a magnificent aqueduct, and a fine castle, in which Francis I. spent the night subsequent to the battle of Pavia. *Pop.* about 4,000.

Belgium, (*bel'je-um,*) a kingdom of Europe, situated between France, Holland, and Prussia. Its territory is small as compared with the great European States, but the important position which this country has occupied in the political, military, commercial, and agricultural history of Europe — its former celebrity in manufactures and the fine arts — and its present rapid progress in every industrial pursuit and social improvement, give it a peculiar interest. *B.* extends from 49° 30′ to 51° 30′ N. Lat., and from 2° 33′ to 6° 5′ E. Lon. On the N., its boundary line is formed by Holland; on the E. by Prussia; on the S. by France; and on the W. by the North Sea. The general outline of the territory forms a triangular figure, of which the longest side extends on the French frontier, from a point midway between Furnes and Dunkerque to one 9 m. S.E. of Arlon, or 5 E. from Longwy. The greatest length of the kingdom from N.W. to S.E. is 64 leagues, or about 193 Eng. m.; and the greatest breadth from N.W. to S.W., 42 leagues, or about 127 m. —*Divisions, area and population.* Belgium is divided into the nine provinces of Antwerp, capital city, Antwerp; East Flanders, capital, Ghent; West Flanders, capital, Bruges; Hainault, capital, Mons; Limburg, capital, Hasselt; Brabant, capital, Brussels; Liège, capital, Liège; Namur, capital, Namur; and Luxembourg, capital, Arlon. Brussels is the capital of the State. These provinces formerly constituted the duchy of Brabant, the marquisate of Antwerp, the principality of Liège, the seignurie of Mechlin (or Malines), the comtés of Flanders, Hainault, Louvain and Namur, and the duchies of Limburg and Luxembourg. They embrace an area of 11,373 sq. m., and in 1895 had a population of 6,841,950, *B.* being the most densely populated country in Europe. Of these about 2,500,000 speak the Flemish language, while the Walloon is predominant in some of the provinces, being spoken by a population of about 2,000,000. The French, the language of the minority, has been, since 1794, the official language of the court and the governmental authorities, though of late years the Flemings have actively endeavored to have their language restored to its former supremacy. There are four universities—at Ghent, Liège, Louvain and Brussels—though education is not well developed, only 77 per cent. of the adult population being able to read and write.—*Gen. Desc.* The N. and W. provinces of *B.* may, in their flatness, fertility, dykes and canals, be regarded as a continuation of Holland. This portion of the kingdom is so densely peopled, that it presents to the traveler the appearance of one vast continuous village. The S. and E. provinces have an opposite character; they are generally more thinly peopled and less cultivated, and exhibit a most irregular, mountainous surface, with marshy tracts of land and extensive forests. With the exception of the hilly districts in the S. and E. the whole territory presents a series of nearly level plains, traversed by numerous streams, delightfully diversified by woods, arable lands, and meadows of brilliant verdure, enclosed by hedgerow trees, and thickly studded throughout with towns and villages. On the coast, downs, or *dunes*, of fine loose sand extend from Dunkerque as far as Holland. In breadth they vary from 1 to 3 m., and rise in the highest parts to 40 or 50 ft.—*Mount.* No elevation in *B.* is properly entitled to the appellation of mountain; a ramification of the chain of the Ardennes extends in a N.E. direction through Luxembourg, Namur, and Liège, and forms a mountainous crest, which separates the waters of the Meuse from those of the Moselle. Another offshoot of the Ardennes rises parallel with this, on the N. banks of the Sambre and Meuse, between Mons and Maestricht. The highest points of elevation are about 2,200 ft. above the sea; and one of these is the hill which overlooks the celebrated springs and town of Spa.—*Forests.* A space of about one-fifth of the surface of *B.* is covered with woods and forests. Of the latter, the principal are those of Hainault, Luxembourg, Soignies, and St. Hubert. The two former are remains of the once immense forest of Ardennes. All the common trees of Europe are abundantly found in them. Arboriculture is fostered with assiduity, and government laws vigilantly enforce its care and management. — *Rivers.* *B.* is one of the best watered countries in Europe. All its streams find their outlets in the North Sea. The Scheldt in the W., and the Meuse in the E., can alone be properly denominated rivers. The principal affluents of the Scheldt, are the Dendre, Lenne, Dyle, Geete, Demer, and Nethe, on the E.; and the Lys, and Durme, on the W. The Meuse on the E. is joined by the Semoy, Lesse, Ourthe, Vesdre, &c.; and on the W. by the Sambre, Jaar, and several smaller streams. The total length of navigable rivers is 962,746 metres.—*Clim.* The climate of *B.* is less chilly and damp than that of Holland; however, it is certainly humid, compared with that of France and Germany, and may be considered as very similar to that of England. The number of rainy days averages 170. The mean annual temperature is 10°52 centigrades; the temperature of the hottest month is 20° 36′, and of the coldest 0° 85′; difference 19° 51′.—*Minerals.* Considerable: coal, lead, iron, copper, zinc, marble, and building-stones. In coal it is the richest country in Europe, England excepted. Mill-stones, grind-stones, whet-stones, and slates are largely exported. — *Min. Waters.* This kingdom possesses several springs of medicinal mineral waters, as those of Spa, (celebrated throughout Europe,) Chaudfontaine, Morimont, and Tongres.—*Zoöl.* All the domestic animals of the other European countries are found in *B.* Flanders, however, is noted for its breed of draught-horses; and another variety of this animal, the Luxembourg Cob, is a valuable breed.—*Agric.* Although cultivation is carried on to a great extent, yet about 1-12th of the whole surface remains still intact; 1-8th consists of grass lands, the best of which are in the two prov. of Flanders; and the arable lands occupy one-half. Wheat, rye, barley, oats, hemp, flax, tobacco, hops, and vegetable products, comprise the leading results of Belgian agriculture. Madder, too, is extensively cultivated. Husbandry is, in general, well conducted and remunerative; the farms are neatly kept, and compact, though small, rarely exceeding 100 acres. Chicory and beet are being raised in increasing quantities, and the flax crop is an object of the greatest care and attention.—*Manf.* Wool, in *B.*, is the object of an immense industry; the woollen manufactures of Verviers and its environs alone employing a population of 50,000 operatives. Flannels, serges, camlets, carpets, flax fabrics, silks, velvets, and lace of the finest descriptions, ribbons, hosiery, hats, paper, &c., &c., are most extensively and profitably carried on. The working of metals, as iron, copper, and tin, is very important; the manufacture of cannon, fire-arms, and locomotive engines being an especial feature of the metallurgical industry of *B.* — *Commerce.* The foreign trade of Belgium, resembling that of France, is officially divided into *general commerce*, including the sum-total of all international mercantile intercourse, and *special commerce*, comprising such imports as are consumed within, and such exports as have been produced in, the country. The principle articles of export include coal, flax, linen, woolen and cotton goods, glass, nails and fire-arms. Of these more than a third are sent to France, and most of the remainder to Germany, Holland and England. The carrying trade is almost wholly in the hands of the British. Belgium having but a small merchant marine. In 1893 there entered 7,022 vessels, of 6,001,968 tons, and cleared 6,977, of 5,939,502 tons. Of these less than 300 dealt with the U. S., with which *B.* has very little commerce. The total exports for the year 1895 aggregated $520,972,515; the imports $580,984,650. Of the imports, food-stuffs constitute no inconsiderable proportion. Of the territory of the State less than 60 per cent. is under cultivation, and the large manufacturing population obtains much of its food from abroad. Of minerals, the annual production of coal is about 20,000,000 tons; of iron and steel, 750,000 tons.—*Railways.* In *B.* the State is a great railway proprietor, and the State Railway is the largest source of revenue. It was the first work of the kind ever undertaken by any government, or on so great a scale by any proprietary; the entire length, 330 miles, was completed in 1844. The government system of railways is now 2,018 miles in length; those owned by private companies, 792 miles. The cost of the State lines has been $388,000,000. Of government telegraphs there are 4,617 miles. The canals are 280 miles in length, the total length of navigable waters being 854 miles.—*Inhab.* The Belgians have been successively subjected to the influence of so many different governments—French, Austrian, Spanish, Dutch — that they possess no distinctive or peculiar national character. The apathy and persevering industry of the Dutch is blended with the vivacity and self-assurance of the French, without producing an agreeable compound. The Belgian burghers have always displayed a passionate fondness for social liberty—an impatience of control that embroiled them with their rulers, and involved them in ruinous disasters during successive centuries. The wealthy denizens of the cities have very generally adopted the language, fashions, dress, manners, and amusements of the French. The Belgians are passionately fond of music and dancing, as is evidenced even in the *carillons* of their numberless churches. — *Religion and Education.* The Roman Catholic religion is professed by nearly the entire population. The Protestants do not amount to 13,000, while the Jews scarcely number 2,000. The fullest liberty is allowed in the expression of religious opinions and the choice of modes of worship. *B.* contains 6 Roman Catholic dioceses; the clergy of which receive from the national treasury an annual income of $718,180: the Protestant Church, $8,925; the Jews, $1,880; and the English Episcopal Church, $2,035. Education is far from being generally diffused among the people, although much progress towards it has been made within the last 10 years. Education, which was compulsory under the Dutch government, has ceased to be so since 1830. The proportion of the educated population may be estimated at 30 per cent.—*Const. and Gov.* According to the charter of 1831, *B.* is a "constitutional, representative, and hereditary monarchy." The legislative power is vested in the King, the Chamber of Representatives, and the Senate. The royal succession is in the direct male line in the order of primogeniture. The king's person is declared sacred; and his ministers are responsible for the acts of the government. The representatives or deputies, and the senators, are chosen directly by the people, universal suffrage having been enjoyed since the adoption of the revised constitution of 1893, which was the result of a vigorous pressure by the people upon the government. Previously the suffrage was restricted to those paying a small amount of direct taxes. The legislators are elected for four years, their number being in the proportion of one senator for two deputies. The executive government is organized under six departments, viz.: the departments of Foreign Affairs, Justice, Finance, Public Works, War, and the Interior.—*Finances.* The public budget estimates for 1895 were based upon a revenue of 357,727,028 francs ($71,545,405), of which 144,000,000 fr. were the proceeds of the railways and the remainder from various smaller sources. The estimated expenses were 356,193,486 fr. (or $71,238,697). The public debt amounted to 2,163,187,824 fr., of of which 1,299,935,457 fr. were bonded at 3½ per cent., 643,292,735 at 3 per cent., and 219,959,632 at 2½ per cent. *B.* has no floating debt.—*Army.* The army is formed by conscription, to which every able man over 19 years of age is liable. Substitution, however, is permitted. Under the law of 1873 the peace strength is fixed at 47,000 men, the war strength at 103,000. There is, in addition, a national guard of over 30,000 men, with a reserve of 90,000. The army is intended solely for defence, and there are defensive fortifications at Antwerp, Dendermonde, Namur, Liège, and other places.—*Towns.* Besides those before mentioned, the other principal places are Tournay, Ypres, Louvain, Verviers, Mechlin, Ostend, Nieuport, &c.—*History.* *B.* anciently formed a part of the 3d division of Gaul, and was called by the Romans, *Belgia*, *Belgium*, and *Gallia Belgica*, and its people were the least civilized and most courageous of all the Gallic nations. In the 3d, 4th, and 5th centuries, successive invasions of Salian Franks from the North changed the character of the Belgic people; a change still further increased by the introduction of Christianity, and the foundation of monasteries. The fierce and valiant warriors who formerly occupied the soil, were succeeded by an abject race of serfs, who cultivated the domains of haughty lords and an imperious priesthood. The latter enjoyed immense possessions, and against them, as against the despotic Franks, the Flemings formed associations called *Gilden* (Guilds); these formed the origin of all the ancient municipal corporations, and within a century after the time of Charlemagne, Flanders was covered with corporate towns. At the end of the 11th century, when the devotion for the crusades induced many of the nobles to part with their lands in order to obtain the means of equipping armies against the Saracens, their wealthy vassals, the Flemish burghers, bought them, and were thus enabled to purchase independence, and a jurisdiction of their own. They consequently formed themselves into municipalities, and built stately town-halls, as trophies of their liberties. When the rest of Europe was subject to despotism, and involved in comparative ignorance and barbarism, the court of the Counts of Flanders was the chosen seat of liberty, civilization, and useful knowledge. The provinces came under the dominion of the Dukes of Burgundy about the middle of the 15th century. Under this dynasty, the commercial and manufacturing towns of the Low Country enjoyed a remarkable prosperity. In the Flemish court of Philip the Good, Duke of Burgundy, about 1455, luxurious living was carried to a vicious and foolish excess. The wealthy citizens were clad in gorgeous velvets, satins, and jewelry, and their banquets were given with almost incredible splendor. The arts were cultivated with great success. Van Eyck invented the beautiful oil-colors for which the Flemish school of painting is renowned. Painting on glass, polishing diamonds, lace, tapestry, and chimes were also invented in Belgium, at this period. Most of the magnificent cathedrals and town-halls in the country were built in the 13th and 14th centuries. History, poetry, and learning were much cultivated; and the University of Louvain was the most celebrated in Europe. In 1477, *B.* passed under the dynasty of the empire of Austria; and after many years of contest between the despotic Maximilian (the husband of Mary of Burgundy) and the democratic Flemings, the government, in 1519, descended to his grandson, Charles V., King of Spain. The amazing prosperity of the Provinces experienced a rapid and fatal decline under the tyrannic fanaticism of Philip II., and the cruelty of the Duke of Alva, *q. v.* Commerce and trade in Flanders dwindled away, and the great cities were half deserted. *B.* remained under Spanish dominion until the memorable victory of Ramilies, in 1706, after which it was again subjected to Austria; and having been several times conquered by, and reconquered from the French, it was incorporated, in 1795, with the French Republic, and divided into departments. By this union, *B.* secured a suppression of all the old feudal privileges, exemption from territorial contributions, the abolition of tithes, a more extensive distribution of real property, a repeal of the game laws, an admirable registry law, a cheap system of tax collection, the advancement of

education in central schools and lyceums, a uniform system of legislation by the creation of codes, publicity of judicial proceedings, trial by jury, and the general use of the French language. By the Congress of Vienna, the provinces of *B.* were annexed to those of Holland, to form the kingdom of the Netherlands, which existed until the Revolution of 1830. A national congress elected Prince Leopold of Saxe-Coburg, King of the Belgians, 4th June, 1831, and he ascended the throne on the 21st of July following. A war with Holland followed, and it was not until 1839, after the treaty of peace concluded between Leopold I. and the King of the Netherlands, that all the States of Europe recognized the new kingdom of Belgium. On the death of Leopold I., 10th Dec., 1865, his son Leopold II. (the present king) succeeded to the throne. Early in 1869, a dispute broke out between *B.* and France, with respect to the Custom duties levied on their respective frontiers; but owing, perhaps, to the peaceful advice given to *B.* by Great Britain, this cloud on the horizon of European politics passed away. 1878 witnessed the overthrow of the Clerical party in the *B.* parliament.

Bel'gium, in *Wis.*, a twp. of Ozaukee co., on Lake Mich.

Belgrade, (*bel grad'*,) the capital of the kingdom of Servia, on the Danube, at its junction with the Save; Lat. 44° 47′ 57″ N., Lon. 20° 28′ 14″ E. From its position, on the limits of the Austrian and Turkish empires, at the confluence of two great rivers, its great strength, and the numerous sieges it has sustained, much interest has long been attached to *B.* Its citadel, on a steep hill 100 feet high, near the centre of the town, occupies a most formidable position. It has been very strongly fortified; and if it were properly repaired and garrisoned, it would be all but impregnable. Since 1869, *B.* has been greatly improved. Its educational institutions are numerous, and there is a theatre devoted to the national drama. In the same building with the high school there is a valuable collection of national antiquities, as well as an extensive library. The commerce of *B.* is not so great as would be anticipated from its favorable position. It holds direct commercial relations with Vienna, Constantinople, and England. Its principal industrial products are cotton-stuffs, carpets, leather and fire-arms.—*Manuf.* Inconsiderable, consisting, principally of carpets, silk goods, saddlery, &c. The Turks, under Solyman the Magnificent, took Belgrade in 1522, and held it till 1688, when it was taken by the Imperialists. Two years after, it again fell into the hands of the Turks; and though it has since been repeatedly taken by the Imperialists, they have, in most instances, soon after restored it to its Ottoman masters. It was taken, in 1807, by the Servian insurgents, who, on being obliged to abandon it in 1813, burnt the suburbs, and partly destroyed the fortifications. The citadel was evacuated by the Turks in 1867, and on Aug. 21, 1878, the independence of Servia was solemnly proclaimed at *B.* by Prince Milan. *Pop.* (1897), abt. 55,000.

Belgrade', in *Maine,* a post-township of Kennebec co., 67 m. N.N.E. of Portland.

Belgrade', in *Minnesota,* a township of Nicollet county.

Belgrade', in *Missouri,* a post-office of Washington co.

Belgrade, in *Texas,* a village of Newton co., on the W. bank of the Sabine River, about 55 m. N. by E. of Sabine city.

Belgrade Mills, in *Maine,* a post-village of Kennebec co., about 16 m. N.W. of Augusta.

Belgra'via, *n.* The most fashionable quarter of the West End of London, the English metropolis, extending from Hyde Park Corner to Pimlico.

Belgra'vian, *a.* Belonging to Belgravia, or to English fashionable life; as, "*Belgravian* mothers." *Thackeray.*

Belial, (*bēl'li-al,*) *n.* [Heb. *belial*—*bel,* not, without, and *yaal,* use, profit.] (*Script.*) Literally, a worthless fellow. A man of *B.*, a son of *B.*, a daughter of *B.*, mean, in the Bible, a wicked person. *B.*, if emphatically used, means the worst of spirits. Thus, in the passage, "What concord hath Christ with *Belial?*" (2 *Cor.* vi. 15.) Compare Milton's *Paradise Regained,* book ii. v. 147-152:

"So spake the old serpent doubting, and from all
With clamor was assayed their utmost ire
At his command: when from amidst them rose
Belial, the dissolutest spirit that fell,
The sensualiest, and, after Asmodai,
The fleshliest incubus, and thus advised."

Beli'bel, *v. a.* [*be* and *libel.*] To libel or traduce.

Belie', *v. a.* [*be* and *lie.* A.S. *be,* and *lēogan,* to lie, deceive, from *lig,* a lie; Ger. *belügen.*] To lie to; to calumniate; to slander.

"Thou dost *belie* him, Percy, thou *belie'st* him."—*Shaks.*

—To give the lie to; to convict of falsehood; to show to be false.

"Their trembling hearts *belie* their boastful tongues."—*Dryden.*

—To represent falsely; to mis-state anything.

"In the dispute, whate'er I said,
My heart was by my tongue *belied.*"—*Prior.*

—To counterfeit; to feign resemblance of; to mimic.

"The walk, the words, the gesture could supply,
The habit mimick, and the mien *belie.*"—*Dryden.*

—To fill with lies. (O. and R.)

Belief, (*be-lēf'.*) *n.* [A.S. *gelæf, gelæfan,* from the root of *leave,* A.S. *lēaf.*] An assent, credit, or reliance given to word or testimony; an affirmation or proposition, without direct or definite personal evidence; conviction; confidence; as, the *belief* of one's senses.—The thing believed; the object of belief.

"Superstitious prophecies are not only the *belief* of fools, but the talk sometimes of wise men."—*Bacon.*

—Doctrine, opinion, or tenet held out or advanced for acceptance.—A firm persuasion of; assurance held on presumptive evidence or testimony.

(*Theol.*) That state of mind in which one acquiesces in some truth, real or supposed. No doubt, every man in the world who believes in anything, even the most superstitious idea that ever found credence, does so because he has some kind of a vague perception that the object of his belief is real and true. But the act of belief itself has puzzled the wise, throughout all ages, exactly to describe its character. One man alleges the act is *intellectual,* another says it is *moral,* a third affirms that it is *emotional,* and a fourth, who is likely as near the truth as any of the previous three, avers that it bears all those various characters at different times, and when applied to different subjects. First it is intellectual, then it is moral, then it is emotional: and it is as easy to describe it, as it is to give a definition of instinct or of intuition. The reason of this apparent obscurity in the meaning of this word, is, because men have no more general term that they are accustomed to apply to the same object. It is, accordingly, impossible to *get behind* belief, so as intelligibly to describe its character. It is emphatically "the light of all our seeing." There are, properly, four sources from which the moral beliefs of men are made up:—1st, there is intuition or instinct; 2d, there is our ordinary experience; 3d, there are our scientific convictions, derived from the exercise of the two sources of knowledge, deduction and induction; 4th, there is testimony. These constitute the sources of our real convictions; but feeling and imagination have a great share in giving rise to illusory notions and superstitious beliefs in the minds of men. Man is responsible for every belief, real or illusory, which he maintains, provided, always, it were possible for him to discipline himself properly in the various kinds of knowledge, in which he exercises his beliefs. This arises from the fact that we all have power over our minds in directing them to one object or another of study: and if this act, which is admitted on all hands to be voluntary, be really so, for every voluntary act we commit, either directly or indirectly, we are entirely responsible. Belief is, no doubt, *indirect* in its connection with the conscience, but it is not, therefore, wholly irresponsible.

Believ'able, *a.* That may be believed; credible.

Believe, (*be-lēv'.*) *v. a.* To give belief or credit to; to assent to; to rest in; to trust in; to credit; to be firmly persuaded of; to deem to be true; to put confidence in.

—*v. i.* To exercise belief or faith; to have a firm persuasion of anything; to confide. (Sometimes followed by the particle *in* or *on.*)

"Now God be prais'd, that to *believing* souls
Gives light in darkness, comfort in despair."—*Shaks.*

—To suppose; to deem; to think.

"Though they are, I *believe,* as high as most steeples in England."
Addison.

Believ'er, *n.* One who believes; one who gives credit to an assertion or evidence beyond his own knowledge. (*Eccl. Hist.*) This name, now used as synonymous with Christian, was restricted, in the first centuries of Christianity, to those Christians who had been admitted into the church by baptism, in contradistinction to catechumens, who, not having been baptized, were not entitled to church privileges.

Believ'ingly, *adv.* In a believing manner.

Belike', *adv.* Probably; likely; perhaps.

"Meaning *belike,* some ruin or foundation thereof."—*Raleigh.*

Belime', *v. a.* [*be* and *lime.*] To besmear, cover, or ensnare with lime.

Belin'da, in *Iowa,* a post-village of Lucas co., abt. 42 m. S.S.E. of Des Moines.

Belisa'rius, the great general of the Roman Emperor Justinian, was a native of Illyria. He commanded an expedition against the king of Persia about 530: suppressed an insurrection at Constantinople: conquered Gelimer, king of the Vandals, and put an end to their dominion in Africa; was recalled and honored with a triumph. In 535, *B.* was sent to Italy to carry on war with the Goths, and took Rome in 537. He was there unsuccessfully besieged by Vitiges, whom he soon after besieged in turn, and captured at Ravenna, but was recalled, through jealousy, before he had completed the conquest of Italy. *B.* recovered Rome from Totilus in 547, and was recalled the next year. He was afterwards sent against the Huns. He was charged, in 563, with conspiracy against Justinian, but was acquitted. That he was deprived of sight, and reduced to beggary, appears to be a fable of late invention. D. 565. A Life of this great soldier, by Lord Mahon (now Earl Stanhope), was published in London, 1829.

Belit'tle, *v. a.* [*be* and *little.*] To make little or less of. Used in the U. States in a moral sense.

Belize, or BALIZE, a British colony on the Bay of Honduras, in the Caribbean Sea; Lat. between 15° 54′ and 18° 30′ N.; Long. between 88° and 90° W. It forms the S.E. part of the peninsula of Yucatan, which here divides the Caribbean Sea from the Gulf of Mexico. *Area,* 13,000 sq. m. *Pop.* abt. 25,000, nearly one-fifth of the number being in the town of *B.*, which stands at the mouth of a river also of the same name. *Prod.* Sugar, coffee and indigo, mahogany, cedar, logwood, and other dye-woods, form articles of export. This colony, that came into the possession of the British in 1783, is not considered unhealthy, though it contains an immense swamp.

Belk'nap, in *New Hampshire,* a central county. *Area,* 360 sq. m. It is bounded on the W. by the Pemigewasset, and on the S. by the Winnipisseogee River, the two principal branches of the Merrimac and Winnipisseogee Canal. *Surface* is hilly; *soil,* generally fertile. *Cap.* Laconia. *Pop.* (1898) 21,980.

Belk'nap, in *Pennsylvania,* a post-township of Armstrong co., about 15 m. N.E. of Kittanning.

Belk'nap, in *Texas,* a village of Young co., on the Brazos River.

Bell, *n.* [A. S. *bell, bella,* from *bellan,* to bellow.] A hollow body of cast metal, used for giving sounds by being struck.

Hist. Small gold *B.*, intermixed with pomegranates, are mentioned as ornaments worn upon the hem of the high-priest's robe (*Exod.* xxviii. v. 3, 4.) Among the Greeks, we find, that, in camps and garrisons, patrols used hand-bells, at the sound of which the sentinels were to answer. At Rome they were in domestic use. The large bells now used in churches are said to have been invented by Paulinus, bishop of Nola in Campania, about the year 400, whence the Nola and Campana of the lower Latinity. They were probably introduced into England very soon after their invention.—They are first mentioned by Bede about the close of the 7th century. The city of Nankin in China was anciently famous for the largeness of its bells, as we learn from Father Le Comte; but they were afterwards far exceeded in size by those of the churches in Moscow, principally by that given by the Empress Anne, weighing 432,000 pounds, and probably the largest in the known world. It was broken in 1737.—The material of which *B.* were originally composed was, in all likelihood, merely cast-iron. That now used is a compound of 80 parts of copper, and 20 of tin. This is the theoretical proportion, and Indian gongs are made exactly in accordance with it. In ordinary *B.*, that proportion of copper remains the same, but some lead and zinc is substituted for part of the tin. This alloy is very remarkable for its great elasticity, and, therefore, great capacity of sound.

Fig. 334.
THE GREAT BELL OF MOSCOW.

(*Arch.*) The body of a Corinthian or Composite capital, supposing the foliage stripped off, is called the *bell;* the same is applied also to the capitals in Gothic architecture which in any degree partake of this form. It is sometimes called a *drum.*

—Anything in the form of a bell, as the cup of a flower.

To bear away the bell. See BEARING THE BELL.

To bear the bell. To be the first, as the bell-wether of a flock of sheep.

To curse by bell, book, or candle. See CURSE.

To lose the bell. To be defeated or worsted in any race or trial of bodily skill.

"In single fight he *lost the bell.*"—*Fairfax.*

To shake the bells. To agitate, or give notice or alarm; derived from the bells of a hawk.

To bell the cat. To put a bell on, to encounter and cripple one of a greatly superior force:—a phrase derived from the fable of the mice resolving to put a bell on the cat, to guard them against his attack.

Bell-Diving. See DIVING-BELL.

Bell, *v. n.* To become bell-shaped.

—To call or bellow, as the deer in rutting-time.

"The wild buck *bells* from ferny brake."—*Walter Scott.*

Bell, SIR CHARLES, F. R. S., an eminent anatomist, and professor of surgery in the university of Edinburgh, where he was B. in 1774. In 1804, he settled in London, where he speedily made a high reputation. He was the author of many professional works of the highest authority, but he is chiefly celebrated for his discoveries in connection with the nervous system, which gained for him an European name. D. 1842.

Bell, JOHN, an English sculptor, B. in Norfolk, 1800. His principal works are: a *Girl at a Brook,* (1832:) *John the Baptist,* (1837:) *Andromeda,* (1851:) &c.

Bell, THOMAS, F.R.S., F.L.S., &c., an English naturalist, B. at Poole, Dorset, 1792. He entered at Guy's and St. Thomas's Hospitals in 1814, became a member of the Royal College of Surgeons in 1815, and an honorary fellow of that body in 1844. He was elected a Fellow of the Linnæan Society in 1815, of the Royal Society in 1828, of the Geological Society in 1817; was president of the Ray Society from its institution till 1859, acted as secretary of the Royal Society from 1848 till 1853, and was president of the Linnæan Society from 1853 till 1861, and occupied the chair of zoölogy at King's College, London, (1842,) lectured at Guy's Hospital from 1816 to 1860, and was a member of the Academy of Sciences of Philadelphia, the Natural History Society of Boston, &c. Mr. Bell was known as the author of a work on *The Anatomy and Diseases of the Teeth;* a *Monograph of the Fossil Malacostracous Crustacea of Great Britain; Natural History of British Mammalia: Natural History of British Reptiles;* and *Natural History of British Crustacea.* D. 1880.

Bell, in *Ohio,* a post-office of Highland co.

Bell, in *Pennsylvania,* a thriving township of Jefferson county.

—A township of Clearfield co.

Bell, in *Texas,* a county in the central part of the State. *Area,* 850 sq. m., watered by the Leon River and Lamposas Creek. The surface, which is uneven, is adapted to pasturage. *Cap.* Belton.

Bel'la, STEFANO DELLA, a famous Italian engraver, B. at Florence, in 1610. He attained to great excellence in

his etchings, which procured him first the patronage of the Medici family, and subsequently that of Cardinals Richelieu and Mazarin, who employed him to engrave many battles, sieges, &c. Among his etchings, about 1,400 in number, one of the most admirable is the view of the Pont Neuf, Paris. D. 1666.

Belladonna, (*bel-la-don'na,*) *n.* [It., a fair lady.] (*Bot.*) See ATROPA.

Belladon'na Lily, *n.* (*Bot.*) A beautiful species of the genus *Amaryllis*, q. v. The flowering-stem is about 18 inches in height, and bears at its summit a cluster of drooping flowers of a delicate rose-color.

Bel'laghy, a village of Ireland, in co. Londonderry; *pop.* about 800.

Bel'laghy, a village of Ireland, co. Sligo.

Bell Air, in *Georgia*, a post-village of Richmond co., about 12 m. W. by S. of Augusta.

Bell Air, in *Illinois*, a post-office of Crawford co.

Bell'air, in *Iowa*, a flourishing township of Appanoose county.

Bell Air, in *Missouri*, a post-village of Cooper co., about 40 m. N. by E. of Jefferson City.

Bellaire', in *Ohio*, a thriving city of Belmont co., on the Ohio river, about 5 m. below Wheeling. Manuf. of iron and glass. *Pop.* in 1890, 9,934; in 1897 (est.) 12,500.

Bellary, (*bel'a-re,*) one of the Balaghauts ceded districts of British India, presidency of Madras, and occupying the W. section of Ballaghant. *Area*, 13,058 sq. m. *Cap.* of same name, with 30,400 inhab.

Bellasyl'va, in *Pennsylvania*, a P. O. of Wyoming co.

Bella'trix, *n.* [Lat., a female warrior.] (*Astron.*) A star of 2d magnitude, on the W. shoulder of the constellation Orion.

Bellay, JEAN DU, (*bel'aï,*) a French poet and cardinal, B. at Liré, near Augers, 1492. By his great abilities he attracted the notice of Francis I., who made him his adviser, and employed him in important affairs of state. He was appointed bishop of Paris in 1532, and created cardinal in 1535. In the following year, during the absence of Francis I., he was left at Paris with the title of Lieutenant General, and was subsequently made Archbishop of Bordeaux. Through the influence of the cardinal of Lorraine, Du Bellay lost his rank after the death of Francis, and spent the rest of his life at Rome. He was a promoter of learning, and is celebrated for his odes, both French and Latin. D. 1560.

Bell'-bird, *n.* (*Zoöl.*) The *Arapunga alba*, a bird nearly allied to the Cotingas and Wax-Wings, native of Guiana, and distinguished by a fleshy cylindrical appendage above the base of the bill. Its voice is very peculiar, and much resembles the tolling of a bell. Waterton asserts that the sound it emits may be heard at a distance of 3 miles. It is of a pure white color, and about one foot in length.

Bell, Book, and Candle. See EXCOMMUNICATION, and CURSE.

Bell Brook, in *Ohio*, a post-village of Greene co., 70 m. S.W. of Columbus.

Bell'buckle, in *Tennessee*, a post-village of Bedford co., 51 m. S.S.E. of Nashville.

Bell'-cage, *n.* Same as BELFRY, *q. v.*

Bell'-can'opy, *n.* A canopy containing a bell in harness.

Bell Centre, in *Wisconsin*, a post-village of Crawford co., on the Kickapoo River, about 25 m. N.E. of Prairie du Chien.

Bell'-chamber, *n.* The room containing one or more large bells in harness.

Bell'-cot, BELL-GABLE, BELL-TURRET, *n.* (*Arch.*) A small open turret, situate on the apex of the gable of small

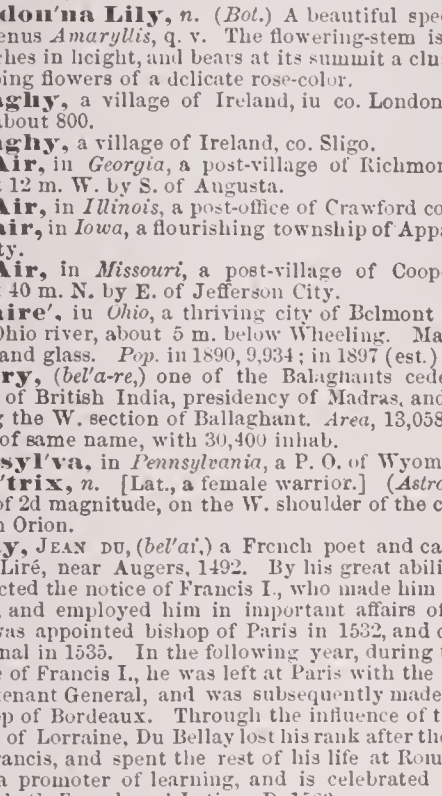


Fig. 335.—BELL-COT OF CORSTON. (ENGLAND.)

Gothic churches, generally at the E. or W. end of the nave, for the purpose of sustaining one or two bells. It is sometimes of an hexagonal or multangular plan, covered with a pyramidal roof, or spire, of which kind the *Fig.* 335 represents a beautiful specimen, copied from Corstou church, Wiltshire.

Bell'-crank, *n.* (*Mech.*) A bent lever, used for changing a vertical into a horizontal motion, or *vice versâ*.

Belle, (*bel.*) *n.* [Fr., from Lat. *bellus*, fine, gay, beautiful.] A gay or fine young lady; a lady of superior beauty, and much admired.

> "What motive could compel
> A well-bred lord t' assault a gentle *belle*?
> O say, what stronger cause, yet unexplor'd,
> Could make a gentle *belle* reject a lord?" — *Pope.*

Belle Air, in *Indiana*, a post-village of Clay co.

Belle Air, in *Iowa*, a post-office of Johnson co.

Belle Alliance, (La,) in *Belgium*, a hamlet, about 13 m. from Brussels. It is remarkable for being the centre of operations of the battle of Waterloo, and where Napoleon commanded in person during the conflict called by the Prussians the battle of La Belle Alliance. Here, also, Wellington and Blücher met after the battle, 18 June, 1815.

Belle Centre, in *Ohio*, a post-village of Logan co., on Mad River, about 60 m. N.W. of Columbus.

Belle'chasse, in prov. of Quebec, the name of a co. bordering N.W. on the St. Lawrence River, and S.E. on the State of Maine. *Pop.* of North *B.*, 12,117; of South *B.*, 5,520. Divided into N. and S. ridings.

Belle Creek, in *Nebraska*, a township of Washington co.

Belle Creek, in *Minnesota*, a post-township of Goodhue co., about 12 m. S.W. of Red Wing

Belled, (*beld,*) *a.* Hung with bells.

Belle-de-nuit, (*bel'de(r)-nwe.*) [Fr., beauty of night.] (*Bot.*) The French name of the MARVEL OF PERU, *q. v.*

Bel'leek, a parish and village of Ireland, co. Fermanagh, on the Erne River, 4 m. E.S.E. of Ballyshannon.

Belle'font, in *Missouri*, a village of Laclede co., on the Gascouade River, about 65 m. S. by W. of Jefferson City.

Bellefontaine, (*bel'fon-tain,*) in *Indiana*, a village of Jay co., 7 m. E. of Portland.

Bellefontaine, in *Minnesota*, a village of Scott co., on Spring Lake, about 65 m. S. by W. of Jefferson City.

Bellefontaine, in *Mississippi*, a P. O. of Webster co.

Bellefontaine, in *Missouri*, a village of St. Louis co., about 14 m. W.S.W. of Iowa City.

Bellefontaine, in *Ohio*, a flourishing town of Lake township, the *cap.* of Logan co., 116 m. N.N.E. of Cincinnati. *Pop.* (1890) 4,245; (1897) about 5,700.

Belle'fonte, in *Alabama*, the former cap. of Jackson co., near the W. bank of the Tennessee river, 166 miles N. E. of Tuscaloosa.

Bellefonte, in *Missouri*, a village of Pulaski co.

Bellefonte', in *Pennsylvania*, a flourishing post-borough of Spring township, *cap.* of Centre co., on Spring Creek, 80 m. N.W. of Harrisburg, in the middle of a rich mineral district. It has a fine court-house, and contains several forges, mills, glass-works, and many beautiful private residences. *B.* has several newspapers and banks. Spring Creek affords abundant water-power. *Pop.* (1890) 3,946; (1897) about 4,300.

Bellefount, in *Missouri*, a village of Washington co.

Belle Fountain, in *Iowa*, a village of Mahaska co., on the Des Moines River, 11 m. W. of Oskaloosa, and 80 W.S.W. of Iowa City.

Bellefount'ain, in *Wisconsin*, a P. O. of Columbia co.

Bellegarde, (*bel'gärd,*) a fortress of France, dep. of Pyrénées-Orientales, on the Spanish frontier, 18 m. S. of Perpignan. It is a fortress of the first class, constructed in the reign of Louis XIV., to command the pass of Perthus.—Also the name of several small French towns.

Belle Haven, in *Virginia*, a P. O. of Accomack co.

Belle Isle, in British North America, an island in the Atlantic Ocean, at the entrance of the Strait of Belle Isle. Lat. 52° N., Lon. 55° W.

Belle Isle, in *New York*, a post-village of Onondaga co., 137 m. W. by N. of Albany.

Belle Isle, in *Virginia*, a small island of a few acres, in the James River, in front of Richmond. It was converted by the Confederates into a place of confinement for the Union captives, and on this small, barren spot, without shelter against the frost, there were at one time no less than 11,000 captives.

Belle-Isle-en-Mer, an island of France, in the Atlantic, 8 m. S. of Quiberon Point, being included in the dep. of Morbihan. It is almost everywhere surrounded by high steep rocks. Its N.W. end is in Lat. 47° 32′ N., and its S. port in Lat. 47° 16′ N. It is about 11 m. in length, and 6 m. in breadth. Palais, the capital, has a pop. of 4,076, generally engaged in the sardine fishery.—This island was purchased in 1658 by Fouquet, intendant of finance to Louis XIV., and was exchanged in 1718 by his descendant for the county of Gisors. In 1761 it was taken by the English, and restored to France in 1763.

Belle Isle, or BELLISLE, **(Straits of,)** in British North America, one of the outlets of the Gulf of St. Lawrence, between the coasts of Labrador and Newfoundland, Lat. 52° N., Lon. 55° W.; 80 m. long, by 12 wide.

Belle-Isle, CHARLES LOUIS AUGUSTE FOUQUET, COUNT OF, a marshal of France, B. 1684. He distinguished himself in the war of the Spanish Succession, became lieut.-general in 1732, took part in the siege of Philipsburg, and procured the cession of Lorraine to France. Created marshal of France about 1740, he commanded in Germany against the Imperialists, took Prague, was sent as ambassador to the Diet at Frankfort, and procured the election of Charles VII. Being taken by the English, he was brought to England, where he was confined some months. He was afterwards created duke and peer, admitted to the French Academy, and made minister of war in 1757. D. 1761.

Belle'mont, in *Tennessee*, a village in Fayette co., abt. 40 m. of Memphis.

Belle'monte, in *Pennsylvania*, a post-village of Lancaster co.

Belle'monte, in *Missouri*, a post-village of St. Louis co., about 12 m. N. of St. Louis, and 4 m. S. of the Mississippi River.

Belle Plain, in *Missouri*, a village of Clark co., about 20 m. N.N.W. of Keokuk.

Belle Plain, in *New Jersey*, a post-office of Cape May co.

Belle Plaine, in *Iowa*, a city of Benton co., on C. & N.W. R.R. *Pop.* (1898) 3,420.

Belle Plaine, in *Minnesota*, a post-village of Scott co., on the Minnesota River, about 40 m. from the city of Saint Paul.

Belle Plaine, in *Wisconsin*, a post-township of Shawano co., 34 m. W.N.W. of Green Bay.

Belle Point, in *Ohio*, a post-village of Delaware co., on the Scioto River, about 24 m. N.N.W. of Columbus.

Belleport, in *New York*, a village of Suffolk co., Long Island, 210 m. S.S.E. of Albany.

Belle Prairie, in *Illinois*, a township of Livingston co.

—A post-office of Hamilton co.

Belle Prairie, in *Minnesota*, a post-village and township of Morrison co., on the Mississippi.

Belle River, in *Michigan*, rises in Lapeer co., and enters the St. Clair River at Newport.

—A post-office of St. Clair co.

Belle Riv'ière, in prov. of Quebec, a village of Two Mountain co., 33 m. N.E. of Montreal.

Bellerophon, (*bel-ler'o-fon.*) (*Myth.*) A son of Glaucus, king of Ephyre, by Enrymede, was at first called *Hipponous*. The murder of his brother, whom some call Alcimenus and Bellerus, procured him the name of Bellerophon, or *murderer of Bellerus*. After this murder, Bellerophon fled to the court of Prœtus, king of Argos, whose wife became enamored of him: and because he slighted her passion, she sought to destroy him. He, however, escaped her machinations, was introduced to the court of Jobates, king of Lycia, and after a number of adventures, in one of which he conquered the Chimæra, he married the daughter of Jobates, and succeeded to the throne of Lycia.

Bellerophon, *n.* (*Pal.*) A genus of fossil shells, the animals of which are unknown, but which are supposed to have been allied to *Carinaria*, the structure of whose shell it resembles.

Bellerophon, *n.* (*Hist.*) The name of a notorious English vessel, Capt. Maitland, to which Napoleon I. surrendered himself voluntarily on the 13th of Oct., 1815, "confident," as he said, "in the honor and hospitality of England." — See ST. HELENA, LOWE (HUDSON.)

Belles-Lettres, (*bel-let'ter,*) *n. pl.* [Fr., from *belle*, fine, and *lettre*, a letter, *pl. lettres*, learning.] (*Lit.*) A term borrowed from the French, now fallen into disuse, but which, some fifty years since, was employed indifferently with the phrase "polite literature," to signify those branches of learning which are not included under the denominations of Arts and Sciences. It never acquired a strict and well defined meaning, but was widened or narrowed by different writers, at their pleasure, so as at one time to embrace the whole cycle of knowledge, and at another to be confined to a few given objects. This vagueness has led to its becoming nearly obsolete.

Belle Valley, in *Pennsylvania*, a post-office of Erie co., 7 m. S.E. of Erie.

Belle Vernon, in *Ohio*, a post-village of Wyandot co., about 50 m. S.W. of Sandusky City.

Belle Vernon, in *Pennsylvania*, a post-village of Fayette co., on the right bank of Monongahela River, about 28 m. S. by E. of Pittsburg.

Belle'view, in *Georgia*, a post-village of Talbot co., 60 m. W. of Macon.

Belleview, in *Illinois*, a post-village of Calhoun co., about 2 m. E. of the Mississippi River.

Belleview, in *Kentucky*, a post-village of Christian co., 10 m. from Hopkinsville, the county-seat.

Belleview, in *Louisiana*, a village of Bossier parish, about 20 m. N.E. of Shrieveport, and 1 m. S.E. of Lake Bodcau.

Belleview, in *Missouri*, a township of Washington county.

—A post-office of Iron co.

Belleview, in *Pennsylvania*, a village of Jefferson co. 5 m. S. of Brookville, the county-seat.

—A village of Lebanon co., about 28 m. E.N.E. of Harrisburg.

Belleview, in *Tennessee*, a post-office of Davidson co.

Belleview, in *Texas*, a post-office of Rusk co.

Belle'ville, in *Alabama*, a post-village of Conecuh co., 10 m. N.W. of Sparta.

Belleville, in *Arkansas*, a village in Desha co., on the S. bank of Arkansas River, about 8 m. S.E. of Arkansas Post.

Belleville, in *Illinois*, an important city, cap. of St. Clair co., 110 m. S. of Springfield, and 14 m. S.E. of St. Louis. *B.* is a place of great activity of trade, and it possesses many manufactories. It has a fine court-house and other public buildings. *Pop.* in 1890, 15,631.

Belleville, in *Indiana*, a post-village of Hendricks co., 119 m. W S.W. of Indianapolis.

Belleville, in *Michigan*, a post-village of Wayne co., on Huron River, about 27 m. W.S.W. of Detroit.

Belleville, in *Minnesota*, a post-village of Fillmore co., about 22 m. S.E. of Preston.

Belleville, in *New Jersey*, a post-village and township

of Essex co., 3 m. from Newark, and 10 m. W. by N. of New York.

Belleville, in *New York*, a post-village of Jefferson co., on Sackett's Harbor, 190 m. N.E. of Albany.

Belleville, in *Ohio*, a village of Heudricks co., 19 m. W.S.W. of Indianapolis.

—A post-office of Richland co.

Belleville, in *Pennsylvania*, a post-village of Mifflin co., about 8 m. W. by N. of Lewiston.

Belleville, in *Tennessee*, a village of Cumberland co., about 60 m. W. from Knoxville.

Belleville, in *Tennessee*, a village of Dickson co., on the left bank of the Cumberland River, about 28 m. N. W. of Nashville.

Belleville, in *Texas*, a village of Zaphata co., on the Rio Grande, about 50 m. N.W. of Rio Grande City.

Belleville, in *West Virginia*, a post-village of Wood co., near the Ohio River.

Belleville, in *Wisconsin*, a post-village of Dane co., on Sugar River, in Montrose towuship, 20 m. S.S.W. of Madison.

—A village of Jefferson co., near Rock River, about 8 m. N. by E. of Jefferson.

Belleville, in prov. of Ontario, a town, cap. of Hastings co., on the Bay of Quinté, 50 m. W. of Kingston. It is a fine and flourishing place, with iron-fouudries, distilleries &c. *Pop.* (1897) about 10,000.

Belleville, in *France*, formerly a suburb, but now an arrondissement of Paris.

Bellevoir, in *North Carolina*, a post-office of Chatham co.

Bellevue, in *Georgia*, a village of Putnam co.

Bellevue, in *Alabama*, a post-office of Dallas co.

Bellevue, in *Iowa*, a fine city of Jackson co., on the Mississippi River, 24 m. below Dubuque, and 13 from Galena.

Bellevue, in *Kansas*, a village of Jackson co., about 24 m. N. of Topeka.

Bellevue, in *Louisiana*, a post-office of Bossier parish.

Bellevue, in *Michigan*, a thriving post-village and township of Eaton co., on Battle Creek, 120 miles from Detroit, and 16 miles uorth of the city of Marshall.

Bellevue, or BELLVIEW, in *Minnesota*, a township of Morrison co., on the Mississippi River.

Bellevue, in *Nebraska*, a post-village in Sarpy co., ou the Missouri River, 12 m. from Omaha city.

Bellevue, in *Ohio*, a post-village of Lymestone township, in Huron co., 45 m. S.E. of Toledo, 91 m. from Columbus, and 15 from Lake Erie.

Bellevue, in *Virginia*, a post-office of Bedford co.

Bellevue, or BELLVIEW, in *Wisconsin*, a township of Brown co., on the E. side of Fox River, near the town of Green Bay.

Belley', a town of France, dep. of Ain, 42 m. E. from Lyons; Lat. 45° 45′ 29″ N., Lon. 5° 41′ 19″ E.; *pop.* 4,891.

Bellezane', in *Pennsylvania*, a post-office of Washington co.

Bell Factory, in *Alabama*, a post-office of Madison co.

Bell'fair Mills, in *Virginia*, a post-office of Stafford co.

Bell'field, in *Virginia*, a station on the Petersburg R. R., in Sussex co., 40 m. from Petersburg.

Bell'-flower, *n.* [*bell* and *flower.*] (*Bot.*) See CAMPANULA.

Bell'font, in *Ohio*, a village of Columbiana co.

Bell'-founder, *n.* A man whose occupation is to found or cast bells.

Bell'-foundry, *n.* A place where bells are founded or cast.

Bell'-gable, *n.* (*Arch.*) See BELL-COT.

Bell'-hanger, *n.* One who hangs and fixes bells.

Bellicose. Bellicous, *a.* [Lat. *bellicosus.*] Pugnacious, warlike, belligerent: inclined for contention or fighting.

Bellied, (*bel'lid.*) *p.a.* Swelled or prominent like the belly; swelled out in the middle; as, pot-*bellied*, big-*bellied*, &c.

Bellig'erence, *n.* State or quality of being belligerent; warfare; act of making or waging war.

Bellig'erent, *n.* [Lat. *belligerens*, from *belligero—bellum*, war, and *gero*, to wage.] A term applied to nations waging or carrying on war against each other.

—*a.* Of warlike or quarrelsome nature, or actually engaged in war.

Bellig'erous, *a.* [Lat. *belliger.*] Same as BELLIGERENT.

Bell'ing, *n.* [A. S. *bellan*, to bellow.] The noise made by a roe in rutting-time.

—*a.* [From *bell.*] Growing or forming like a bell.

Bell'ingham, in *Massachusetts*, a post-township of Norfolk co., 30 m. S.W. of Boston, intersected by branches of Charles River. The boot and shoe manufacture flourishes here.

Bellinghaui, in *Washington*, an unimportant village, the former cap. of Whatcom co., on a fine bay of the same name, formed by the Gulf of Georgia, about 125 m. N. by E. of Olympia.

Bellini, (*bel-le'ne,*) the name of a Venetian family which produced several remarkable painters. The earliest was JACOPO *B.*, who died in 1470. He was a pupil of the celebrated Gentile da Fabriano, and one of the first who painted in oil.—His eldest son, GENTILE *B.*, born 1421, died 1501, was distinguished as a portrait-painter, and also as a *medailleur*. Along with his brother, he was commissioned to decorate the council-chamber of the Venetian senate. Mohammed II., having by accident seen some of his works, invited Gentile to Constantinople, employed him to execute various historical works, and dismissed him laden with presents. The *Preaching of St. Mark* is his most famous piece. D. 1507.—His more celebrated brother, GIOVANNI *B.*, born 1426, died 1512, was the founder of the older Venetian school of painting, and contributed greatly to its progress. His works are marked by naivete, warmth, and intensity of coloring. His best works are altar-pieces. His picture of the *Infant Jesus* slumbering in the lap of the Madonna, and attended by angels, is full of beauty and lively expression. His *Holy Virgin*, *Baptism of the Lord*, and *Christ and the Woman of Samaria*, are also much admired.

Bellini, VINCENZO, a celebrated musical composer, B. at Catania, in Sicily, 1802. He was educated at Naples, under Zingarelli, and before he had completed his 20th year, he had produced *Bianca and Fernando* at the theatre St. Carlo. This was succeeded by various other operas, of which *Il Pirata*, *La Sonnambula*, *Norma*, and *I Puritani*, (1827–34,) are the best, and have gained for him an undying celebrity. His moral character stood high, and his manners and compositions were in harmonious accordance—agreeable, tender, and elegant. D. near Paris, Sept. 23, 1835.

Bellip'otent, *a.* [Lat. *bellipotens*, from *bellum* war, and *potens*, powerful.] Powerful; puissant; mighty in war. (R.)

Bel'lis, *n.* (*Bot.*) A genus of plants, order *Asteraceæ*, sub-order *Tubulifloræ;* the DAISY, *q. v.*

Bell'-jar, *n.* A jar of bell-shape used by chemists.

Bell'-fess, *a.* Having no bell; without a bell. (R.)

Bell'-man, *n.* [*Bell* and *man.*] A public crier; one who goes about ringing a bell to direct public notice to something.

> "The *bellman* of each parish, as he goes his circuit, cries out every night, 'Past twelve o clock.'" —*Swift.*

Bell'-metal, *n.* [*Bell* and *metal.*] The metal of which bells are made.—See BELL.

Bell'more, in *Indiana*, a post-village of Parke co., abt. 8 m. E. of Rockville.

Bell'-mouthed, *a.* Expanded at the mouth or muzzle in bell-form; as, a *bell-mouthed* gun.

Bel'lon, *n.* (*Med.*) That variety of colic produced by the effect of lead on the system.

Bello'na, *n.* [Lat. *Bellona*, from *bellum*, war.] (*Myth.*) The goddess of war, and sister or wife, or sister-wife and charioteer of Mars. The Romans paid great adoration to her. The temple of *B.*, in Rome, stood in the *Circus Flaminius*, near the Porta Carmentalis, and was the place where foreign ambassadors, and generals returning from their campaigns, were received by the senate. Before its gates was raised a column, called *Columna Bellica*, against which a javelin was hurled as one of the previous forms in the declaration of war (Ov. Fast. vi. 201.) Her priests were named after her, *Bellonarii.* Lactantius (i. 21.) describes them as cutting their flesh most ferociously in her worship; and Tertullian (4 and 9, *de Pallio*) adds, that, having collected the blood, which flowed from these gashes, in the palms of their hands, they pledged the Neophytes who were initiated into their mysteries, and then broke out into the ravings of vatication.

Bello'na, *n.* (*Astron.*) The 42d asteroid, discovered by Luther in 1854.

Bello'na, in *Texas*, a village of Yates co.

Bello'na, in *Virginia*, a village of Chesterfield co., on the James River, about 14 m. W. of Richmond.

Bel'lot Strait, the passage separating North Somerset from Boothia Felix, and connecting Prince Regent's Inlet with Peel Strait, Sound, or Franklin Channel. Its E. entrance was discovered by Capt. Kennedy during his search for Franklin, and named in honor of Joseph Réné Bellot, a distinguished French naval officer, who joined the expedition, under Capt. Kennedy, sent to search after Sir John Franklin; and who, in 1853, having accompanied that under Captain Inglefield, was drowned while crossing the ice.

Bel'low, *v. i.* [A. S. *bellan;* imitative of the sound.] To make a hollow, loud noise, as a bull.

> "What bull dares *bellow*, or what sheep dares bleat,
> Within the lion's den."—*Dryden.*

—To make a loud outcry; to bawl, vociferate, or clamor.

> "This gentleman is accustomed to roar and *bellow* so terribly loud, that he frightens us."—*Tatler.*

—To roar, as the sea in a storm; to make a loud, hollow, continued noise.

> "The rising rivers float the nether ground,
> And rocks the *bellowing* voice of boiling seas rebound." *Dryden.*

Bel'low, *n.* A loud outcry; a roar, roaring.

Bel'lower, *n.* One who bellows, or makes a loud noise.

Bel'lows, HENRY WHITNEY, D.D., an American divine and author, B. at Boston, Mass., 10th June, 1814, graduated at Harvard Coll. in 1832, entered the University School of Cambridge, Mass., in 1834, and was ordained pastor of the First Congregational Society of New York in 1838. From 1846–1850, he wrote articles for the *Christian Inquirer*. His oration, known as the *Phi Beta Kappa* oration, is highly esteemed. In 1857 he wrote his *Defence of the Drama*, which brought upon him a host of assailants of the Puritanical school, and also delivered a series of lectures before the Lowell Institute in Boston, on *The Treatment of Social Diseases*. Dr. *B.* was made President of the Sanitary Commission of the U. States in 1862. Ed. of *Chris. Ex.*, 1866-71. D. Jan. 30, 1882.

Bellows, (*bĕl'lōz,*) *n. sing.* and *pl.* [A. S. *bilig* or *bylig*, from *balg*, bulge, belly; Goth. *balgs;* Gael. *balg*, *bolg*, a leather bag, a wallet, belly; *builg*, bellows.] A machine contrived to propel air through a tube or orifice. It is used for blowing fires, supplying the pipes of organs, and other purposes, and is constructed according to various forms: but the principle is the same in all of them. The dimensions of a space in which air is confined are contracted; the air, being permitted to escape only at a small opening rushes out with a velocity proportional to the pressure and to the smallness of the opening.

Bel'lows Falls, in *Vt.*, a p. v. of Windham co., on the Connecticut River, 80 m. S. by W. of Montpelier. It possesses medicinal springs and some manufactories.

Bel'lows-fish, *n.* (*Zoöl.*) See CENTRISCUS.

Bel'lows-mender, *n.* One who mends bellows. *Shaks.*

Bell-pepper, *n.* (*Bot.*) The red pepper, a species of CAPSICUM, *q. v.*

Bell'port, in *New York*, a post-office of Suffolk co.

Bell'-pull, *n.* A cord or wire to pull a bell with.

Bell'-punch, *n.* An instrument to test the collection of fares. When a fare is paid, the record thereof is made, simultaneous with the ringing of a small bell contained within the *B. P.*

Bell'-ringer, *n.* One whose business is to ring a church or other bell.

Bell'-rock, (*Geog.*) A dangerous ledge of rocks, off the coast of Scotland, in the German Ocean, opposite to the Frith of Tay, 12 m. E. of Buttonness Point. The ledge is about 850 yards in length, by about 110 in breadth. At low water, some of its summits appear from 4 to 8 ft. above the level of the sea, but at high water they are always covered. Many vessels have been lost on this rock, over which the sea breaks with tremendous fury. To lessen the chance of such disasters, a light-house, 115 ft. high, has been constructed, in Lat. 56° 26′ N., Lon. 2° 23′ W.; and during foggy weather, bells are tolled every half minute.

Bell'-roof, *n.* (*Arch.*) A roof of which the cross section resembles a bell.

Bell'-rope, *n.* A rope or cord attached to a bell, to ring it by.

Bells, *n. pl.* (*Naut.*) On board a ship, the time is divided into periods of four hours each, and as each half-hour passes it is marked by striking on a bell. This bell is usually hung to the beam of the forecastle, but sometimes it is attached to a beam near the mizzen-mast. One stroke on the bell denotes that half an hour has passed, two strokes that an hour has passed, and so on, adding a stroke for each half-hour. Thus, "five bells" would signify that two hours and a half had passed, and "eight bells" signifies that the four hours, or complete "watch," is over. The bell on which the time is struck is sometimes used during foggy weather to show that the ship is on a starboard tack; when she is on a port-tack, a drum is beateu.

Bells'borough, in *Ky.*, a village of Ohio co.

Bell's Cross Roads, in *Virginia*, a P.O. of Louisa co.

Bell's Depot, in *Tennessee*, a P. O. of Haywood co.

Bell'-shaped, *a.* (*Bot.*) Shaped like a bell.

Bell's Landing, in *Alabama*, a village of Monroe co.

Bell's Mills, in *Pennsylvania*, a P. O. of Jefferson co.

Bell's Store, in *Arkansas*, a post-office of Ouachita co.

Bell'ton, in *West Virginia*, a post-office of Marshall co., 35 m. S.S.E. of Wheeling.

Bell'town, in *Tennessee*, a post-office of Monroe co.

Bell'-trap, *n.* A contrivance, usually air-tight, consisting of an inverted cup, the edges of which dip into a trench, gutter, or canal, holding water, and formed at the top of a pipe, for the purpose of preventing foul smells from ascending from a drain into the air.

Bel'luine, *a.* [Lat. *belluinus;* from *bellua*, beast.] Beastlike; brutal. (R.)

> "At this rate, the animal and *belluine* life would be the best." *Atterbury.*

Belluno, (*bel-loo'no.*) [Anc. *Bellunum.*] A city of N. Italy, cap. of a province of same name, on the S. bank of the Piave, 48 m. N. of Venice: Lat. 46° 7′ 46″ N.; Lon. 12° 13′ 51″ E.; *pop.* 14,576.—Napoleon conferred the title of Duke of Belluno on Marshal VICTOR, *q. v.* Nearly destroyed by an earthquake, June 29, 1873.

Bell'ville, in *Florida*, a post-village of Hamilton co.

Bell'ville, in *Texas*, a post-village of Austin co., abt. 60 m. W.N.W. of Houston, and 25 N.E. of Columbus.

Bell'-wether, *n.* A wether or sheep which leads the flock, with a bell hung on its neck.

Bell'wood, in *Penna.*, a post-borough of Blair co., on Penna. R.R., 8 m. S.W. of Tyrone. *Pop.* (1898) 1,760.

Bell'-wort, *n.* (*Bot.*) See UVULARIA.

Bel'ly, *n.* [A. S. *bælg, balig;* Gael. *balg*, a leather bag, womb, belly.] The ABDOMEN, *q. v.*

—The womb. (o. and R.)—That part of anything which swells or bulges out.

> "An Irish harp hath the concave, or *belly*, not along the strings, but at the end of the strings."—*Bacon.*

—The hollow part of a compass-timber, the round part of which is called the back.

—*v. a.* To swell out; to fill, as a sail. (R.)

> "Your breath, with full consent, *bellied* his sails."—*Shaks.*

—*v. i.* To swell and become protuberant, like the belly.

> "The pow'r appeas'd, with winds suffle'd the sail,
> The *bellying* canvas strutted with the gale."—*Dryden.*

Belly-ache, (*bel'li-āke,*) *n.* A vulgarism for the colic, or pain in the bowels.

Bel'ly-band, *n.* A band or girth that goes round the body of a horse, and holds the saddle or harness firmly in its place.—(*Naul.*) A band or canvas used to strengthen a sail.

Bel'ly-bound, *a.* A vulgarism expressive of being constipated or costive in the bowels.

Bel'ly-brace, *n.* (*Steam Engineering.*) A cross brace, stayed to the boiler, between the frames of a locomotive.

Bel'ly-doublet, *n.* A doublet overhanging and covering the belly.

> "Your arms crossed on your thin *belly-doublet.*"—*Shaks.*

Bel'ly-fretting, *n.* (*Farriery.*) The chafing of a horse's belly with a girth.

—A severe pain in a horse's belly, caused by worms.

Bel'ly-full, *a.* As much food as fills the belly; plenty. Used, in a vulgar sense, to signify repletion, or more than enough.

Bel'ly-god, *n.* A man who makes a god of his belly; a glutton. (o.)

"Apicius, a famous *belly-god*." — *Hakewill.*

Bel'ly-pinched, *a.* [*belly* and *pinched*, pp. of *pinch*.] Starved, or pinched with hunger. (o.)

Bel'ly-roll, *n.* (*Hort.*) A roller protuberant in the middle, to roll land between ridges, or in hollows. *Mortimer.*

Bel'ly-slave, *n.* A slave to appetite.

Bel'ly-timber, *n.* A vulgar phrase to denote food, or nutriment for the body.

Bel'ly-worm, *n.* A worm that breeds in the belly.

Bel'mond, in *Iowa*, a post-village of Wright co., on the Iowa river, about 42 m. N.E. of Fort Dodge.

Bel'mont, in *Arkansas*, a post-village of Crawford co.

Bel'mont, in *California*, a post-village and township of San Mateo co.

Bel'mont, in *Illinois*, a flourishing township of Iroquois county.

—A village of Pike co., 70 m. W. of Springfield.

Bel'mont, in *Iowa*, a township of Warren co.

Bel'mont, in *Kansas*, a post-village and township of Kingman county, about 100 miles S. by W. of Topeka.

Bel'mont, in *Kentucky*, a post-village of Bullitt co., on the Louisville and Nashville R.R., 25 m. of Louisville.

—A village of Campbell co.

Bel'mont, in *Maine*, a post-township of Waldo co., about 35 m. E. by N. of Angusta.

Bel'mont, in *Massachusetts*, a post-township of Middlesex co., about 6 m. from Boston.

Bel'mont, in *Minnesota*, a post-office of Martin co.

—A village of Jackson co., on the Des Moines River, about 66 m. W.S.W. of Mankato.

Bel'mont, in *Missouri*, a village in Mississippi co., on the Mississippi River, opposite Columbus. Here, on the 7th Nov., 1861, occurred a battle between the Confederates under Generals Polk and Pillow, and the Union troops commanded by General Grant, in which, after desperate fighting on both sides, the latter obtained a victory. The Union loss was 485; that of the Confederates, 632.

Bel'mont, in *Nevada*, a township of Nye co.

Bel'mont, in *New York*, a thriving post-village, cap. of Alleghany co., on the Genesee River and the Erie R.R., 92 m. W. by N. of Elmira.

—A township of Franklin co., 25 m. W. of Plattsburg, drained by the Chateaugay River.

Bel'mont, in *Ohio*, an E. county, bordering on the Ohio River, which separates it from Virginia. *Area*, 170 sq. m. The surface is diversified by hills, and drained by many creeks. *Soil*, generally excellent. The Baltimore & Ohio Railroad passes through it. *Cap.* St. Clairsville. *Pop.* (1898) 61,600.

—A post-village of the above co., about 22 m. W. of Springfield, and 22 W. by S. of Wheeling.

Bel'mont, in *S. Carolina*, a village of Newberry district, about 65 m. W.N.W. of Columbia.

Bel'mont, in *Texas*, a post-village of Gonzales co., about 52 m. S. of Austin city.

Bel'mont, in *Wisconsin*, a township on the S.E. limits of Portage co.

Belmonte, a town of S. Italy, prov. Cosenza, on a mountain not far from the Mediterranean, 14 m. W.S.W. of Cosenza; *pop.* 4,720.

Bel'monte, in *Indiana*, a village of Laporte co., 11 m. S. by W. of Laporte.

Belmonte, in *Mississippi*, a village of Panola co., on the Tallahatchie River, 7 m. above Panola, the county-seat, and 167 N. of Jackson.

Belmonte, or BELMONT, in *Wisconsin*, a village of Fayette co., about 60 m. W.S.W. of Madison.

Bel'mont Landing, in *Missouri*, a post-office of Mississippi co.

Belmul'let, a small seaport town of Ireland, co. Mayo, on Blacksod Bay; *pop.* 905.

Belock', *v. a.* [A.S. *belucan.*] To lock, or fasten, as with a lock.

"This is the hand, which with a vow'd contract
Was fast *belock'd* in thine."—*Shaks.*

Belœil, in Lower Canada, a post-village of Vercheres co., on the river Richelieu, 24 m. N.E. of Montreal.

Beloit, in *Ohio*, a post-office of Mahoning co.

Beloit, in *Wisconsin*, a post-township of Rock co., about 12 m. S. by W. of Janesville.

—A city of Rock co., on Rock river, 50 m. E.S.E. of Madison. *B.* is well built, has fine public buildings, and is the seat of Beloit College, founded in 1846. *Pop.* in 1890, 6,315; in 1897, about 8,200.

Belomancy, (*bel'o-măn-see,*) *n.* [Fr. *bélomancie;* Gr. *belomantia*, from *belos*, an arrow, and *manteia*, divination.] A mode of divination by arrows, practised among the Arabs and other nations of the East.

Belon, PIERRE, (*bel'awng,*) a very eminent French naturalist, B. 1517. He studied medicine and botany and owed to the friendly aid of the cardinals of Tournon and Lorraine a good education, and the means of making extensive travels in Europe and in the East. He was highly esteemed by Henry II. and Charles IX., and won a great reputation by his numerous works on natural history and the *Observations* made during his travels. He was assassinated in the Bois de Boulogne, 1564. The genus of plants *Bellonia* has been named after him.

Bel'ona, BELONE, *n.* (*Zoöl.*) See GARFISH.

Belong', *v. i.* [Dut. *belangen*, to concern—*be*, and *langen*, to reach to.] To pertain to; to appertain to; to be the property of, to be the province or business of; as, a wife *belongs* to her husband.

"The declaration of these latent philosophers *belongs* to another paper." — *Boyle.*

—To relate, or have relation to; to adhere or be appendant to.

"He went into a desert place *belonging* to Bethsaida." *Luke* ix. 10.

—To be native to, or have a legal residence, settlement, &c., whether by birth or naturalization, so as to be entitled to claim a maintenance from the civic or parochial authorities.

"Bastards also are settled in the parishes to which the mothers *belong*." — *Blackstone.*

Belong', *v. a.* To be deserved by. (o. and R.)

"More evils *belong* us than happen to us." — *Ben Jonson.*

Belong'ing, *n.* A quality, attribute, or property pertaining to one. (o.)

"Thyself and thy *belongings*
Are not thine own so proper, as to waste
Thyself upon thy virtues." — *Shaks.*

Belong'ing, *v. a.* Pertaining to; being the property or quality of; being the concern of; being appendant to; as, all the goods *belonging* to him.

Beloochee, Belooch, (*bel'oo-kis,*) *n.* (*Geog.*) A native or denizen of Beloochistan.

—*a.* Belonging to Beloochistan, or its people.

Beloochistan, now preferably BALUCHISTAN (*bel-oo'-chistan.*). (Anc. *Gedrosia*, the land of the Ichthyophagi, Oritæ, Arabitæ, &c.). A country of S. Asia, lying between 24° 50′ and 30° 20′ N. Lat., and 57° 50′ and 69° 18′ E. Long.; the N. and W. boundaries have been in process of final settlement only since 1896. It may be thus generally described:—One portion, which includes Quetta and Bolan (until 1883 under the Khan of Kalat), is now a province of British India; another, comprising the Bori and Zohl valleys, is directly under the British Political Agent; a third is occupied by the Marri and Bugti tribes; and the fourth may be styled the Native State, a loose kind of confederacy composed of the Kalat, Sarawan, Jhalawan and other tribes under the nominal chiefship of the Khan of Kalat. The country is very diversified; the climate in the higher part being extremely cold, while the heat, during the summer season, is scarcely supportable in the plains. There is a general scarcity of water. A large proportion of the country is mountainous, the eastern part especially being so.—*Prod.* All sorts of grain and vegetables, and the finest fruits flourish abundantly. In the N. districts, madder, cotton, and indigo are produced, the latter of excellent quality. Assafœtida, which is a favorite kind of food among the Beloochees, grows among the hills. Trees of large size are seen, although generally *B.* does not seem to be a woody country. — *Min.* Gold, silver, copper, lead, iron, limestone, marble, rock-salt, sulphur, and saltpetre.—*Zoöl.* The domestic animals are horses, mules, asses, camels, dromedaries, buffaloes, black-cattle, sheep, goats, dogs and cats, besides fowls and pigeons. There are neither geese, turkeys, nor ducks. The wild animals are lions, tigers, leopards, hyænas, wolves, jackals, tiger-cats, wild dogs, foxes, hares, mongooses, mountain-goats, antelopes, elks, red and moose deer, and wild asses, which inhabit both the mountains and the plains. Of birds there are almost every species to be met with either in Europe or India.—*Inhabitants.* This country is occupied principally by two great classes of inhabitants, namely, the Beloochees and Brahooes, differing from each other in their outward appearance, as well as in their manners. These are divided into an infinite variety

Fig. 336.— NADIR SHAH, (king of Persia.)
(From Fraser's Hist. of "Nadir Shah.")

of tribes, which it is impossible to enumerate. In their domestic life, the Beloochees are almost all pastoral: they usually reside in ghedons or tents, made of black felt or coarse blankets, stretched over a frame of wicker-work. An assemblage of these constitutes a village, and the people a kheil or society. Though naturally indolent, they are fearless of danger, and in battle fight with great gallantry. They are a race of lawless robbers, however, and undertake distant excursions in quest of booty, or for the purpose of carrying off the inhabitants of other countries for slaves. — *Rel.* All the Beloochees are Mohammedans of the Soonee faith, and entertain a great antipathy to other sects. Polygamy is common among them, and the number of slaves is limited only by one's ability to keep them.—*Area*, about 130,000 sq. m. *Pop.* est. at 500,000. Almost all the inhabitants of *B.* are nearly barbarous and uncivilized. Neither the Beloocheekee nor Brahooékee are written tongues, and he is greatly honored, and called *moollee*, who can read the Koran. They are quite ignorant of all the countries in their neighborhood. Medicine they are totally unacquainted with; and to cure a fever they will shampoo or thump the body all over. This country was quite unknown to Europeans until the time of Alexander the Great; and for ten centuries afterwards there are no records of *B.* A caliph of Bagdad, in the year 92, of the Hegira, led an army through it to Scinde; it was afterwards taken possession of by Musaood, son of the Emp. Mahmoud, and was governed by his dynasty till 1739, when Nadir Shah (*Fig.* 336), having conquered it, bestowed it on the Khan of Cabul. The present Khan of Kalat, Mir Mahmud Khan, succeeded his father in 1893, the latter having been deposed for barbarous cruelty.

Belop'tera, *n.* [Gr. *belos*, dart, *pteron*, wing.] (*Pal.*) A fossil resembling a belemnite, but less pointed, and having a wing-like projection or process on each side. It occurs in Tertiary strata, and was evidently the internal bone of a cephalopod. — The name *Belosepia* (Gr. *sepia*, cuttle-fish) is given to another kind of belemnite found in Tertiary deposits; and that of *Belobeuthis* (Gr. *teuthis*, squid) to one shaped like a spear-head occurring in the Lias.

Beloved, (*bē-luvd'.*) *p. a.* [*be* and *loved*, from *love.*] Loved; greatly loved; dear to the heart.

"And to his eye
There was but one *beloved* face on earth." — *Byron.*

Below, (*bē-lō',*) *prep.* [*be* and *low.*] Under; beneath; not so high.

"He 'll beat Ausidius' head *below* his knee,
And tread upon his neck." — *Shaks.*

—Inferior to; low in relation to, or in comparison of.

"His Idylliums of Theocritus are as much *below* his Manilius as the fields are *below* the stars."—*Felton.*

—Unbefitting; unworthy of.

"'Tis much *below* me on his throne to sit." — *Shaks.*

Below', *adv.* In a lower place; beneath, with respect to any object.

"This said, he led them up the mountain's brow,
And shewed them all the shining fields *below*. '—*Pope.*

—On earth; as opposed to heaven, or the skies.

"And let no tears from erring pity flow
For one that 's bless'd above, immortaliz'd *below*. '—*Smith.*

—In hell; in the regions of the dead.

"When suffering saints aloft in beams shall glow,
And prosperous traitors gnash their teeth *below*."—*Tickell.*

—A court of lower or inferior jurisdiction; as, at the trial *below.*

Bel'passi, in *Oregon*, a post-village of Marion co., 15 m. N.E. of Salem.

Bel'per, a market-town of England, in Derbyshire, 7 m. N. of Derby. *Manf.* Cottons, silks, nails, &c. *Pop.* 10,560.

Bel'pre, in *Ohio*, a post-village of Washington co., on the N. bank of the Ohio River, about 15 m. S.W. of Marietta, and opposite Parkersburg in Virginia.

Belsham, THOMAS, an eminent English Unitarian divine, at one time head of the theological academy of Daventry, and for the last 20 years of his life minister of Essex Chapel, London. He wrote many polemical treatises, and published a new translation of the *Epistles of St. Paul.* His work on *Christian Evidence* obtained much popularity. D. in his 80th year, 1829.—His brother, William *B.*, who D. 1827, aged 75, is author of *History of Great Britain, from the Revolution to the Treaty of Amiens*, in 12 vols. 8vo.

Belshazzar, (*bel-shăz'zar,*) was the last king of Babylon, of the Chaldæan dynasty. He is the Nabonnedus of Alexander Polyhist, Nabonnidochus of Megasthenes, Labynetus of Herodotus, Naboandelus of Josephus. *B.* was the son of Queen Nitocris. In 538 or 539 B.C., during the night when Babylon was stormed by Cyrus, *B.* was making an impious feast, at which he and his courtiers drank out of the sacred vessels which had been carried away from the temple of Jerusalem by Nebuchadnezzar, his grandfather. He was terrified by the apparition of the hand which wrote upon the wall (see MENE); and in the same night was slain by one of his eunuchs, who brought his head to Cyrus.

Bel'sire, *n.* [O. Fr.] A grandfather or progenitor. (o.) See BELDAM.

Belsunce, HENRI FRANÇOIS XAVIER DE, (*bel-soonz,*) a French prelate, B. in Perigord, 1671, and was made bishop of Marseilles in 1709. He showed his zeal and charity during the plague in 1720, and his devotion will always be worthy of admiration. He was offered, in 1723, the bishopric of Laon, but refused it, saying, he "would not leave a church to which he had devoted his life;" and he also refused the bishopric of Bordeaux, 1729. D. at Marseilles, 1755.

Bel'swagger, *n.* [*Bell* and *swagger.*] A bully; a whore-master.

"You are a charitable *belswagger*."—*Dryden.*

Belt, *n.* [A.S. *belt;* Icel. *belti;* Lat. *balteus*, a girdle or

belt.] A leathern girdle; a band; a circlet or bandage; as, a sword-*belt*.

"Then snatched the shining *belt*, with gold inlaid;
The *belt* Eurytion's artful hands had made."—*Dryden*.

—Anything resembling a belt, which confines or girds.

"Within the *belt* of rule."—*Shaks*.

(*Arch*.) A string-course and blocking-course: a course of stones projecting from a wall, either moulded, plain, fluted, or enriched.

(*Astron*.) The dark stripes or zones that appear on the surface of the planet Jupiter parallel to its equator. (See JUPITER.) Orion's Belt is figured by three stars in a direct line with each other, situated horizontally in the centre of the constellation.

(*Surg*.) A broad bandage applied to the abdomen, so as to support and make methodical pressure upon it.

(*Mech*.) A band which, by wheels and pulleys, connects the different rotatory parts of machinery. It is generally made of leather.

(*Her*.) A badge or mark of the knightly order. —*Buchanan*.

(*Farriery*.) A disease in sheep.

—*v. a.* To gird or encompass, as with a belt: to encircle.

"*Belted* with young children."—*De Quincy*.

—To shear, as the buttocks and tails of sheep.

Belt, *n.* (*Geog*.) The name given to two of the three straits by which the Baltic Sea is joined to the Cattegat. They are distinguished by the addition of Great and Little.—The *Great Belt*, which is the middle one, and the widest outlet for the waters of the Baltic, begins on the S., about 54° 50′ N. Lat., between the S. extremity of the island of Langeland and the W. shores of Laaland, and terminates on the N. between Rees Ness on the island of Zealand, and the S. extremity of Samsoe. Its length may be about 70 m.—The narrowest part of the strait is at its S. extremity, where it is, properly speaking, divided into two straits by the island of Langeland; for the narrow sea between that island and those of Arroe, Taasing, and Fionia is comprehended under the name of Great Belt, and is hardly more than four miles in breadth. The principal branch between Langeland and Laaland is rather more than 8 m. wide. To the N. of the northern extremity of Langeland the breadth of the strait varies between 16 and 24 m.—Except near the shores, the depth of the water is considerable, but very irregular, varying from five to twenty-five fathoms. But some small and low islands and many shoals render the navigation difficult and dangerous, and on that account the passage of the Sound is preferred. Between Nyborg in Fionia and Corsoer in Zealand, a regular communication is established by steamboats and smacks. In the good season the passage is not difficult; but in the latter part of the autumn and in winter it is difficult and dangerous, especially on account of the pieces of floating ice which in severe weather become very numerous, and are sometimes cemented together by hard frost. It is then sometimes necessary to make one part of the passage in a sledge and the other in a boat. When, in such circumstances, snow begins to fall, the small island of Sprogoe, which lies in the strait, but considerably nearer to the coast of Fionia than to that of Zealand, offers a place of refuge. —The *Little Belt*, the most western of the three straits, begins on the S. between the islands of Arroe and Alsen, and extends between the island of Fionia and Jutland, to the capes called Oger Ness on Fionia, and Biornsknudde on Jutland. Its length is upwards of 80 m., and its width varies from 8 to 10. Towards the S. extremity, between the islands Arroe and Alsen, it is generally above 10 m. across. At Assens, a town of Fionia, it narrows suddenly to about five, and farther north it grows by degrees narrower, so that between the town of Middelfart on Fionia, and the opposite coast at Snoghoe, the distance hardly amounts to ¾ of a m. The depth of the water is considerable, varying from five to fourteen fathoms; but the navigation is dangerous, on account of the low islands (Arroe, Baagoe, and Fanoe), the numerous shoals, and the violent currents which constantly run through the strait from S. to N. —See BALTIC SEA.

Bel'tane, or **Beltein**, *n.* (*Traditions*.) The name of a kind of festival, formerly common to all the Celtic nations, and traces of which still exist in some parts of Ireland and Scotland, on the 1st of May. In Ireland, we find two *B*., one on the 1st of May, the other on the 21st of June. To the *B*., also, in all probability, the fires which were formerly and are perhaps yet lighted in many parts of England on Midsummer Eve, are to be referred. *B*. signifies the fire of Baal, the worship of whom is supposed to have existed in England, Scotland, and Ireland in the remotest period of Druidical superstition. *B*. was therefore the fire lighted in honor of the Sun, whose return and visible influence upon the productions of the earth was thus celebrated. *La na Beal tina*, and *Neen na Beal tina*, in the Irish language, are the day and eve of Beal's fire. (*Fairy Legends and Traditions of the South of Ireland*.)—The following account of the *B*. is given in *Focalóir Gaoidhilge-Sax-Bhéaria*, or an Irish-English Dictionary (by O'Brien), printed at Paris, 4to. 1768.—"*Beáltine*, or *béil-tine*, ignis Beli Dei Asiatici: *i. e. tine Beil*, 'May-day,' so called from large fires which the Druids were used to light on the summits of the highest hills, into which they drove four-footed beasts, using at the same time certain ceremonies to expiate the sins of the people. This pagan ceremony of lighting these fires in honor of the Asiatic god Belus, gave its name to the entire month of May, which is to this day called *mi na Beal-tine* in the Irish language. Dr. Keating, speaking of this fire of Beal, says, that the cattle were driven through it and not sacrificed, and that the chief design of it was to keep off all contagions disorders from them for that year; and he also says, that all the inhabitants of Ireland quenched their fires on that day, and kindled them again out of some part of that fire."—In Sir John Sinclair's *Statistical Account of Scotland*, the minister of Callander in Perthshire, speaking of "peculiar customs," says: "Upon the first day of May, which is called Beltan or Beltein-day, all the boys in a township or hamlet meet in the moors. They cut a table in the green sod, of a round figure, by casting a trench in the ground of such circumference as to hold the whole company. They kindle a fire, and dress a repast of eggs and milk in the consistence of a custard. They knead a cake of oatmeal, which is toasted at the embers against a stone. After the custard is eaten up, they divide the cake into so many portions, as similar as possible to one another in size and shape, as there are persons in the company. They daub one of these portions all over with charcoal, until it be perfectly black. They put all the bits of cake into a bonnet. Every one, blindfold, draws out a portion. He who holds the bonnet is entitled to the last bit. Whoever draws the black bit is the devoted person who is to be sacrificed to Baal, whose favor they mean to implore, in rendering the year productive of the sustenance of man and beast. There is little doubt," the writer adds, "of these inhuman sacrifices having been offered in this country as well as in the East, although they now pass from the act of sacrificing, and only compel the *devoted* person to leap three times through the flames, with which the ceremonies of this festival are closed."

Belt'ed, *a.* Wearing a belt; having a belt or belts.

"A prince can make a *belted* knight."—*Burns*.

—Marked, or adorned with a band or circle; as, a *belted* stalk.—Worn in the belt.

Belteshazzar, (*bel-te-shăz'ar*.) [Heb., "who lays up treasures in secret."] A title of honor given to Daniel in Babylon.

Belt'ing, *n.* Material for the fabrication of belts; belts taken collectively.

Bel'ton, in *S. Carolina*, a post-village of Anderson district, 27 m. S. by W. of Greenville.

Bel'ton, in *Texas*, a city of Bell co., 90 m. N.N.E. of Austin. *Pop.* (1897) about 3,500.

Belts'ville, in *Maryland*, a post-village of Prince George's co., 12 m. N.E. of Washington.

Beltur'bet, a market-town of Ireland, co. Cavan, on the Erne, 9 m. N.N.W. of Cavan.

Belu'ga, *n.* [Russ. *bieluga*, a sturgeon.] (*Zoöl*.) A genus of *Cetacea* belonging to the *Delphinidæ*, or Dolphins. It has a broad blunt head, and no produced snout; thus differing from the rest of the family to which it belongs. Its form is principally characterized by the softness of its nerves, and the clear white color of its skin, which is so tender that it often fails to retain the harpoon. The *B*. also differs from the ordinary family of dolphins in having fewer teeth, which fall out before the animal is old, and it has no dorsal fin. It usually attains the length of thirteen feet, and feeds principally on fish.

Be'lus. (*Myth*.) The chief deity of the Babylonians and Assyrians. The Chaldee *Bel*, as well as the Hebrew *Baal*, means *Lord*. The Greeks were apt to substitute Zeus for Belus, and the Romans Jupiter. He was supposed to be the son of the Osiris of the Egyptians; and according to Herodotus, *B*. was the father of Ninus.

Belute', *v. a.* To bemuddle.

Belvedere, (*bĕl've-deer'*.) *n.* (*Arch*.) A small building constructed at the top of a house or palace, and open to the air, at least on one side, and often on all. The term is an Italian compound, signifying a "fine view;" and in Italy it is constructed expressly for that purpose, combined with the object of enjoying the cool evening breeze, which blows fresher on the house-top than in the confined streets. Many houses in Rome have *B*., for the most part of a simple form. The most celebrated construction of this kind at Rome, which is in the Vatican, was built by Bramante in that part called the

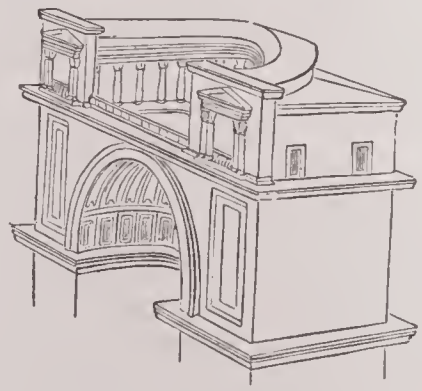


Fig. 337.—THE BELVEDERE OF THE VATICAN.
(Built by Bramante.)

court of the *B*. The form of this building is semicircular, and it stands over an enormous niche, a remarkable feature in the façade, of which the belvedere makes a part. From this belvedere the view is one of the finest that can be imagined, extending over the whole city of Rome and the Campagna, bounded by the distant Apennines, the tops of which are covered with snow for a large part of the year. *B*. are not uncommon in France, but the term is applied rather to a summer-house in a park or garden, than to the constructions on the tops of houses, although small edifices, similar to those in Italy, are sometimes constructed on the tops of buildings for the purpose of commanding a fine view.

Bel'videre, in *Illinois*, a flourishing township and city, cap. of Boone co., on the Kishwaukee river, 75 m. W.N.W. of Chicago, and 15 E. of Rockford. *Pop.* (1897) 5,000.

Bel'videre, in *Iowa*, a post-village of Monona co., on Maple River, about 8 m. E. of Onawa.

Bel'videre, in *North Carolina*, a township of Perquimans co.

Bel'videre, in *New Jersey*, a town, cap. of Warren co., situated on both sides of Pequest Creek, at its junction with the Delaware, 13 m. above Easton, and 65 W. of New York city. *Manf*. Cotton and iron.

Bel'videre, in *New York*, a post-village of Amity township, Alleghany co., on the S. side of the Genesee River, 379 m. from New York city.

Bel'videre, in *Vermont*, a township of Lamoille co., 30 m. N. by E. of Montpelier.

Bel'videre, in *Wisconsin*, a township of Buffalo co., on the Mississippi River.

Belvidere Landing, in *Vermont*, a post-office of Lamoille co.

Belvisia'ceæ, *n. pl.* (*Bot*.) A small order of plants, alliance *Myrtales*.—DIAG. A plurilocular ovary, monopetalous coronetted flowers, valvate calyx, indefinite monadelphous stamens, and amygdaloid cotyledons. This order comprehends only two genera, namely, *Asteranthos*, and *Napoleona* or *Belvisia*. These include four species, which are large shrubs, with smooth leathery leaves, all growing in tropical Africa. The flowers grow in threes, sessile in the axils of the leaves, and are extremely curious. The calyx is a thick leathery cup, divided into five segments. The corolla consists of three distinct whorls of united petals; the outer one turning back over the calyx; the second one is a narrow membrane divided into numerous segments; and the third forms an erect cup, and contains the stamens, which are united, so as to make a sort of inner cup. The fruit is a soft berry, with large kidney-shaped seeds. The pulp of the fruit is edible, and the pericarp contains much tannin.

Belve, *v. a.* See BELIE.

Belzo'ni, GIOVANNI BATTISTA, an enterprising traveller, whose researches in Egypt have been of great service to those engaged in the study of its antiquities, was B. at Padua. He came to England in 1803; and becoming involved in pecuniary difficulties, while residing in London, he obtained a livelihood by the display of feats of strength and activity at Astley's amphitheatre, for which his colossal stature and extraordinary muscular powers eminently qualified him. At length he left England, and entered on his travels through Egypt, in 1815. In 1816 he sent the busts of Jupiter, Memnon, &c., to the British Museum; published a narrative of his operations in 1820; and in the following year exhibited a model of the splendid tomb which he had discovered near Thebes. But, while making preparations for passing from Benin to Houssa and Timbuctoo, he was attacked by dysentery, and D. at Gato in 1823.

Bem', in *Wisconsin*, a post-office of Green co.

Bem, JOSEPH, a Polish general, B. in Galicia, 1795. His first experience was in the French expedition against Russia in 1812. He was afterwards professor in the school of artillery at Warsaw; took part in the insurrection of 1830, and in 1848 joined the Hungarian army. He obtained several successes against the Austrians and Russians in the following year, but after the defeat at Temesvar, he retired into Turkey, and was made a pasha. D. 1850.

Be'ma, *n.* [Gr. *bēma*, a step.] (*Greek Antiq*.) A stone platform or hustings, 10 or 11 feet high, with an ascent of steps, on the place Pnyx, at Athens, on which speakers stood when addressing public assemblies of the people.

Bemad', *v. a.*, [*be* and *mad*.] To make mad; to turn the brain.

Bemau'gle, *v. a.* [*be* and *mangle*.] To mangle; to rend to pieces.

Bemask', *v. a.* [*be* and *mask*.] To conceal; to mask.

Bemaul', *v. a.* To bruise; to give a severe beating to.

Bemaze', *v. a.* [*be* and *maze*.] To confuse; to bewilder.

"Intellects *bemazed* in endless doubt." — *Couper*.

Bembatoo'ka, (BAY OF,) a safe and commodious bay on the N.W. coast of Madagascar, Lat. 16° S., Lon. 46° E.—Majunga, on the N. side, is the only important town on the bay.

Bembec'idæ, *n. pl.* (*Zoöl*.) A family of Hymenopterous insects, peculiar to hot climates, and, in some instances, very much resembling wasps both in size and color. *B. rostrata*, an insect about the size of a wasp, is the type of this family, and is remarkable for having the lower parts of the mouth prolonged into a long trunk or proboscis.

Bem'bex, *n.* (*Zoöl*.) A genus of the fam. BEMBECIDÆ, *q. v.*

Bembid'idæ, *n. pl.* (*Zoöl*.) A family of minute carnivorous coleopters, which generally frequent damp situations, such as the banks of rivers, ditches, &c. They are usually of a bright blue or green metallic color, having 2 or 4 pale-yellow spots on the elytra.

Bem'bo, PIETRO, a noble Venetian poet, and miscellaneous writer, B. 1470. He was secretary to Leo X., and promoted to be bishop of Bergamo and cardinal by Paul III.; and author of a history of Venice, an important and extensive work on the Italian language, &c. D. 1547.

Bem'bridge Beds. (*Geol*.) A group of upper eocene strata, resting on the Osborne or St. Helen's series, and capped by the Hempstead beds. It is principally developed in the Isle of Wight. Beginning at the bottom, the *B*. limestone is at first seen, consisting of a pale-yellow, cream-colored limestone, interstratified with clay or crumbling marl, and from 20 to 25 ft. thick. Upon this comes the oyster-bed, a few feet of greenish sands, containing oysters (*Ostræa vectensis*) in great abundance

capped by a band of hard septerian stone. Resting on this are unfossiliferous mottled clays, alternating with fossiliferous laminated clays and marls. The latter contain the characteristic shell *Cyrena pulchra*. Lastly come the marls and laminated gray clays containing *Melania turritissima*. Immediately above this is the *black band*, forming the base of the Hempstead series.

Be'ment, in *Illinois*, a post-village of Bement township, Piatt county, 21 miles east-north-east of the city of Decatur.

Bemin'gle, *v. a.* [*be* and *mingle*.] To mix; to mingle. (R.)

Bem'ini Islands, in the W. Indies, a small group of the Bahamas; Lat. 25° 40′ N.; Lon. 79° 10′ W.

Bemire', *v. a.* [*be* and *mire*.] To drag or sink in the mire; to cover with mire.

"The loving couple well *bemir'd*,
The horse, and both the riders, tir'd." — *Swift.*

Bemoan, (*be-mōn'*,) *v. a.* [*be* and *moan*.] To express sorrow for; to lament; to bewail; to mourn for.

"He falls, he fills the house with heavy groans,
Implores their pity, and his pain *bemoans*." — *Dryden.*

—To express sympathy with. (R.)

Bemoan'er, *n.* A person who laments.

Bemock', *v. a.* [*be* and *mock*.] To ridicule; to treat with mockery. (R.)

"*Bemock* the modest moon." — *Shaks.*

Bemock', *v. i.* To laugh in a mocking manner.

Bemoisten, (*be-mois'n,*) *v. a.* [*be* and *moisten*.] To moisten; to wet.

Be'mol, *n.* (*Mus.*) See B flat.

Bemourn', *v. a.* [*be* and *mourn*.] To mourn or grieve over.

Bemuf'fle, *v. a.* [*be* and *muffle*.] To muffle; to wrap up.

"*Bemuffled* with the externals of religion." — *Sterne.*

Bemused, (*be-mūzd',*) *a.* [*be* and *muse*.] Wrapt in reverie; sunk in contemplation: overcome with musing. — (Used generally in an ironical sense.)

"Is there a parson much *bemus'd* in beer?" — *Pope.*

Be'mus Heights, in *New York*, a post-village of Saratoga co., on the Champlain Canal, 24 m. N.E. of Albany.

Be'mus Point, in *New York*, a post-office of Chatauqua co.

Ben, *n.* [Heb., a son.] A prepositive syllable found in many Jewish names, as *Ben-david*, *Ben-asser*, which the German Jews have changed into "*sohn*," as *Mendelssohn*, *Jacobssohn*, &c., — a custom practised by the Israelites in foreign countries, in consequence of their having no family name.

Ben, Bein, or **Bhein,** *n.* [Gael.] This word has been adopted in English to indicate the most elevated summits of the mountain ranges which traverse Scotland to the north of the Friths of Clyde and Forth, of which the most important are Ben-Nevis, Ben-Macdhui, Ben-Lawers, and Ben-Cruachan. It is essentially the same word as the Welsh *Pen*, the primary signification of which is "head," and hence it may be considered as equivalent to "mountain summit" or "mountain head." The term *Pennine*, applied to a division of the Alps, is doubtless derived from the Celtic *Pen* or *Ben*.

Ben, (Oil of.) (*Chem.*) A whitish-yellow, thickish oil, obtained in Egypt, Ceylon, &c., from the seeds of the *Hyperanthera moringa*. It is chiefly used by perfumers, as it possesses the property of seldom turning rancid.

Benai'ah, son of Jehoiada, and commander of David's body-guards.

Ben'ares, a territory of British India, forming a part of the north-western provinces, and containing the districts of Benares, Mirzapore, Ghazepore, and Juanpore; lying chiefly between Lat. 24° and 26° N., and Lon. 82° and 84° 30′ E.; having N. Goruckpore; E. Bahar; S. the Berar ceded district; and W. the territory of the rajah of Rewah, and the dist. of Allahabad and Juanpore. *Area*, 8,670 sq. m. It consists, for the most part, of a cultivated flat, on both sides of the Ganges, and is, besides, well watered by the Goomtee, Caramnassa and Sone rivers. — *Prod.* Wheat, barley, legumes, flax, indigo, sugar, and large quantities of opium. The latter is a government monopoly, and Bahar and Benares are the only prov. in the Bengal presidency in which it is permitted to be grown. This prov. is among the most flourishing in India, and is yearly increasing in trade and prosperity. Muslins, gauze, and brocades are the principal manufactures. *Cap.* Benares. *Pop.* abt. 8,000,000. Before 1775, *B.* belonged to the Nabob of Oude, who, in that year, ceded it to the British.

Benares, (Skr. *Varanashi*, or *Kasi*, "the splendid,") a large and celebrated city of Hindostan, cap. of prov. and district of the same name, and one of the 6 chief provincial cities in the presidency, at the head of a judicial division; Lat. 25° 18′ 33″ N., Lon. 83° E.; on the N.W. bank of the Ganges, about 300 ft. above sea-level, 65 m. E. of Allahabad, and 390 N.W. of Calcutta, on the E. Indian Railway from Calcutta to Delhi. *B.* is the "most holy" city of the Hindoos — the ecclesiastical metropolis, in fact, of India — and is resorted to by pilgrims from all quarters, especially from the Mahratta countries, and from even Thibet and Burmah. It is certainly the richest, as well as probably the most populous, city in the peninsula. Its first view is extremely fine. It extends about 4 m. along the bank of the river, which is considerably elevated, and adorned with large *ghauts* or landing-places, with long and handsome flights of steps. Its buildings, which are crowded, are built of stone or brick, and uniquely lofty; here and there are seen the sculptured pyramidal tops of small pagodas; and the great mosque of Aurungzebe, with its gilded dome glittering in the sun, and two minarets towering one above the other, form a grand and imposing *coup d'œil*. The streets are extremely narrow, but the city is well drained and healthy. The principal building is the Mosque above mentioned, and there are besides numerous Hindoo temples and fakir-houses. *B.* is crowded with mendicant Brahmin priests. Only 1-10th of the population are Mohammedans; Europeans, Persians, Armenians, Tartars, &c. are settled here, and carry on a considerable trade in shawls, silks, muslins, cottons, diamonds, &c.

Fig. 338. — BENARES.

The Hindoo Sanskrit College is the chief seat of native learning in India. This city is believed by the Hindoos to form no part of the terrestrial globe, but to rest upon the point of Siva's trident; hence, they say, no earthquake ever affects it. In 1017, it was taken by Sultan Mahmoud, and from 1190 followed the fortunes of the Delhi Moguls. Since 1775, it has belonged to the British.

Ben'bow, John, an English admiral, b. 1650 at Shrewsbury. His skill and valor displayed during an action with a Barbary pirate at the head of a superior force, gained him the confidence of the nation, and he was made a captain in the royal navy by James II. Rear-admiral in 1700, he had his leg carried away by a chain-shot during an engagement with the French commodore Du Casse, in 1702, and he d. in Jamaica, 1702.

Ben'bow, in *Missouri*, a township of Marion co.

Ben'burb, a village of Ireland, co. Tyrone; *pop.* about 450.

Bench, (*bensh,*) *n.* [A. S. *bænc*. See Bank.] A long seat, distinguished from a stool by its superior length.

—A long table, at which mechanics, &c. ply their trade: as, a joiner's *bench*. It is usually 10 or 12 ft. long, and about 2½ wide.

—A judge's seat in a court of law.—The judges taken collectively, as distinguished from counsellors and advocates, who are called the *bar*.

—The *King's* or *Queen's Bench* is the name given in England to the supreme court of common law.

Bench, *v. a.* To furnish with benches.

"Twas *bench'd* with turf, and goodly to be seen,
The thick young grass arose in fresher green." — *Dryden.*

—To seat or place on a bench or seat of honor.

"His cupbearer, whom I from meaner form
Have *bench'd*, and rear'd to worship." — *Shaks.*

—*v. i.* To sit on a bench or seat of justice.

"*Bench* by his side; you are of the commission." — *Shaks.*

Bench'er, *n.* (*Eng. Law.*) A senior member of any of the Inns of Court in England, viz., the Inner Temple, Middle Temple, Lincoln's Inn, and Gray's Inn. The management of the affairs of each Inn is committed to its own body of *benchers;* out of which body one is annually chosen as *treasurer*. The sole power of calling students to the bar, by which they become *barristers*, and of disbarring them, and thereby depriving them of their qualification, for misconduct, is vested in the benchers, subject to an appeal to the judges as *visitors* to the inn.

"I was taking a walk in the gardens of Lincoln's Inn; a favor that is indulged me by several *benchers*, who are grown old with me." — *Tatler.*

—An alderman of a corporation.

Bench'-mark, *n.* (*Levelling.*) A term applied to a mark showing the starting-point in levelling along a line, and to similar marks affixed at convenient distances to substantial or permanent objects, to show the exact points upon which the levelling staffs were placed when the various levels were read, thus facilitating reference and correction.

Bench'-planes, *n. pl.* (*Carpentry.*) A carpenter or joiner's set of planes; as, the *jack-plane*, *trying-plane*, *long-plane*, the *jointer*, and the *smoothing-plane*.

Bench'-table, *n.* (*Arch.*) A low stone seat around the interior of the walls of many churches.

Bench'-warrant, *n.* (*Law.*) A process issued by a court against a person guilty of some contempt, or indicted for some crime.

Bencoolen, (*ben-koo'len,*) a seaport of the island of Sumatra, and the principal settlement of the Dutch on that island. It stands on the W. coast; Lat. 30° 47′ 6″ S., Lon. 102° 19′ E. The town, small but well built, is said to be unhealthy. The imports consist chiefly of cloths, rice, tobacco, sugar, &c., from Batavia; opium and various fabrics from Bengal and the Coromandel coast; printed cottons, and cutlery and hardware from Europe. *Pop.* 13,200.

Bend, *v. a.* (*imp.* bended or bent; *pp.* bended or bent; bended in solemn style.) [A. S. *bendan*, from *bænd*, a tie, anything that ties, binds, or bends (a bow.)] To stretch; to strain, or crook by straining, as a bow.

"And fills the white and rustling sail,
And *bends* the gallant mast." — *Allan Cunningham.*

—To turn out of a straight or direct line or course.

"Your gracious eyes upon this labour *bent*." — *Fairfax.*

—To subdue; to cause to yield by straining; to make submissive.

"Except she *bend* her humour." — *Shaks.*

—To apply closely; to incline; to apply.

"He was no longer able to *bend* his mind or thoughts to any public business." — *Sir W. Temple.*

—To put anything in order for use, by straining.

"As a fowler was *bending* his net, a blackbird asked him what he was doing." — *L'Estrange.*

(*Naut.*) To fasten; as, to *bend* a sail, a cable: *i. e.* to fasten a sail to the yard, or a cable to the anchor.

To bend the brow. To knit the brow; to frown; to scowl.

"Some have been seen to . . . *bend their brows*, bite their lips, beat the board, and tear their paper." — *Camden.*

—*v. i.* To be crooked; to crook, or be curving; to overhang.

"He who hath *bent* him o'er the dead." — *Byron.*

—To incline; to lean or turn; to purpose; to resolve upon.

"A state of slavery, which they are *bent* upon with so much eagerness and obstinacy." — *Addison.*

—To yield; to bow in prayer or submission.

"While each to his great Father *bends*." — *Coleridge.*

Bend, *n.* [See Bent.] A deflection from a straight line; a curve or crook; a flexure, or incurvation.

"And that same eye, whose *bend* doth awe the world,
Did lose its lustre." — *Shaks.*

(*Her.*) Two parallel lines, drawn from left to right, or from the dexter chief to the sinister base of an escutcheon, which lines may be either straight, or indented, engrailed, &c. It is one of the nine principal ordinaries, occupying a fifth part of the field when uncharged, but a third part when it has any device or charge upon it. When the term *B.* is mentioned without any addition,

Fig. 339.

BEND. RIBBON. COST.

the *B. dexter* is always meant. It is supposed to represent a shoulder-belt, or scarf worn over the shoulder. The *B.* has four diminutives, — the *bendlet*, half the width of the *B.*; the *garter*, a third; the *ribbon*, a quarter; and the *cost*, which does not touch the extremities of the shield, and is often borne on either side of the *B.* When charges are placed in the direction of the *B.* from the dexter chief to the sinister base, they are said to be *in bend*, *per bend*, *bendy*, &c. — For *Bend Sinister*, see Baton.

(*Com.*) Among curriers and leather-sellers, a butt of leather.

(*Naut.*) The form of the ship from the keel to the top of the side; as, the midship *bend*, &c. *Bends* are the strongest planks of a vessel's side, to which the beams, knees, and futtocks are bolted. They are frequently called Wales.

—A knot by which one rope is fastened to another, or to an anchor.

(*Mining.*) Indurated clay; a name given by miners to any indurated argillaceous substance.

Bend'able, *adv.* That may be bent or curved.

Ben'demann, Edward, a celebrated painter of the Düsseldorf school, b. in Berlin, Dec. 3, 1811. After receiving a good literary education, he became a student at the Düsseldorf Academy under the well-known Schadow, who soon discovered that *B.* had chosen his true vocation. When only 21 years of age, he exhibited at Berlin a large painting, *The Grief of the Jews*, suggested by *Psalm* cxxxvii. It was popularized by means of lithographs, and is now in the Cologne Museum. In 1833 he executed a picture, afterwards engraved by Felsing — *Two Young Girls at the Fountain*, which was purchased by the Society of Arts of Westphalia. In 1837 he exhibited at Paris a large canvas, *Jeremiah amid the Ruins of Jerusalem*, with which he gained the gold medal. This picture, of which Weiss published a good lithograph, is in the private gallery of the King of Prussia. *Harvest* followed, which was engraved by Eichens. The success of this piece led *B.* to produce others of the same class, such as *The Shepherd and Shepherdess*, from one of Uhland's idyls, and *The Daughter of the Servian Prince*, from a Servian ballad. After becoming appointed professor in the Academy of Arts of Dresden, 1838, he received a commission to decorate the royal palace, and undertook the grand frescoes upon which, above all, his reputation is founded. The progress of this undertaking was interrupted by a disease of the eyes, which the artist contracted in Italy. *B.* executed a fresco of *Poetry and the Arts;* a design for a monument to Sebastian Bach, which was afterwards erected at Landstein; a portrait of the Emperor Lothaire II. for the city of Frankfort, besides many other portraits of celebrated Germans, and among them that of Schadow's daughter, whom he married in 1838. In 1860 he succeeded his father-in-law as Director of the Academy at Düsseldorf.

Ben'der, a fortified town of Russia in Europe, in Bessarabia, on the Dniester, 58 m. W.N.W. of Odessa. It was taken and stormed by the Russians in 1770 and in 1809. Near it is Varnitza, a village celebrated as the asylum granted by Achmet III. to Charles XII. of Sweden after the battle of Pultowa, *q. v.*

Bend'er, *n.* One who, or that which, bends or makes crooked.
—An instrument used for bending anything.
—In Canada and U. States, a vulgarism to denote a spree, drinking-bout, jollification, &c.
Ben'dersville, in *Pennsylvania*, a post-village of Adams co., 14 m. N. of Gettysburg.
Bend'ing, *p.a.* Incurvating; stooping; subduing; leaning; applying closely.
—*n.* The act of the incurvation of a body from a straight to a crooked form: as wood by heating it.
Bend'ing-strakes, *n. pl.* (*Naut.*) Two strakes wrought near the coverings of the deck, worked all fore and aft, about 1 or 1½ inches thicker than the rest of the deck, and let down between the beams and edges so that the upper side is even with the rest.
Bend'-leather, *n.* (*Com.*) Among curriers, the best quality of leather.
Bend'let, Bendy, *n.* (*Her.*) See BEND.
Bene. See NOTA BENE.
Beneaped', *a.* (*Naut.*) See NEAPED.
Beneath', *prep.* [A. S. *beneoth, benythan — be,* and *nythan,* downwards, lower.] Below; under; lower in place.

"Some lie *beneath* the churchyard stone,
And some before the speaker."—*Praed.*

—Under; not equal to, as overborne by pressure, power, weight, or authority. (Used in a figurative sense.)

"And oft on rocks their tender wings they tear,
And sink *beneath* the burdens which they bear."—*Dryden.*

—Lower in rank, excellence, dignity, &c.; unbecoming; unworthy of; as, that man is *beneath* one's notice.

"He will do nothing that is *beneath* his high station."—*Atterbury.*

Beneath', *adv.* In a lower place; under.

"The earth which you take from *beneath* will be barren and unfruitful."—*Mortimer.*

—Below; as opposed to heaven or any superior region.

"Trembling I view the dread abyss *beneath,*
Hell's horrid mansions, and the realms of death."—*Yalden.*

Ben'edek, LUDWIG, a distinguished general in the Austrian service, B. in 1804, at Odenburg, Hungary. After undergoing the usual course of training at the Military Academy of Neustadt, he entered the Austrian army as a cornet in 1822, and attained the rank of colonel in 1843. Two years later he exhibited his great military talents during the insurrection in Galicia, which he succeeded in completely quelling in the west, and thereby enabling Gen. Csillin to carry Podgorze by assault. Ordered, in 1847, at the head of the regiment Gyulai, to join the army in Italy, he took part in the memorable campaign of 1848 under Radetzky, distinguishing himself in the retreat from Milan, at Osone, and especially at the battle of Curtatone, for which he received the order of Maria Theresa. In 1849 he contributed to the reduction of Mortara, and to the victory of Novara. After this he was transferred to Hungary, and was wounded at Raab and Szegedin. Ten years later, in the war of Italian independence, Gen. *B.* was one of the few Austrian generals who exhibited any very great military capacity, and distinguished himself at Solferino, his division being the last to leave the field. He was Governor of Hungary for a few months in 1860; and, in the critical state of affairs in Italy, was soon after appointed to the chief command of the Austrian army in that country. Summoned by the emperor to command the Austrian army in the war with Prussia, General *B.* sustained a defeat at Sadowa July 3, 1866, and was soon after superseded by the Archduke Albert. D. 1881.
Benedicite, (*ben-e-dis'i-te.*) *n.* [Lat.] (*Eccl. Hist.*) The hymn or song of the Three Children in the Fiery Furnace, from the Latin version, beginning, *Benedicite omnia opera Dominum.* The singing of the *B.* has been in universal use as early as the time of Chrysostom. It is sung in both the Roman Catholic and Anglican Churches.
Ben'edict, St., the founder of the order of the Benedictine monks, was born at Nursia, in the dukedom of Spoleto, in Italy, in the year 480 A. D. He was sent to Rome when very young, and there received the first part of his education; when 14 years of age, he removed to Subiaco, a desert place about 40 miles distant, where he was concealed in a cavern; his place of retirement, for a considerable time, being known only to his friend St. Romanus, who is said to have descended to him by a rope, and supplied him daily with provisions. The monks of a neighboring monastery subsequently chose him for their abbot; their manners, however, not agreeing with those of Benedict, he returned to his solitude, whither many persons followed him and put themselves under his direction, and in a short time he was enabled to build no fewer than 12 monasteries. About the year 528 he retired to Monte Cassino, where idolatry was still prevalent, and where a temple to Apollo yet existed. Having converted the people of the adjacent country to the true faith, he broke the statue of Apollo, overthrew the altar, and built two oratories on the mountain, one dedicated to St. Martin, the other to St. John. Here St. Benedict also founded a monastery, and instituted the order of his name, which in time became so famous and extended all over Europe. It was here, too, that he composed his *Regula Monachorum,* which does not, however, seem to have been confirmed till fifty-two years after his death, when Pope Gregory the Great gave his sanction to it. Authors are not agreed upon the place where St. Benedict died: some say at Monte Cassino; others affirm it to have been at Rome, whither he had been sent by Pope Boniface. Stevens, in the *Continuation of Dugdale's Monasticon,* places his death about the year 543, others in 547; the day, however, stands in the calendar fixed to March 21. Gregory the Great, in the second *Book of his Dialogues,* has written a *Life of St. Benedict,* and given a long detail of his supposed miracles.
Ben'ediet I., POPE, succeeded John III., 575; D. 578, and was himself succeeded by Pelagius II.
BENEDICT II., succeeded Leo II., 684; D. 685, and was succeeded by John V.
BENEDICT III., succeeded Leo IV., 855. During his pontificate, the Saracens were ravaging Apulia and Campania. D. 858, and was succeeded by Nicholas I.
BENEDICT IV., succeeded John IX., about 900. He crowned Louis, son of Boson, emperor and king of Italy. D. 903, and was succeeded by Leo V.
BENEDICT V., succeeded John XII. in 964, and was appointed by the Romans in opposition to Leo VIII. The Emperor Otho, supporter of Leo, appeared before Rome with an army, reduced the city by famine, and a new assembly of the clergy declared to be null the election of *B.*, who was exiled. D. 965.
BENEDICT VI., succeeded John XIII., 972. After the death of the Emperor Otho I., the Romans imprisoned *B.*, who was strangled in the castle of St. Angelo, 974. We know nothing of Donus II., mentioned as the next pope, except that he D. after a few months, and was succeeded by
BENEDICT VII., of the family of Conti, elected 975. During his pontificate, the Emperor Otho II. came repeatedly to Rome, where he D., 984. *B.* died about the same time, and was succeeded by John XIV.
BENEDICT VIII., of the same family, succeeded Sergius IV., 1012. In 1016, the Saracens from Sardinia having landed on the coast of Tuscany, *B.* attacked and defeated them. He crowned the Emperor Henry II., and his wife, in the church of St. Peter. D. 1024, and was succeeded by his brother, John XIX.
BENEDICT IX., a relative of the two preceding popes, succeeded John XIX., 1034. He was then very young, some say only ten years old. He was distinguished by his licentiousness and profligacy, and by the state of anarchy in which Rome was plunged during his pontificate. He was deposed in 1048, and D. in a convent, 1054, being succeeded by Leo IX.
BENEDICT X., was elected by a faction after the death of Stephen IX., 1058; but the council of Siena nominated Nicholas II. *B.* did not submit till the following year, when Nicholas made his entrance into Rome. D. 1059.
BENEDICT XI., a Dominican, succeeded Boniface VIII., 1303. Contemporary historians speak highly of his character and virtues. D. 1304, and was succeeded by Clement V.
BENEDICT XII., JACQUES FOURNIER, a native of France, succeeded John XXII., 1334, the popes residing then at Avignon. His strictness in enforcing discipline among the monastic orders excited many enemies against him, who endeavored to cast aspersions upon his character. D. 1342, and was succeeded by Clement VI.
BENEDICT XIII., Cardinal Orsini, succeeded Innocent XIII., 1724, but it was with difficulty that he could be made to accept of the pontificate. Benedict lived with the greatest frugality, and has been called more a monk than a pope. His great fault was his implicit confidence in Cardinal Coscia, to whom he left the entire management of his government, and who much abused it. He died February, 1731. His works were published in 1728, in three volumes folio. He was succeeded by Clement XII.
BENEDICT XIV., was born at Bologna in 1675, of the noble family of Lambertini. In 1728 he received a cardinal's hat; and in 1731 was nominated archbishop of Bologna. On the death of Clement XII. (1740), the cardinals were a long time deliberating on the choice of a successor. Lambertini, by way of quickening them, said, "Why do you waste your time in discussions? If you wish for a saint, elect Gotti; a politician, choose Aldrovandus; a good companion, take me." This sally pleased them so much, that they elected him at once. He reformed abuses, introduced good regulations, cultivated letters, encouraged men of learning, and was a patron of the fine arts. His tolerance is well known, and it exposed him to the censure of the rigorists among the College of Cardinals. Without exhibiting anything like indifference to the doctrines of the Church of which he was the head, he showed urbanity and friendliness towards all Christians, of whatever denomination, whether kings or ordinary travellers, who visited his capital. His correspondence with Frederick the Great, concerning the ecclesiastical affairs of the province of Silesia, which that sovereign had conquered from Austria, was carried on by him in the most conciliatory and liberal spirit. The Protestants of Germany revered *B.* With regard to France, he carefully avoided everything that could in the least encourage the fanatical party in that country in reviving the persecution against the Protestants of Languedoc. Seeing France distracted by quarrels between the Jesuits and the Jansenists, the court and the parliament, the priests and the philosophers, and lamenting amidst all this the licentiousness of Louis XV. and his courtiers, and the weakness and incapacity of the ministers, he used to exclaim that "France ought indeed to be the best governed country in the world, for its government seemed to be left entirely to the care of Providence." (Botta, *Storia d'Italia,* lib. 46.)—*B.* was learned, not only in theology, but in history and literature, and had also a taste for the fine arts. His works were published at Rome, in 12 vols. 4to. D. 1758, and was succeeded by Clement XIII.
Ben'ediet, JULIUS, an eminent musician and composer, B. at Stuttgart, in 1804. He at an early age showed so much musical talent, that, having commenced his studies under Hummel, at Weimar, he was introduced to the notice of Weber, who, though he had always refused to take pupils, was induced to alter his resolution in *B.*'s favor. At the age of 19, he was, on Weber's recommendation, engaged to conduct the German operas at Vienna, and was afterwards employed in a similar capacity at the San Carlo and the Fondo, at Naples. In 1827, his first dramatic work, an opera in two acts, called *Giacinta ed Ernesto,* was produced at the Fondo, but, being essentially of German style and color, it did not please the Neapolitan public; nor was he more successful with a grand opera afterwards performed at the San Carlo. In 1830, he returned to Stuttgart, where his opera *I Portoghesi in Goa,* which had been coldly received at Naples, found a more congenial audience. After a visit to Paris, and a second residence of several years at Naples, *B.* came to London, in 1835, chiefly at the instance of his friend Madame Malibran. In 1836, he undertook the direction of the Opera Buffa at the Lycenm. Here, his operetta *Un Anno ed un Giorno,* originally produced at Naples, was well received, and after this, *B.* turned his attention to the English musical stage. His first English opera, *The Gipsy's Warning,* was produced in 1838 with remarkable success. The German version of this opera has been received with much favor at several of the principal theatres of his native country. His subsequent operas, *The Brides of Venice,* and *The Crusaders,* had a long run at Drury Lane. He has composed music for the pianoforte, of which instrument he is a great master, and, also, many orchestral and vocal pieces of considerable excellence. As a composer, *B.*'s reputation will rest on his English operas, which, in addition to their dramatic power and beauty, have the merit of being truly English in style and character. In 1850, he accompanied Jenny Lind as conductor and pianist to the U. States and Havana, and shared in her unexampled success in a series of 122 concerts. After his return to England, he formed a choral society, "The Vocal Association," and conducted the Italian operas at Drury Lane, and Her Majesty's Theatre during the seasons of 1859 and 1860, when he brought out an Italian version of Weber's *Oberon,* with recitatives and additions chiefly from his master's works, which was very favorably received. In 1862, his opera, *The Lily of Killarney,* was produced at Covent Garden, and has since been performed at several of the principal theatres in Germany. Of late years, *B.* has produced two cantatas only, *Richard Cœur de Lion,* 1863; and *St. Cecilia,* 1866. Knighted by Queen Victoria, 1871. D. 1885.
Ben'edict, in *Maryland,* a village of Charles co., on the W. bank of Patuxent River, about 38 m. S.S.W. of Annapolis.
Benedict, Ben'edick, *n.* A term employed to denote a newly married man. (Derived from "Benedick," one of the characters in Shakspeare's comedy of *Much Ado about Nothing.*)
Benedic'ta, in *Maine,* a township in Aroostook county.
Benedic'tine, *a.* Belonging, or relating to, the monks of the order of St. Benedict, or Bennet.
Benedic'tines, *n. pl.* (*Eccl. Hist.*) An order of monks in the Roman Catholic Church, founded by St. Benedict or Benuet, who introduced monachism into Western Europe, and erected his first monastery on the site of a temple of Apollo, on Monte Cassino, abt. 50 m. from Subiaco, in Italy, A. D. 529. The order spread rapidly in Europe. St. Benedict himself founded several monasteries, and his example was followed by others. The monks took the vows of chastity, obedience, and poverty. By some authorities, the *B.* are said to have been introduced into England by Augustine in 596, and by others the event is assigned to a later period, Dunstan (925–988) being considered the first English abbot of that order. Towards the end of the 8th century, they had become so numerous that Charlemagne caused inquiry to be made whether any other kind of monks existed than those of the order of St. Benedict. The austerity of their habits soon became relaxed, and Matthew Paris mentions a reformation that was attempted in 1238. Their merits in collecting, preserving, and multiplying copies of classical manuscripts must not be forgotten, and the order is every way distinguished for the numerous services rendered to literature. There were several branches of the *B.* living under the same rule, but observing a different discipline.—the chief being the *Cluniacs,* established in 912, the *Carthusians,* founded in 1080, and the *Cistercians* or *Bernardines,* founded in 1098. The dress of the *B.* was black, and hence they have been called Black Monks or Friars, or the *Black Monks of St. Benedict.* According to an inquiry instituted by Pope John XXI. (1316–1334), this order had at that time produced 20 emperors, 10 empresses, 47 kings, 50 queens, 24 popes, 68 princes, 100 princesses, 200 cardinals, 7,000 archbishops, 15,000 bishops, 15,000 abbots, and 4,000 saints, besides a host of other dignitaries both in church and state. There were nuns as well as monks of this order.—For a notice of the learning of the *B.*, see MAUR, (ST.)
Benediction, (*ben-e-dik'shon,*) *n.* [Lat. *benedictio — bene,* well, and *dico, dictum,* to speak.] The act of invoking the favor of God, prosperity, long life, and other blessings upon individuals.
(*Eccl. Hist.*) The ceremony of blessing is of a very remote antiquity. We find in the Scriptures, that the patriarchs, before they died, solemnly bestowed their blessing on their sons. Isaac, giving by mistake to his younger son Jacob the blessing which he intended for his elder son Esau (*Genesis* xxvii.), is an interesting instance of this custom. In *Numbers* vi. 23–26, the words are specified in which the high-priest was to bless the people of Israel. Aaron blessed the people, "lifting his hand towards them." (*Leviticus* ix.) Christ, after his resurrection, and before parting from his disciples at Bethany, "lifted up his hands and blessed them." (*St. Luke* xxiv. 50.) In the early Church, the bishop gave his blessing to the people with his hands extended towards them. In the Roman Catholic Church it is the custom for the bishop to lift up his right hand towards the people with the fingers extended, and with it to

describe the sign of the cross, in commemoration of the Redemption. The priests also give the benediction, but with some difference in the form and words, and they can only give it at mass, or while administering the sacrament, or in other solemn ceremonies; but the bishop has the power of giving it anywhere or upon any occasion he may think fit. In the Roman Pontificale are found the various forms of benediction. One of the most impressive instances of this ceremony is that of the Pope, in full pontificals, attended by the cardinals and prelates, giving his benediction "*Urbi et Orbi*" on Easter Sunday after mass, from the great gallery in the front of St. Peter's church, while the vast area beneath is filled with kneeling spectators. The *benedictorium* is the vase containing the holy water, which is placed at the entrance of Catholic churches for the use of the people, who dip their fingers into it and cross themselves as they go in and out. The water is blessed by the priest, and is mixed with salt.

Benedic'tive, *a.* Giving a blessing.

Benedic'tory, *a.* Giving good wishes for one's welfare.

Benefac'tion, *n.* [Lat. *benefactio — bene*, well, and *facio, factum*, to make, to do.] The doing of a favor or good office; act of conferring a benefit. — A benefit conferred, especially a charitable donation.

"One part of the *benefactions* was the expression of a grateful and generous mind." — *Atterbury.*

Benefac'tor, *n.* He who confers a benefaction or a benefit.

"Whoever makes ill returns to his *benefactor*, must needs be a common enemy to mankind." — *Swift.*

Benefac'tress, *n.* A female who confers a benefit.

Benefice, (*ben'e-fis,*) *n.* [Lat. *beneficium.*] A benefit, advantage, or kindness conferred. Specifically, an ecclesiastical living conferred by a patron, but which is inferior to that of a bishop; a church endowed with a revenue for the performance of divine service.

"Much to himself he thought, but little spoke,
And undepriv'd, his *benefice* forsook." — *Dryden.*

Beneficed, (*ben'e-fist,*) *a.* Possessed of a benefice or church preferment.

Beneficence, (*be-nef'i-sens.*) *n.* [Lat. *beneficentia—bene*, well, rightly, and *facio*, to make, to do.] The practice of doing good; active goodness, kindness, or charity.

"Love and charity extend our *beneficence* to the miseries of our brethren." — *Rogers.*

Beneficent, *a.* Doing good; kind; bountiful; liberal; munificent; charitable.

"But Phœbus, thou, to man *beneficent*,
Delight'st in building cities." — *Dryden.*

Beneficently, *adv.* In a beneficent manner.

Beneficial, (*ben-ē-fi'shi-al,*) *a.* Conferring benefits; helpful; advantageous; profitable; generally succeeded by *to.*

"Not any thing is made to be *beneficial to* him." — *Hooker.*

(*Law.*) *B. interest*, is the profit, benefit, or advantage resulting from a contract or the ownership of an estate, as distinct from the legal ownership or control.

Benefi'cially, *adv.* Advantageously; profitably; helpfully.

Benefi'cialness, *n.* Usefulness; profit; helpfulness.

Beneficiary, (*ben-ē-fi'shi-a-ri,*) *n.* One who holds a benefice.

"In the first case . . . the *beneficiary* is obliged to serve the parish church in his own proper person." — *Ayliffe.*

—A person who is benefited or assisted.

"The Duke of Parma was tempted by no less promise, than to be made a feudatory, or *beneficiary* king of England." — *Bacon.*

Benefi'cient, *a.* [Lat. *benefaciens.*] Doing good. (O. or R.)

Benefi'cium Na'turæ. [Lat., a benefit of nature.] (*Med.*) A term used by the French pathologists for cases in which diseases have got well without medical treatment. With them, *Bénéfice de nature* means also a spontaneous diarrhœa, often acting favorably either in the prevention, or cure, of disease.

Ben'efit, *n.* [Fr. *bienfait — bien*, well, and *fait*, from *faire;* Lat. *benefactum — bene*, well, and *facio*, to make, to do.] A good deed; an act of kindness; a favor conferred.

"When noble *benefits*, shall prove
Not well disposed." — *Shaks.*

—That which is useful or beneficial; advantage; gain; profit; service. — A performance in a theatre, or other public place of amusement, for the behoof of some person or persons; as, it is his *benefit* to-night.

—*v. a.* To do good to; to advantage; to do a service to.

"He was so far from *benefiting* trade, that he did it a great injury." — *Arbuthnot.*

—*v. i.* To gain advantage; to make improvement.

"To tell you therefore what I have *benefited* herein." — *Milton.*

Benefit of Clergy. See SECTION II.

Bene'gro, *v. a.* To darken; to make dusky or black.

Be'ne-placi'to, *n.* [It., at pleasure.] (*Mus.*) This compound word, noted on a piece of music, signifies that it may be played according to the will or taste of the performer.

Benetier', *n.* A vessel to contain holy water; a font.

Benevente, a sea-port town of Brazil.

Beneven'to, (anc. *Beneventum,*) a city of S. Italy, cap. of a prov. of same name, between and near the confluence of the Calore and Sabato, 32 m. N.E. of Naples. The modern town is almost entirely constructed out of the ruins of the ancient; and, in fact, hardly any Italian town can boast of so many remains of antiquity as *B.* Of these, the most perfect is the Arch of Trajan, erected about A. D. 114. — Near *B.*, 1266, was fought the great battle between Charles of Anjou and his rival Manfred, in which the latter was killed, and his army totally defeated. During the reign of Napoleon I., *B.* was formed into a principality conferred on M. de Talleyrand. In 1815, it again reverted to the Pope. In 1860, it was annexed to the kingdom of Italy. *Pop.* 16,500.

Benev'ola, in *Maryland*, a post-office of Washington co.

Benev'olence, *n.* [Lat. *benevolentia—bene*, well, and *volo*, to will or wish.] Good-will; the disposition to do good; kindness of heart; love to mankind; charitableness; benignity.

"Grasp the whole worlds of reason, life, and sense,
In one close system of *benevolence*." — *Pope.*

—An act of kindness; good done; charity given.

(*Hist.*) A voluntary gratuity first granted to the king of England, Edward IV., by his subjects. Under the subsequent monarchs, *B.* became anything but a voluntary gift, and its illegal claim and collection was one of the prominently alleged causes of the rebellion of 1640.

Benev'olent, *a.* [Lat. *benevolens.*] Having good will, or a disposition to do good; kind; affectionate; charitable.

"Thou good old man, *benevolent* as wise." — *Pope.*

Benev'olently, *adv.* In a kind or benevolent manner; with good-will.

Ben'ezet, ANTONY, an American philanthropist, B. at St. Quentin, 1713. At an early age he removed with his family from France to Philadelphia, where they became members of the Society of Friends. This excellent man devoted his life to acts of charity. He published several valuable tracts in favor of the emancipation of the negroes, and of the civilizing and christianizing the Indians, and also against the use of ardent spirits, on behalf of the Society of Friends, &c. Every step of his life was marked by a good action or a good thought. He used to say that "the highest act of charity in the world was to bear with the *unreasonableness* of mankind." He D. in 1784, and his funeral was attended by persons of all religious denominations. A fine eulogium was pronounced upon his remains by an American officer. "I would rather," said he, "be Antony Benezet in that coffin, than George Washington with all his fame." — *B.* was not a great man, in the worldly sense of the term, but he was a GOOD man, and, as such, he ranks, in our personal estimation, far above many celebrated persons of whom we write, but without approving their deeds.

Ben'ezet, in *Pennsylvania*, a post-township of Elk co.

Benford's Store, in *Pennsylvania*, a township of Somerset co.

Ben Franklin, in *Texas*, a P. O. of Lamar co.

Ben'gal, in *Michigan*, a post-office of Clinton co.

Bengal, (*ben-gawl',*) a territory of Asia, in Hindostan, the most important and extensive of the 9 provinces of British India. It extends between Lat. 19° and 29° N., and Lon. 82° and 97° E., having N. Bootan, Nepaul, and the Indus; W. the latter river and the Sikh and Rajpoot territories; S. those of Berar, the Madras presidency, and the Bay of Bengal; and E. Burmah. *Total area*, 198,090 sq. m. The N.W. provinces were separated from it in 1833, and Assam in 1874. It now comprises, 1st. The basin of the Ganges, including Bengal Proper, and Behar; and 2d. The ill-watered country of Chota-Nagpore and Orissa, to the W. and S.W. The province is divided into 47 districts. — *Desc.* The surface of this vast territory has, in different parts, every variety of elevation and aspect. But by far the largest portion consists, notwithstanding, of immense plains, including the basins of the Ganges and Brahmapootra. Exclusive of the Himalaya and Garrows mountains, which bound it N. and E., it has no mountains of importance, with the exception of the Vindhyan range, S. of the Ganges. No part of India is so well stocked with rivers. Among them are the great streams of the Ganges, with its many tributaries, the Jumna, Chumbul, Gogra, &c., and the Brahmapootra, in the E., which, as well as the Ganges, fall, in proximity to each other, into the Bay of Bengal. Every variety of scenery is met with in this province. In the N. is a vast congeries of mountains, backed by the Himalayas, and covered generally with a dense forest vegetation. The W. parts of Delhi trench on the Indian desert, and partake of its characteristics accordingly; while other parts are flat, fertile, and highly cultivated. The Doab is flat, grassy, and deficient in timber. The central prov. are generally level, well-wooded, and highly productive; while those towards the coast, as Orissa, &c., are low, swampy, and in many parts form a dense jungle. The Burmese prov., further E., have dense forests and jungles, rice-plains, and a rocky coast. — *Geol., &c.* Granite, porphyry, gneiss, mica, hornblende, sandstone, limestone, and copper and iron ores abound in the N. Coal, in conjunction with iron, is found in many districts. In Behar, and other places, immense efflorescences of nitre and muriate of soda are found, and exported to a large extent. Salt is a government monopoly. Diamonds are obtained in Bundelcund, and silver and gold-dust in many of the rivers. — *Clim.* The upper prov. are, on the whole, temperate; the lower, subject to great heat and burning winds. Mean annual temperature at Calcutta, 78° 39′ Fahr. — *Veget. Prod., &c.* Indigo is the principal staple, covering more than 1,000,000 acres, and yielding a return of about $20,000,000. Teak, saul, sissoo, banyan, ebony, rattans, bamboos, are indigenous; oaks and pines abound in the hill forests; and along the coasts of the Bay of Bengal flourish the cocoa, areca, and other palms. Rice is extensively cultivated, and is the staple article of food to the natives. Grain also forms a large crop. Opium, a government monopoly, yields an annual export to China of $25,000,000 in value. Coffee, pepper, and tobacco are also largely exported. — *Zoöl. B.* is the home of the "man-eating" and other tigers, wild elephants, alligators, rhinoceroses, leopards, wolves, bears, &c. A great variety of birds exist, as also fish in great profusion, and serpents both noxious and innocuous. Silk-worms are extensively cultured. — *Inhab.* A great variety of races exist in *B.* Hindoos, Mahrattas, Mongols, Sikhs, Rajpoots,

Fig. 340. — URDHABAHUS, OR OODOOBAHOOS.
(From "Les Hindous," by Solvyn.)

Cooshes. — *Religions.* The two prevailing creeds are the Mohammedan, and, chiefly, Brahmaism. The accompanying figure may give an idea of the voluntary tortures encouraged by the Hindoo religion. It represents devotees of the Urdhabahus or Oodoobahoos sect, who extend one or both their arms above their heads till they remain of themselves thus elevated, and allow their nails to grow till they completely perforate the hand. — The share of *B.* in the enormous exportations of British India may be estimated by its output, during the year 1895, of Rx. 4,054,280 of rice; Rx. 85,153 of wheat; Rx. 5,596,874 of opium; Rx. 3,477,582 of indigo; Rx. 431,591 of cotton, and Rx. 3,577,853 of seeds; its exports to Great Britain alone representing a sum of $65,000,000. At latest report, *B.* had 38,200,300 acres under rice, 1,620,200 acres under wheat, and 11,636,000 under other food grains; 1,083,400 under sugar cane, 110,800 under tea, 201,200 under cotton, 3,253,800 under oil seeds, 614,200 under indigo and 730,500 under tobacco. The land revenues then contributed by *B.* amounted to Rx. 3,871,432; the total government revenue being Rx. 19 022,243 as against an expenditure of Rx. 8,521,801. The army estimate for *B.*, second only to that of the Punjab contingent, calls for 62,590 men. At the present date, *B.* has 4,156 miles of metalled and 31,392 of unmetalled roads maintained by public authority. Chief towns: Calcutta (British capital of India); Delhi, Benares, Moorshedabad, Dacca, Behar, Patna, Agra, Allahabad, Lucknow, Lahore, &c. *Pop.* (1895) 71,350,000. — HISTORY. See HINDOSTAN; INDIA, &c.

Bengal', *n.* [Skr. *bangga.*] (*Com.*) A sort of thin, light stuff, made of silk and hair, for women's apparel, originally brought from Bengal. It is an imitation of striped muslin.

Bengal', (Bay of,) (anc. *Gangeticus Sinus,*) a portion of the Indian Ocean, from Cape Negrais on the E., to the delta of the Godavery ou the W., and extending from thence to Farther India. The Ganges, Brahmapootra, and the Godavery disembogue themselves into it. Lat. between 16° 30′ and 23° N. The Sea of Bengal extends to Lat. 8° N., between the islands of Juukseylon and Ceylon.

Bengalee', *n.* An inhabitant of Bengal.

B. Language. The *B.*, spoken by a pop. of more than 20 millions, spread over a territory of about 100,000 sq. m., is, like the numerous vernacular dialects spoken in N. India, apparently descended from the ancient classical language of the country, the Sanskrit. Its alphabet comprises 14 vowels and diphthongs, and 33 consonants. The ground-work of the *B.* language is altogether Sanskrit, just as that of the Italian or Spanish is Latin, with a comparatively small addition of words which cannot be traced to that source. But the refined system of grammatical inflexions, which constitute so prominent a characteristic of the Sanskrit language, has in *B.* almost entirely disappeared; and the want of terminations, marking the cases and numbers of the noun, or the persons and tenses of the verb, is supplied by particles and other auxiliary words, often rather clumsily subjoined (hardly ever prefixed) to the mutilated stems of Sanskrit words.

Bengalese', *n. pl.* The natives of Bengal.

—*a.* Relating, or pertaining to Bengal, or its people.

Bengal'-light, *n.* (*Pyrotechny.*) A species of fire-work, composed of a mixture of one part of tersulphide of antimony, two parts of sulphur, and six of nitrate of potash. The materials are finely pulverized and thoroughly mixed. When ignited, the compound throws out a remarkably brilliant and penetrating light. It is used in cases of shipwreck, and illuminates the air for

a large space around. As the mixtnre contains antimony, the fumes are poisonous; consequently, this light cannot be used with safety except in the open air; it is, however, much used in pyrotechny.

Bengal'-stripes, *n.* (*Com.*) Ginghams; a cotton fabric woven with colored stripes.

Benga'zy, (anc. *Hesperides* and *Berenice,*) a small marit. town of N. Africa, district Barca, reg. Tripoli, on the E. coast of the Gulf of Sidra; Lat. 32° 7′ 30″ N.; Lon. 20° 2′ E. It is finely situated on the margin of an extensive and very fertile plain, but is miserably built, and filthy in the extreme. It is believed that *B.* occupies the site of the anc. *Berenice*, which had the gardens of the Hesperides in its vicinity. *Pop.* 2,500.

Ben'gel, JOHANN ALBRECHT, a German theologian and philologist, B. 1687. He studied at Stuttgart, and Tübingen, and became pastor and head of a school at Denkendorf. He especially applied himself to the critical study of the Greek Testament, of which he published an ed. in 1723. Among his other works are *Apparatus Criticus Novi Testamenti*, a work of great value for its suggestive condensed comments, which first appeared in 1742, and has been several times reprinted, &c. An attempt has been made to adapt *B.*'s "Gnomen" to English readers of the present day, in the *Critical English Testament*, by Blackley and Hawes, published in 1866. D. 1752.

Benguela, (*ben-gwe'la,*) a district of W. Africa, the limits of which are usually considered to be the Coawra River on the N., the Cumene River on the E., the mountains behind Cape Negro on the S., and the shore from that cape to the mouth of the Coanza on the W. According to this outline, it extends from 9° to 16° S. Lat., and from 12° to 17° E. Lon. — *B.* appears to be mountainous throughout its whole extent. The rivers are numerous and important, and as the direction of the mountains is from N.E. to S.W., the chief of them run in a N.W. course to the Atlantic. This is the case with the large river, without a name, which falls into the ocean at Cape Negro, and with the Cobal, Coporao, Catumbela, and Cuvo. Nowhere in Africa is vegetation more abundant or more varied; nowhere are lions, tigers, elephants, rhinoceroses, hippopotami, and other large animals, more numerous. The coast is excessively unhealthy; but the interior is salubrious, and apparently well fitted for cultivation of all kinds — every degree of temperature being experienced at different elevations. Battel, who resided in different parts of the interior for a considerable time, never, amongst all his miseries, complains of the climate. — *B.* is inhabited by independent tribes, whose habits and manners do not differ from those of other negroes—with the exception of one, the Gagas, or Gigas, a wandering herd of robbers, who appear to approximate more closely to perfect barbarism than any other, even of the African race. — The Portuguese have long had settlements in *B.*, but their power does not seem to extend far beyond their forts. — The native cap., *B. Velha* (Old *B.*), on the coast, Lat. 10° 45′ S., Lon. 15° 5′ E., has a convenient harbor, called Hen's Bay. — *St. Felipe de B.*, the Portuguese cap., once nearly destroyed by an invasion of elephants, is in Lat. 12° 12′ S., Lon. 15° E.; *pop.* abt. 3,000. A military hospital was built there in 1868.

Ben-Ha'dad, the name of three kings of Damascene Syria, who successively made war upon the kings of Israel. The last, son of Hazael, was thrice defeated by king Jehoash (2 *Kings* xiii.)

Benha'den, in *Florida*, a post-office of Wakulla co.

Ben'ham's Store, in *Indiana*, a P. O. of Ripley co.

Ben-heyl, *n.* (*Mining.*) A term used among the miners in Cornwall, England, to denote a rich lode of tin.

Be'ni, is the *status constructus* of the plural of the Arabic word *Ebn* or *Ibn*, "a son." It occurs in Eastern geography as a component part of many names of families or tribes, as *Beni Temîm*, "the sons of Temîm," *i. e.* the tribe of Temîm, or the Temîmides; *Beni Omayyah*, "the sons of Omayyah," *i. e.* the family known in history under the current name of the Ommiades; *Tiah Beni Israel*, "the desert of the sons of Israel," the name of a dreary wilderness towards the north of Mount Sinai.

Be'ni, a river of Bolivia, formed by the junction of all the streams that rush down from the Eastern Andes between 14° and 18° S. Lat. Flowing through the province of Moxos, it joins the Mamore to form the Madeira.

Benic Acid. (*Chem.*) A fatty acid, fusing at 125°, found in certain kinds of oil of ben.

Benicar'lo, a maritime town of Spain, in Valencia, on the Mediterranean, 25 m. S. of Tortosa. The surrounding territory produces large quantities of a dark-red colored wine, of considerable strength and flavor; *pop.* 7,366.

Benicia, (*ben-ish'yah,*) in *California*, a large city and former cap. of the State, in Solano co., on the N. side of the Strait of Carquinez, connecting San Pablo and Suisun bays. The capitol, built in 1853, for the meeting of the State legislature, is a fine brick edifice, standing on a slope half a mile from the water-front of the city. Here are situated the extensive depôt, machine shops, and foundries of the Pacific Mail Steamship Company. It is also the government depôt for the coast, including extensive barracks, &c. Considerable quantities of arms and ammunition are stored and repaired here. Around the city are several quarries of hydraulic cement of the best quality, which is extensively manufactured; ships of the largest size may enter the harbor close to the city. *B.* is noted for its many excellent schools, colleges, and academies.

Ben'ieke, *n.* A kind of military fête among the Turks, somewhat resembling a joust or tournament, but to the exclusion of ladies.

Benight', *v. a.* [*be* and *night.*] To involve in night or darkness; to darken; to enshroud with the shades of night.

> "A storm begins, the raging waves run high,
> The clouds look heavy, and *benight* the sky." — *Garth.*

—To overtake with night; to surprise with the coming on of night.

> "Being *benighted*, the sight of a candle . . . directed me to a young shepherd's home." — *Sidney.*

—To overwhelm in darkness, gloom, or ignorance; to keep from moral or intellectual light.

Benign, (*bē-nīn',*) *a.* [Fr. *bénin, bénigne;* from Lat. *benignus* — *bene*, well, and *genus*, kind; from *bonus*, good.] Of a good kind or nature; kind; friendly; affectionate; generous; favorable.

> "We owe more to Heav'n, than to the sword,
> The wish'd return of so *benign* a lord." — *Waller.*

—Exhibiting graciousness, kindness, favor.

> "What Heaven bestows upon the earth in kind influences and *benign* aspects." — *South.*

(*Med.*) Applied to diseases of a mild character; as, a *benign* fever. — Also to medicines whose action is not violent.

Benig'nant, *a.* Kind; gracious; favorable; benign.

Benig'nantly, *adv.* In a benignant manner; graciously.

Benig'nity, *n.* [Fr. *bénignité;* from Lat. *benignitas.* See BENIGN.] Quality of being benign, or benignant; goodness of heart or disposition; kindness of nature; graciousness; actual goodness; beneficence.

> "The king was desirous to establish peace rather by *benignity* than blood." — *Sir J. Hayward.*

—Wholesome quality; salubrity; geniality to vital nature.

> "By reason of the *benignity* of the serum." — *Wiseman.*

Benignly, (*bē-nīn'li,*) *adv.* Favorably; kindly; graciously.

Benin, (*ben'in,*) a country of Africa, near the E. extremity of the Gulf of Guinea, between 4° and 9° N. Lat., and 4° and 8° E. Lon. It has S. the Gulf: W. Dahomey; N.W. Yariba; and N.E. and E., the lower Niger. On the coast, the country is level, but it rises gradually, till, in the central parts, the continuation of the Kong Mountains attains an elevation of 2,500 ft. It is well watered, for the continuation of the Niger comprises more than 140 m., that is, more than 7-10ths of the whole sea-board. The W. branch of this delta is the stream which has always been called the river of *B.*; the one farther E. is the main limb, formerly called the Nun, but demonstrated by Lander to be the Niger. The productions, climate, animals, and habits and customs of the people are similar to those of ASHANTEE, *q. v.* Since the abolition of slavery in civilized countries, *B.* has lost its principal trade. Slaves are now sold only to native masters. *B.* exports salt, palm-oil, and blue coral. The country is well peopled. Without speaking of the cap. BENIN, *q. v.*, the town of Warre has 5,000 inhabitants.

BENIN, the capital of the above country, Lat. 6° 15′ N., Lon. 5° 53′ E., on the right bank, and 110 m. from the mouth, of a large stream hitherto called the River of *B.*, but now known to be one of the numerous mouths of the Niger. There is an almost continual market for indigenous products and European wares. *Pop.* about 16,000. Gatto, or Agatton, is the port of Benin; it lies about 40 m. down the river, is accessible to craft of 60 tons, and is said to be larger and more populous than *B.* itself.

BENIN, (BIGHT OF.) The name given to the coast of *B.* It has no ports, except at the entrance of unnavigable rivers, and scarcely there, if the vessels be of large burden.

BENIN, (RIVER OF,) called also the *Formosa*, falls into the Gulf of Guinea, in Lat. 5° 40′ N., Lon. 5° E. It is a deltoid branch of the Niger, commencing at Kirree, about 100 m. above Benin, and its whole course, inclusive of windings, may be stated at about 210 m.

Ben'ison, *n.* A benediction; a blessing. (R.)

Ben'jamin, the youngest son of Jacob and Rachel, (*Gen.* xxxv. 16–18.) Rachel died immediately after he was born, and with her last breath named him *Ben-oni*, the "son of my sorrow:" but Jacob called him *B.*, "son of my right hand." He was a great comfort to his father, who saw in him the image of the beloved wife he had buried, and of Joseph, whose loss he also mourned. He could hardly be persuaded to let him go with his brethren to Egypt. The tribe of *B.*, small at first, was almost exterminated in the days of the Judges, but afterwards it greatly increased. On the revolt of the 10 tribes, *B.* adhered to the camp of Judah; and the two tribes ever afterwards closely united. King Saul and Saul of Tarsus were both Benjamites.

Ben'jamin, *n.* [A corruption of BENZOIN, *q. v.*] (*Bot.*) A name sometimes given to the *Styrax benzoin.* — See STYRAX.

(*Chem.*) See BENZOIN.

Ben'jamin of Tudela, one of the earliest travellers of the Middle Ages, who visited the central regions of Asia; he was author of a Hebrew work of travels, which, though interesting and romantic, is remarkable chiefly for its misrepresentations. The last translation into English is by Asher, London, 1841. — *B.* was born in Navarre, Spain. D. 1173.

Ben'jamin, MARCUS, A.M., Ph.D., editor and scientist, was born at San Francisco, on Jan. 17, 1857, being ninth in descent from John *B.*, who came from England to Boston in 1632. Dr. *B.* was educated at Columbia College and in Europe; has filled several important editorial places and scientific government appointments, and in 1896 became editor of the U. S. National Museum at Washington; is a member of the London Chemical Society and of numerous scientific and patriotic societies. His literary work is notable for scholarly research and exactness.

Ben-Law'ers, a mountain of Scotland, in Perthshire, adjoining Loch Tay, about 3,948 feet in height, and presenting an average of 100 feet above all the mountains of the district.

Ben-Led'i, a mountain of Scotland, in Perthshire, about 3,000 feet high.

Ben-Lom'ond, a mountain of Scotland, in Stirlingshire, the key of the Western Highlands, and standing grand and majestic as the sentinel of Loch Lomond, of which it forms the southern boundary. It is distinguished from other mountains of any altitude in Scotland, in being covered with vegetation to its top, which is 3197 feet from the level of the sea.

Ben-Macdhui, (*ben-mak-dōō'é,*) in Scotland, is the highest summit of the Cairngorm Mountains, which run between Aberdeen, Banff, and Inverness, and overhangs the southern side of Loch Aven, over which it towers 4,305 feet.

Benmore' Head, in *Ireland.* See FAIRHEAD.

Benne, *n.* (*Bot.*) See SESAMUM.

Bennecke'nstein, or **Ben'kenstein,** a town of Prussia, prov. of Saxony, reg. Erfurt, on the Rapbode, at the foot of the Hartz, in an *enclave* situated in the duchy of Brunswick, 13 m. N.N.W. of Nordhausen. *Manf.* Iron, nails, baskets. *Pop.* 4,645.

Ben'ner, in *Pennsylvania*, a township of Centre county.

Ben'nersville, in *Pennsylvania*, a village of Centre co., situated in Half-Moon Valley, 12 m. S.W. of Bellefonte, and 98 m. N.W. of Harrisburg.

Ben'net, *n.* [Fr. *benoite;* Ger. *benedictenkraut.*] (*Bot.*) An old name of the *Avens.* See GEUM.

Ben'net's Creek, in *Md.*, in Frederick co., flows W. into the Monocacy River.

Bennett Island, in Arctic Circle, discovered by the "Bennett Expedition" of the *N. Y. Herald*, under De Long, in 1881, lat. 76° 41′ N., long. 153° 30′ E.

Ben'nett, JAMES GORDON, one of the most celebrated journalists in the U. States, B. at New Mill, Keith, in Scotland, about 1800. He was educated for the priesthood at a Roman Catholic seminary at Aberdeen, but did not follow out the intention of his parents. In April, 1819, during a period of great commercial depression, he left his native land for America, where he attempted to earn his living as a teacher, but with very indifferent success. In 1822 he obtained a situation on a Charleston newspaper, which he did not hold long, and repaired to New York, where he became an active member of the Fourth Estate. The first number of the *New York Herald*, of which he was the founder, appeared May 5, 1835. This speculation proved most successful, and Mr. *B.* amassed a very large fortune. He was incontestably a man of great abilities, penetration, and judgment. D. June 1, 1872.

Bennett, JAMES GORDON, son of the foregoing, born in 1841, succeeded his father as publisher of the *Herald;* has been prominent in public enterprises, as the *Jeannette* Arctic expedition, and Stanley's search for Livingstone; part owner Bennett-Mackay cable lines, &c.

Ben'nett, JOHN HUGHES, an English physician and author, B. at London, 1812. He received his degree at the University of Edinburgh, in 1837, and soon after founded in Paris the "Parisian Medical Society," of which he was the first president; and afterwards spent two years in Heidelberg. On returning to Edinburgh, in 1841, he published a work on *Cod-liver Oil*, &c. In 1843 he was appointed Pathologist to the Royal Infirmary, and commenced a long series of investigations in histology, morbid anatomy, and clinical medicine, which appeared in various medical journals, and in separate works. In 1848, Dr. *B.* was appointed Professor at the Institute of Medicine of the Edinburgh University. In 1856 he published a work on *Clinical Medicine*, which has reached three editions in our country. Dr. *B.* was a member of many medical societies in Europe and America. In addition to the works already mentioned, he also wrote. *On Inflammation of the Nervous Centres; Treatise on Inflammation; Cancerous and Canceroid Growths; Principles and Practice of Medicine; On the Pathology and Treatment of Pulmonary Consumption; Lectures on Molecular Physiology; Pathology and Therapeutics*, &c. D. 1875.

Ben'nett, WILLIAM COX, a popular English poet, B. 1820. His best known works are, *Poems* (1850); *War Songs* (1855); *Queen Eleanor's Vengeance, &c.* (1859); *Our Glory Roll, National Poems* (1866). A collective edition of his poems appeared in 1862.

Ben'nett, SIR WILLIAM STERNDALE, one of the English musical composers who have gained a European reputation; B. 1816. He early formed a friendship with Mendelssohn, and accompanied him, in 1836, to Leipzig, where several of his works (as the overtures to the *Naiades*, and the *Wood Nymph*) were performed. His overtures, concertos, sonatas, cantatas, &c. bear the highest distinction. In 1856, *B.* was appointed Professor of Music at Cambridge. At the opening of the London International Exhibition, 1862, *B.* was invited, in conjunction with Auber, Meyerbeer, and Verdi, (each representing his own country,) to compose a piece, when he set music to Tennyson's ode, *Uplift a Thousand Voices*, written for the occasion. Knighted, 1871. D. 1875.

Bennett's Bayou, in *Ark.*, a v. of Fulton co.

Bennettsburgh, in *New York*, a P. O. of Schuyler co.

Bennett's Corners, in *Ohio*, a P. O. of Medina co.

Bennett's Creek, in *New York*, a P. O. of Steuben co.

Bennett's Creek, in *North Carolina*, flows from the N. into the Chowan River at the S. part of Gates co.

Bennettstown, in *Kentucky*, a P. O. of Christian co.

Ben'nettsville, in *South Carolina*, a post-village of Marlborough district, abt. 8 m. E. of Great Pedee River, and 100 E.N.E. of Columbia.

Ben'nettsville, in *New York*, a P. O. of Chenango co.
Bennett's Vineyard, in *North Carolina*, a P. O. of Richmond co.
Ben-Nev'is, in Scotland, a mountain of Inverness-shire, rising abruptly from the plain near Loch Eil to a height of 4,368 feet, and probably the highest elevation in Great Britain.
Ben'ningsen, or BEN'NIGSEN, LEVIN AUGUST, BARON, an eminent Russian general, B. in Hanover, 1745. He entered the service of Catherine II., and distinguished himself by great gallantry, in the war against Poland. He was commander-in-chief at the battle of Eylau. In 1813 he led a Russian army into Saxony, took part in the battle of Leipzig, and beleaguered Hamburg. D. 1826.
Ben'nington, the name of several parishes in England, none of them with a *pop.* above 1,200.
Ben'nington, in *Illinois*, a township of Marshall county.
Ben'nington, in *Indiana*, a post-village of Switzerland co., 8 m. N.W. of the Ohio River at Vevay.
Ben'nington, in *Iowa*, a post-village of Marion co., on the Des Moines River, about 25 m. S.E. of Fort Des Moines.
Ben'nington, in *Kansas*, a P. O. of Ottawa co.
Ben'nington, in *Michigan*, a post-township of Shiawassee co., about 80 m. N.W. of Detroit.
Ben'nington, in *New Hampshire*, a post-township of Hillsborough co.
Ben'nington, in *New York*, a post-township of Wyoming co., 25 m. S.E. of Buffalo, drained by Cayuga Creek.
Ben'nington, in *Ohio*, a township of Licking county.
—A post-township of Morrow co., abt. 30 m. N.N.E. of Columbus.
—A village in Putnam co., abt. 10 m. W.S.W. of Sandusky city.
Ben'nington, in *Pennsylvania*, a village of Blair co.
Ben'nington, in *Vermont*, a S.W. county; area about 700 sq. m. It is watered by the Battenkill, Hoosick, and Deerfield rivers. *B.* is generally mountainous, and most of its soil is unfit for cultivation. There are rich quarries of marble, and beds of yellow ochre and iron ore. *Cups.*, Bennington and Manchester.
—A post-township of the above co., 117 m. S. by W. of Montpelier; containing Bennington, one of the county capitals. Here, Aug. 16, 1777, the English, under Cols. Baum and Breyman, were defeated by the national troops under Gen. Stark and Col. Warner. Bennington is one of the principal manuf. towns of the State, having extensive knit-goods works and one of the largest woolen factories in the country. *Pop.* (1897) about 7,000.
Ben'nington Furnace, in *Pennsylvania*, a P. O. of Blair co.
Ben'nington Village, in *Vermont*, a manufacturing village of *B.* township, *B.* co. There are several factories, foundries, tanneries, &c.
Benoit, the French name for BENEDICT, *q. v.*
Beno'na, in *Michigan*, a twp. of Oceana co.
Ben'own, a town of Soudan, Central Africa, forming a caravan station between Timbuctoo and Senegal; Lat. 15° 5′ N.; Lon. 9° W.
Bensa'lem, in *Pennsylvania*, a township of Bucks county.
Benserade, ISAAC DE, (*bon-sa-rad'*,) a French poet, B. 1612, and patronized by Richelieu, Mazarin, and Louis XIV. His madrigals, sonnets, and songs, as well as his wit and conversational powers, rendered him a great favorite at court. He was called, by way of pre-eminence, *le poéte de la cour*. D. 1691.
Ben'shee, *n.* See BANSHEE.
Bens'heim, a town of the grand-duchy of Hesse-Darmstadt, 15 m. S. of Darmstadt; *pop.* 4,561.
Ben'son, in *Kentucky*, a twp. of Franklin co.
Ben'son, in *New York*, a post-village of Hamilton co., abt. 50 m. N.N.W. of Albany.
Ben'son, in *Vermont*, a post-township of Rutland co., 60 m. S.W. of Montpelier.
Ben'son Centre, in *New York*, a post-office of Hamilton co.
Ben'son Grove, in *Iowa*, a township of Winnebago co.
Ben'son Landing, in *Vermont*, a post-office of Rutland co.
Ben's Run, in *West Virginia*, a P. O. of Tyler co.
Bent, *imp.* and *pp.* from BEND, *q. v.*
—*p. a.* Bended; inflected; inclined; prone to, or having a fixed propensity towards; determined.
—*n.* State of being bended or curved; flexure or flexion.
"Strike gently, and hold your rod at a *bent* a little." — *Walton.*
—Declivity; descent; as, the *bent* of a hill. (R.)
"Beneath the low'ring brow, and on a *bent*,
The temple stood of Mars omnipoteut." — *Dryden.*
—A leaning or bias of mind; inclination.
"They fool me to the top of my *bent*." — *Shaks.*
—Tendency; determination; fixed purpose.
"Yet we saw them forced to give way to the *bent* and current humor of the people." — *Sir W. Temple.*
—Close application. (R.)
"Let there be propensity and *bent* of will to religion." — *South.*
Bent, Bent'-grass, *n.* [From *bind*, as O. Ger. *bant*, that which binds, from *bintan*, to bind; Sansk. *bandh.*] (*Bot.*) The common name of the genus AGROSTIS, *q. v.*
—A stalk of coarse grass. — In the pl., *Bents*, it is applied to the withered stalks standing on a pasture after the seeds have dropped.
Bent Branch, in *Kentucky*, a post-office of Pike co.
Bent Creek, in *Virginia*, a post-village of Appomattox co., on James River, at the mouth of Bent Creek, 112 m. W. of Richmond.

Ben'tham, JEREMY, B. 1748, a distinguished English jurist and political writer. He was the father of that class of political economists styled "Utilitarians," whose doctrine it is to view everything according as it is affected by the principle of "the greatest happiness of the greatest number." His published works are numerous, and those which remain in MSS., or unpublished, though printed, more so. But a very difficult and prolix style has rendered him rather the instructor of writers than of the reading public in general: and his works, which have been translated into many languages, are better known and appreciated on the Continent of Europe than in his own country. He was a man of primitive manners, unblemished character, and zealously alive to what he considered the interest of the people at large. His best known works are, *Introduction to the Principles of Morals and Legislation*; *Theory of Rewards and Punishments*; *Panopticon*, which treats of prison discipline; *Rationale of Judicial Evidence*. D. in London, 1832, leaving his body to be dissected for the benefit of science.
Bentha'mia, *n.* (*Bot.*) A genus of plants, ord. *Cornaceæ*. They are Asiatic trees or shrubs, and their fruit is formed of many small drupes grown together. The *B. fragifera*, a native of Nepaul, is a small tree, with lanceolate leaves, and a reddish fruit resembling the mulberry, but larger, and edible. The flowers are fragrant.
Ben'tinck, WILLIAM, 1*st Earl of Portland*, a distinguished statesman, and the favorite of William III., B. in Holland, 1648. At an early age he became page to the Prince of Orange, served him with the utmost devotion throughout his life, and attended him affectionately on his death-bed. He negotiated with Charles II. the marriage of the Princess Mary to the Prince of Orange; took the leading part in the preparations for the descent of his master on England in 1688, and accompanied him thither. He was made privy councillor and a member of the House of Peers, as Earl of Portland. He served in the wars preceding the peace of Ryswick, and negotiated this peace. Sent ambassador to France in 1698, he took a prominent part in the secret treaties for the partition of the Spanish monarchy; and was, in consequence, impeached of high-treason by the House of Commons, but was acquitted. D. 1709.
Ben'tinck, WILLIAM HENRY CAVENDISH, 3*d Duke of Portland*, B. 1738, Lord-Lieutenant of Ireland in 1782, and Chancellor of the University of Oxford in 1792; he soon after joined Mr. Pitt's party. He held the office of Home Secretary of State from 1794 to 1801, succeeded Lord Granville as First Lord of the Treasury in 1807, and D. 1809.
Ben'tinck, LORD GEORGE, second son of the 4th Duke of Portland, B. 1802. In 1826 he became private secretary to his uncle George Canning, who was then Secretary for Foreign Affairs. In 1827 he was returned to the House of Commons for the borough of King's Lynn, for which he sat till the close of his life. His dislike of Sir Robert Peel was decided and undisguised; but his hostility was principally shown in his opposition to the doctrines and policy of free trade. D. 1848. His political biography was published by Mr. Disraeli.
Ben'tinck, LORD WILLIAM CHARLES CAVENDISH, 2d son of the 3d Duke of Portland, B. 1774. He became governor of Madras in 1803. Here the singularity of his reforms in reference to the beards and turbans of the Sepoys led, in 1806, to the mutiny of Vellore, which caused him to be recalled. In 1827, he was appointed to the governor-generalship of India. He effected the abolition of the *Suttee*, or the practice of widow-burning, which, in 1829, was declared illegal. In 1835 his health began to fail, when he resigned his office, and left Calcutta. D. at Paris, 1839.
Bent'ing-time, *n.* The time when pigeons feed on bents, before peas are ripe.
"Rare *benting-times*, and moulting mouths may come,
When, lagging late, they cannot reach their home."—*Dryden.*
Bentivoglio, (*ben'ti-vole'yo,*) GUIDO, a celebrated Italian cardinal, and papal legate at the court of France; B. 1579. Among other works, he wrote *A History of the Civil Wars of Flanders*; *Memoirs*, &c. *B.* was one of the seven cardinals, who as Inquisitors-General signed the condemnation of Galileo. He had been a disciple of the great philosopher. D. 1644.

Bent'ley, RICHARD, D.D., an eminent English divine and philologist, B. 1662. He studied at Cambridge, took orders, and was appointed first Boyle lecturer at that university. He early became distinguished for his classical learning, and, in 1693, was named librarian to William III. Soon afterwards broke out his quarrel with the philosopher Boyle, the main result of which was *B.*'s famous *Dissertations on the Epistles of Phalaris*. In 1700, he was appointed Master of Trinity College, Cambridge, and soon after, Archdeacon of Ely. Working hard as a scholar, and effecting improvements in his college, he nevertheless, by his arrogance, selfishness, and offensive measures, involved himself in miserable quarrels and litigation with the college seniors: and after obtaining the Regius Professorship of Divinity, he was degraded and deprived by the senate. This sentence, after years of litigation, was annulled. His writings are very numerous, but we can only name his editions of *Horace*, *Homer*, and *Terence*, and his *Remarks on the Discourse of Freethinking*. D. 1742.
Bent'ley, ROBERT, F.L.S., an eminent English botanist, B. 1821. He is Dean of the Medical Faculty; Professor of Botany in King's College, London; Professor of Materia Medica and Botany in the Pharmaceutical Society of Great Britain; Professor of Botany in the London Institute, and Lecturer on Botany to the London and Middlesex Hospitals. In 1865-6, *B.* was President of the "British Pharmacentical Congress." Among his works are, *A Manual of Botany*, and he also, in concert with Dr. Farre and Mr. Warrington, edited Pereira's *Manual of Materia Medica and Therapeutics*. D. Dec. 28, 1893.
Bent'ley's Springs, in *Maryland*, a post-office of Baltimore co.
Bent'ley Station, in *Illinois*, a P. O. of Hancock co.
Bent'leyville, in *Pennsylvania*, a post-village of Washington co.
Bent'leyville, in *Virginia*, a village of Halifax co., on Staunton River, 115 m. S.W. of Richmond.
Bent'ly Creek, in *Pennsylvania*, a post-office of Bradford co.
Ben'ton, THOMAS HART, an American author and statesman, B. in Orange co., N. Carolina, in 1782. He first engaged in the study of the law, and, in 1811, commenced practice in Nashville, Tenn. He afterwards removed to Missouri, where, in 1820, he was elected one of her first U. States senators. For a period of 30 years he took a leading part in the discussion of the great questions which came before the Senate, and was especially prominent in the debates on the U. States Bank, and the sub-treasury, which latter cause he warmly supported. His timorous opinions on the slavery question, and his general political independence of thinking, lost him his election in 1851. In 1854, he was again defeated. In 1853, *B.* published the 1st vol. of his autobiographical work, *Thirty Years' View; or a History of the Working of the American Government for Thirty Years*. While the 2d vol. was in progress, *B.*'s house at Washington was destroyed by fire, by which calamity his library and manuscripts perished. In 1850, *B.* was returned by Missouri to the House of Representatives. He there distinguished himself by his speeches in opposition to the Kansas-Nebraska Bill, as a violation of the Missouri compromise, and his services were appreciated by the country, but he was again thrown out in the next election of members for Congress. His vigorous canvass of the State, as Democratic candidate for the governorship, in 1856, will be long remembered. He was, however, defeated, and supported Mr. Buchanan for President in opposition to Col. Fremont, his own son-in-law. His advocacy of the Pacific Railroad and other undertakings connects his name with scientific progress. He D. at Washington, April 10, 1858.
Ben'ton, in *Alabama*, the former name of the co. CALHOUN, *q. v.*
—A post-village of Lowndes co., on the Alabama River, about 35 m. W. of Montgomery.
Ben'ton, in *Arkansas*, a post-village, capital of Saline co., 25 m. S.W. of Little Rock, and 2 N.E. of Saline River.
Ben'ton, in *California*, a P. O. of Mono co.
Ben'ton, in *Florida*, a former name of a W. county bordering on the Gulf of Mexico. Its area was about 2,000 sq. m. The Withlacoochee river watered it on the N. *Surface*, diversified. *Soil*, sandy, producing sugar, Indian corn, and rice. It is now subdivided.
Ben'ton, in *Illinois*, a village of Adams co.
—A post-village, and cap. of Franklin co., situated on a prairie near Big Muddy River, 152 m. S. by E. of Springfield.
—A village in the N. part of Henderson co., 2 m. E. of the Mississippi River.
—A township of Lake co.
Ben'ton, in *Indiana*, a county in the W.N.W. part of the State, bordering on Illinois: area, 414 sq. m. It is drained by Pine and Sugar creeks. *Surface*, generally undulating; *soil*, fertile. *Pop.* 12,000; *cap.* Fowler.
—A post-village and township of Elkhart co., on the Elkhart River, 7 m. S.E. of Goshen, the co. seat.
—A township of Monroe co.
Ben'ton, in *Iowa*, a co. in the E. central part of the State. *Area*, 720 sq. m. It is traversed by Cedar and Iowa Rivers, and Prairie Creek. *Soil*, fertile. *Cap.* Vinton.
—A post-office of Mills co.
Ben'ton, in *Kentucky*, a post-village of Marshall co., on Clark's River, about 270 m. W.S.W. of Frankfort.
—A village of Mercer co., on Chaplin River.
Ben'ton, (formerly SEBASTICOOK,) in *Maine*, a post-township of Kennebec co., on the Sebasticook River, about 100 m. N.E. of Portland.
Ben'ton, in *Michigan*, a township of Berrien co., near Lake Michigan.
—A township of Eaton co.
—A post-office of Washtenaw co.
Ben'ton, in *Minnesota*, a central co., with an area of about 400 sq. m. Bounded on the W. by the Mississippi River, and is drained by the Elk River, the W. fork of Rum River, and Little Rock Creek. The surface is diversified and well wooded. *Cap.* Sauk Rapids.
—A township of Carver co.
Ben'ton, in *Mississippi*, a post-village of Yazoo co., about 40 m. N. of Jackson, and 11 E. of Yazoo city. It was formerly the county-seat.
Ben'ton, in *Missouri*, a W. central co., area, 770 sq. m. It is intersected by the Osage River, which flows E., receiving La Pomme de Terre and Grand rivers. The co. is also watered by Tebo, Beaver, and Cole Camp creeks. The general character of *B.* is broken: the N. portion being undulating prairie, and the remainder rough timbered land. There are some excellent bottom lands in the central part, under a good state of cultivation. *Prod.* Corn, wheat, oats, rye, tobacco; mules, horses, &c. Lead ore is abundant. *Cap.* Warsaw.
Ben'ton, in *Missouri*, a post-village, cap. of Scott co., 240 m. E.S.E. of Jefferson city
Ben'ton, in *New Hampshire*, a post-township of Grafton co.
Ben'ton, in *New York*, a post-village and township of

Yates co., on the W. shore of Seneca Lake, about 180 m. W. of Albany.

Ben'ton, in *Ohio*, a village of Brown co., about 40 m. E. of Cincinnati.

—A post-village of Hancock co., about 80 m. N.N.W. of Columbus. The post-office is called Benton Ridge.

—A post-village of Holmes co., 92 m. N.E. of Columbus.

—A township of Paulding co.

—A township of Pike co.

—A village of Portage co.

Ben'ton, in *Oregon*, a co. in the W. part of the State. *Area*, about 1,370 sq. m. It is bounded on the E. by the Willametto river, and is watered by the Alsea and Yaquina rivers, and some smaller streams. *Cap.* Corvallis. *Pop.* (1898) 10,200.

Ben'ton, in *Pennsylvania*, a post-township of Columbia co.

—A township of Luzerne co.

Ben'ton, in *Tennessee*, a N.W. co., bounded E. by the Tennessee and N.W. by the Big Sandy rivers. *Area*, abt. 400 sq. m. *Soil*, fertile. *Cap.* Camden.

—A flonrishing post-vill., cap. of Polk co., 4 m. S. of Hiawassee River, and 75 S.S.W. of Knoxville.

Ben'ton, in *Wisconsin*, a post-village of Lafayette co., in Benton township, 13 m. N. of Galena, Ill., and 85 S.W. of Madison.

Ben'ton Centre, in *New York*, a post-village of Benton township, Yates co., 180 m. W. of Albany.

Ben'ton Harbor, in *Michigan*, a thriving town of Berrien co., on Lake Michigan. *Pop.* in 1890, 5,314; 1897, abont 7,000.

Ben'ton's Ferry, in *Louisiana*, a post-office of Livingston par.

Ben'ton's Ferry, in *West Va.*, a P. O. of Marion co.

Ben'ton's Port, in *Iowa*, a post-village of Van Buren co., on the Des Moines River, about 6 m. E. of Keosanqua.

Ben'tonsville, in *N. Carolina*, a post-village of Johnson co., 17 m. W. of Goldsborough. — A series of battles was fought here, 18th to 21st March, 1865, between the Union forces commanded by Gen. Sherman, and the Confederates under Gen. Johnston, in which, after severe fighting, the Nationals achieved a victory, after losing, in the aggregate, 1,643 men. The loss sustained by the Confederates is unknown, but was doubtless heavy; they losing in prisoners alone 1,625 men.

Ben'tonville, in *Arkansas*, a post-village, cap. of Benton co., 225 m. N.W. of Little Rock.

Ben'tonville, in *Indiana*, a post-village of Fayette co., 11 m. N.W. of Connersville, the co. town.

Ben'tonville, in *Ohio*, a post-village of Adams co., 12 m. from the Ohio River, and 108 S.S.W. of Columbus; *pop.* 310.

Ben'tonville, in *Tennessee*. See BENTON.

Ben'tonville, in *Virginia*, a post-office of Warren co.

Bent's Fort, now BENT CAÑON, in *Colorado*, a post-office of Las Animas co.

Bent'y, *a.* Prolific of bents, or stalks of withered grass; as, *benty* pastures. — Resembling, or pertaining to, a bent, or withered grassy stalk.

Benumb, (*bē-num'*,) *v. a.* [A.S. *beniman, benyman;* pp. *benumen* — *be*, and *niman*, to take, to take away or seize; O. Ger. *beniman*, to take away.] To take away or deprive of sensation; to make torpid; to stupefy with cold.

"My sinews slacken, and an icy stiffness *benumbs* my blood." *Denham.*

Benumb'edness, *n.* Deprivation of sensation or feeling.

Benumb'ment, *n.* Act of being made torpid, or benumbed.

Be'nuwé, a river of Africa. See TCHADDA.

Benvenue', in *Pennsylvania*, a P. O. of Dauphin co.

Benvenu'to Celli'ni. See CELLINI.

Ben'ville, in *Indiana*, a post-office of Jennings co.

Ben'wood, in *W. Virginia*, a post-village of Marshall co., on the Ohio River, 4 m. S. of Wheeling.

Benyerta, (*ben-yer'ta,*) the name of two lakes of N. Africa, about 30 m. from Tunis; the one salt, and the other fresh.

Ben'zamide, *n.* (*Chem.*) A substance obtained by acting on chloride of benzole with ammonia, or by boiling hippuric acid with brown oxide of lead.

Ben'zie, in *Michigan*, a co. in the N.W. part of the lower peninsula. *Area*, 440 sq. m. Lake Michigan is its W. boundary. *Cap.* Frankfort. *Pop.* (1898) 8,320.

Ben'zile, *n.* (*Chem.*) A yellow, oily solid, crystallizing in hexagonal prisms, fusing at 197½°, insoluble in water; soluble in alcohol and ether; subliming without decomposing; obtained by acting on fused benzoine with chlorine, or by heating benzoine with nitric acid.

Ben'zine, BENZOLE, *n.* (*Chem.*) A brilliant, colorless liquid, exhaling a powerful odor of coal-gas; it boils at 176°, and is very inflammable, burning with a smoky flame. It was first obtained by Faraday from a liquid produced by compressing oil-gas, and was called by him *bicarburetted hydrogen*. Mitscherlich afterwards obtained it from benzoic acid; and, latterly, Mansfield has procured it in large quantities from coal-naphtha and gas-liquor. It has a specific gravity of 0·85°. Exposed to a temperature of 32°, it condenses into crystalline masses, which melt at 40°. It is insoluble in water, but dissolves freely in alcohol, ether, and oil of turpentine. It is extensively used in the arts, being an excellent solvent for India-rubber, gutta-percha, wax, camphor, and fats. The property of dissolving fats and oils, added to its great volatility, renders it very useful for removing grease-stains from articles of dress. It is sold for this purpose under the name of *benzine collas*, at about three or four times its real value. It has lately received a most important application as the source of *aniline*. It forms substitution compounds with bromine, chlorine, and iodine, by the replacement of one, two, or three atoms of hydrogen by one, two, or three atoms of these bodies, giving rise to mono-, bi-, and tri-chlorobenzole, &c. It also forms similar compounds with peroxide of hydrogen, the most important of which is nitro-benzole, or artificial oil of bitter almonds. It is made by adding benzole very gradually to fuming nitric acid. On cooling, the nitro-benzole separates as an oil, and is purified by washing and redistillation. It is a yellowish oil, which solidifies in needles at 37°, and boils at 415°. It has a sweet taste, and its odor closely resembles that of bitter almonds. The vapor, when inhaled, acts as an anæsthetic. It is much used in perfumery under the name of *essence of mirbane*. Its principal use is in the manufacture of aniline for dyeing purposes, by passing sulphuretted hydrogen through it, or by acting on it with protacetate of iron. *Form.* $C_{12}H_6$.

Ben'zinger, in *Pennsylvania*, a post-township of Elk co., 100 m. N.W. of Harrisburg.

Ben'zoene, *n.* (*Chem.*) See TOLUIL.

Benzo'ic Acid, (FLOWERS OF BENJAMIN.) (*Chem.*) A beautiful, flaky, crystallized salt, like scales of snow. It is obtained from gum-benzoin. It is also found in the balsams of Tolu and Peru, in storax, and in the urine of herbivorous animals. It is easily prepared by sublimation. The powdered gum-benzoin is placed in a shallow iron pan, which is covered with a cone of bibulous paper. A heat of 300° Fahr. is applied to the pan, and the whole apparatus is covered by a second cone much larger than the first, made of non-absorbent paper. The vapors of *B.* acid rise through the bibulous cone, and condense on the inside of the larger one; being thus prevented from falling back into the heated gum-benzoin. *B.* acid has an agreeable aromatic odor, and a hot, bitter taste. It melts at 248°, sublimes at 293°, and boils at 462°. Its vapor may be kindled, burning with a smoky flame. It dissolves in 200 parts of cold water and 25 of hot. It is readily soluble in ether and alcohol. It combines with the alkalies, earths, and metallic oxides, forming benzoates. It forms sulpho-, nitro-, and chloro-benzoic, by the substitution of atoms of sulphuric acid, peroxide of nitrogen, and chlorine, for atoms of hydrogen. Its other compounds are too numerous and unimportant to mention here. *Form.* $C_{14}H_5O_3HO$.—*B. Acid* is an ingredient of fumigating powders and pastils. It enters into the composition of Friar's balsam, a veterinary medicine, and of the cosmetic *virgin's milk*, made of two drachms of the alcoholic solution of benzoin with one pint of rose-water.

(*Med.*) *B.* acid acts as a stimulant, anti-spasmodic, and expectorant, and is eminently useful in all bronchial affections, more especially in dry irritating coughs.

Benzo'ic Alcohol. (*Chem.*) The alcohol of the benzoic series, — the hydrated oxide of tolnyl, *i. e.*:

$$C_{14}H_7 + O + HO = C_{14}H_8O_2$$

Tolnyl, or benzoene. Benzoic alcohol.

It bears the same relation to benzoic acid that vinous alcohol does to acetic acid. Oxidizing agents convert it into benzoic acid. It is a colorless oily fluid, rather heavier than water, and boiling at 400°.

Benzo'ic Ether. (*Chem.*) Oxide of benzoene, or *toluyl*. It is procured by heating benzoic alcohol and anhydrous boracic acid together in a closed vessel for some hours.

Benzo'ic Group. (*Chem.*) One of the groups of the benzoic series, (which *see.*) The members of the benzoic group are analogous to those of the vinic or ethylic group, being all derived from a primary radical *benzoyl*, as those of the latter group are from *ethyl*, (which *see.*) They are nearly all obtained from oil of bitter almonds.

Benzo'ic Series. (*Chem.*) A very perfect and numerous series of organic compounds, containing 8 groups:

1. Phenylic group.
2. Quinonic "
3. Benzoic "
4. Salicylic "
5. Anisic group.
6. Cinnamic "
7. Naphthalic "
8. Indigotic "

The benzoic series has lately been rendered very important from containing benzole and aniline, the sources of the coal-tar dyes.

Benzoin', *n.* (*Bot.*) A genus of plants, ord. *Lauraceæ*. The spice-wood, *B. odoriferum*, found in moist woods in

Fig. 341.—SPICE-WOOD, (*Benzoin odoriferum.*)

the U. States and Canada, is a deciduous shrub, 6–12 ft. high; leaves obovate-lanceolate, veinless, entire; sexes polygamous; yellowish-green flowers in umbels, appearing in advance of the leaves; berries scarlet. It has an aromatic flavor resembling gum benzoin, and the bark an agreeable spicy taste.

Ben'zoin, GUM-BENJAMIN. (*Chem.*) See STYRAX.

Ben'zoine, *n.* (*Chem.*) A substance isomeric with essence of bitter almonds, hydride of benzoyl, from which it is produced by the action of an alcoholic solution of potash, the oil being slowly changed into a crystalline mass.

Benzole, *n.* See BENZINE, and BENZOLINE.

Benzoline, *n.* The same as BENZINE, *q. v.*

Benzoin'ia, in *Michigan*, a post-village, former cap. of Benzie co., 10 m. from Lake Michigan.

Benzoyle', *n.* (*Chem.*) The radical of all the members of the benzoic group, capable of playing the part of an elementary substance in uniting with oxygen, chlorine, &c., and therefore resembling the elements in its chemical tendencies, from which resemblance it is spoken of as a quasi-element or compound radical.

Benzoyle, Hydride of, (OIL OF BITTER ALMONDS,) *n.* (*Chem.*) The bitter-almond cake, left after the extraction of the fixed oil, is mixed with water and fermented, until the whole of the amygdalin is decomposed. The mass is then distilled, and the distillation is purified by agitating it with milk of lime and chloride of iron. The hydro-cyanic acid contained in it is thus transformed into Prussian blue. Pure hydride of benzoyle is not poisonous. It is a limpid, highly refractive, inflammable liquid, which boils at 356°, and dissolves in 30 parts of water. Alcohol and ether dissolve it in all proportions. Exposed to the air, it gradually absorbs oxygen, and becomes converted into benzoic acid. — *Form.* $C_{14}H_5O_2H$.

Bepaint', *v. a.* To cover with paint.

Beper'iwigged, *a.* That is adorned with false hair; periwigged.

Bepinch', *v. a.* To pinch; to mark with pinches.

"In their sides, arms, shoulders, all *bepincht.*"—*Chapman.*

Beplas'ter, *v. a.* To cover with plaster; to embellish; as, "*Beplastered* with rouge." — *Goldsmith.*

Bepow'der, *v. a.* To cover with powder; to sprinkle with powder.

Bepraise, (*bé-prāz'*,) *v. a.* To praise greatly or extravagantly.

Beprose', *v. a.* To reduce to prose. (R.)

Bepuffed, (*be-pŭfft'*,) *a.* [*be* and *puff.*] Puffed up.

Bepur'ple, *v. a.* [*be* and *purple.*] To stain or tinge of a purple color.

Bequeath, (*bē-kwēth'*,) *v. a.* [A. S. *becwæthan* — *be*, and *cwæthan*, to say, to speak. See QUOTH.] To declare one's will or determination. Specifically, to give or leave by will or testament; used in relation to personal property.

"My father *bequeath'd* me by will but a poor thousand crowns." *Shaks.*

—To leave, hand down, or transmit to posterity.

"For freedom's battle, once begun,
Bequeath'd by bleeding sire to son,
Though baffled oft, is ever won."—*Byron.*

Bequeath'able, *a.* Susceptible of being bequeathed.

Bequeath'er, *n.* A person who bequeaths.

Bequeath'ment, *n.* Act of bequeathing; a bequest, legacy.

Bequest, (*bē-kwest'*,) *n.* (*Law.*) That which is bequeathed; something left by will; a legacy.

"He claimed the crown, . . . pretending an adoption, or *bequest* of the kingdom unto him by the Confessor.' —*Hale.*

Bequote', *v. a.* To quote frequently.

Béranger, (*bai-rawnzh'ai,*) JEAN PIERRE DE, one of the greatest lyric poets that France has produced, B. at Paris, 1780. To his grandfather, a tailor, and to an aunt by the father's side, he was indebted for his early nurture and education. When he was 10 years of age, he went to reside at Peronne in Picardy, with his aunt, and here he led for some time an indolent and unsettled life, trying several occupations, including that of a potboy, and settling in none, till he was at last apprenticed to a printer in the town, and from this period gave himself up to literary pursuits. In 1795 his father took him to Paris, where he wanted his assistance in certain banking operations in which he was engaged; but, in 1798, the bank failed, and *B.* bade adieu to financial operations for ever. During the period that followed, he produced his best songs; but embittered by disappointment, and hopeless of success, he collected all the poems he had written and sent them to Lucien Bonaparte, the brother of Napoleon 1. (then First Consul), who was known to be a liberal patron of literature, and, in this instance, did not belie his reputation. With the assistance thus rendered, *B.* soon found employment for his pen. In 1805–6, he assisted in editing Landon's *Annales du Musée*, and, in 1809, he was attached to the university with a small salary of 1200 francs, which, however, sufficed for all his wants. Meanwhile he went on cultivating the Muses, and delighting all who knew him with the songs, chiefly amatory, which he then composed. In 1815 he first came before the world as an author, though many of the poems then printed had been circulated in manuscript, and the sensation produced by this first publication was immense. France hailed in *B.* a poet who was not only able to sing of love and wine, but who gave the noblest and most heart-stirring expression to that sense of blighted glory and wounded pride which then smouldered in the breast of the whole people. His second series of songs, published in 1821, cost him his place and three months' imprisonment in St. Pelagie; and for his third series, published in 1828, he was condemned to nine months' imprisonment, and a fine of 10,000 francs. But the fine was paid by the poet's admirers; while from behind his prison-bars *B.* kept up such a deadly fire on the government, that he contributed more effectually to destroy it than all the blows of the heroes of the "Three Glorious Days." After the election of Louis Philippe to the throne, he

declined to accept of any reward for his services, and retired first to Passy, next to Fontainebleau, and finally to Tours, where he completed what he called his *Mémoires Chantants* by the publication of his fourth series

Fig. 342. — BÉRANGER.

of songs. Speaking of these masterpieces of poetic skill, Göthe says: "Béranger was never at school, never studied at a university. But his songs are, nevertheless, so full of mature cultivation, of grace, wit, and subtlest irony, they are so artistically finished, and their language is so masterly, that he is admired, not only by France, but by the whole of civilized Europe. His songs have shed tears of joy into millions of hearts; they are familiar even to the working-classes; and at the same time they are so high above the level of commonplace, that the intercourse with these graceful spirits accustoms and compels the people to have better and more generous thoughts." At the revolution of February, 1848, *B.* was elected to the Constituent Assembly; but after one or two sittings, he sent in his resignation, and finally retired from the storm and turbulence of political life. His last years were solaced by the kindness of his numerous friends, who admired in him the straightforward honorable man as well as the national poet. Though a republican at heart, *B.* looked on Napoleon I., in his rise from a simple artillery officer to be Emperor of the French, as an incarnation of the national spirit; and he did so much to perpetuate the superstitious reverence of the people for his name, as to pave the way for the advent of his nephew and successor (Napoleon III.) to the imperial throne. He D. 1857. — In his *Autobiography*, a posthumous publication, *B.* has given a most interesting account of his struggles with fortune, his private adventures, the development of his mind, the origin of his works, the manner of their success, the friendships and the persecutions they brought him, and the reasons of his retirement from public life.

Berar, (*bai-rär'*,) one of the central provinces of British India, comprising Nagpoor, and a considerable portion of Gundwanah, between Lat. 17° 48′ and 22° 43′ N., Lon. 75° 24′ to 82° 48′ E.; greatest length, N. to S. 330 m.; breadth, 300 m. *Area*, 56,723 sq. m. It is watered by the Wurda, the Pain-Gunga, the Mahanuddy, &c. The soil is fertile, producing dry grains, flax, sugar, betel, tobacco, and large quantities of cotton.—After the fall of the Mogul empire, the Mahrattas overran *B.*, and held it until 1853, when the English added this rich prov. to their possessions. Chief city, Nagpore.

Berat, (*bai-rat'*,) a town of Turkey-in-Europe, in the N. part of Albania, on the Tuberathi, 28 m. N.E. of Avlona; Lat. 40° 48′ N.; Lon. 19° 52′ E. It consists of an acropolis or citadel, on the summit of a high hill, and of a lower town. Merchants import foreign goods through the port of Avlona. Scanderbeg failed in an attempt to take this town, which has always been regarded as the key to this part of the country. *P.* 10,000.

Berate', *v. a.* [*be* and *rate.*] To rate or chide vehemently; to scold.

Berat'tle, *v. a.* [*be* and *rattle.*] To fill with noise or vociferation; to make a noise at in contempt.

"These are now the fashion, and so *berattle* the Common stages as they call them." — *Shaks.*

Braun', a walled town of Bohemia, cap. of circ. of the same name, on the Beraun, 20 m. W.S.W. of Prague. *Manf.* Earthenware and fire-arms. Coal mines and quarries of marble exist in the neighborhood. In the vicinity, in 1756, the Austrians gained a signal victory over the Prussians. *Pop.* abt. 4,500.

Berau'nite, *n.* (*Min.*) A phosphate of the peroxide of iron.

Berbe'ra, a seaport of E. Africa, in the country of the Somanli, on the Gulf of Aden, 160 m. E.S.E. of Zeyla; Lat. 10° 25′ 16″ N.; Lon. 45° 7′ 57″ E.

Berbera'les, *n.* (*Bot.*) The Berberal alliance, including the orders *Droseraceæ*, *Fumariaceæ*, *Berberidaceæ*, *Vitaceæ*, *Pittosporaceæ*, *Olacaceæ*, *Cyrillaceæ*. — DIAG. Hypogynous exogens, with monodichlamydeous flowers, unsymmetrical in the ovary, sutural, parietal, or axile placentæ, definite stamens, and embryo enclosed in a large quantity of fleshy albumen.

Berberida'ceæ, *n. pl.* (*Bot.*) An order of plants, alliance *Berberales*. — DIAG. Regular symmetrical flowers, sutural placentæ, stameus opposite the petals, and recurved anther-valves.—They are herbaceous perennial plants, for the most part hairless, but very often spiny. Leaves alternate, compound, usually without stipules. Flowers solitary, racemose, or panicled. Sepals 3–4–6, deciduous, in a double row, surrounded externally by petaloid scales. Petals hypogynous, sometimes with an appendage at the base in the inside. Carpel solitary; style rather lateral; stigma orbicular; fruit berried or capsular; seeds crustaceous or membranous; albumen between fleshy and horny; embryo minute.—This order includes 12 genera and 100 species, natives of mountainous places in the temperate part of the N. hemisphere.

Fig. 343. — BERBERRY, (*Berberis vulgaris.*)

1. An expanded flower. — 2. The calyx without the petals. — 3. An ovary cut through, showing the position of the ovules.

Ber'berine, *n.* (*Chem.*) A yellow bitter principle contained in the alcoholic extract of the root of the berberry.

Ber'beris, BERBERRY, BARBERRY, a genus of plants, order *Berberidaceæ*. It consists of numerous species, found in temperate climates in most parts, except Australia. These are shrubs, often spiny, with yellow flowers and acid berries. The three whorls of organs in the flower are each made up of six parts; thus, there are six sepals in the calyx, six petals in the corolla, and six stamens. The latter are remarkable for their irritability; for, if touched at the base by an insect, or even with the point of a pin, they start up from their natural inclining position, and close upon the pistil. The most interesting species is *B. vulgaris*, the common barberry, which is usually a bush from four to six feet high, but which, in Italy, sometimes becomes as large as a plum-tree. It is a very ornamental plant, especially when covered with fruit. The berries are of an oval shape, and, when ripe, generally of a bright red color, but sometimes whitish, yellow, or almost black. They are very acid, and not fit to be eaten raw; but when boiled with sugar, they form a most refreshing preserve. They are sometimes picked, to be used for garnishing dishes, and occasionally they are put into sugar-plums or comfits. The bark and stem are very astringent, and yield a bright yellow dye. A fungus, which has been named *Æcidium berberidis*, is frequently found on the underside of the leaves; and the common but erroneous opinion, that the minute spores of this parasite will produce *rust* in corn, has prevented the general employment of the *B.* as a hedge-plant, for which it is admirably adapted. — It is found in the United States in hard gravelly soils.

Berberry, *n.* (*Bot.*) See BERBERIS.

Ber'bers, *n. pl.* The general appellation given to the mountain tribes of Barbary, and those inhabiting the N. frontiers of the Great Desert of Sahara. These tribes descend from a common stock, and are believed to derive their name from the Greek and Latin *Barbari*. The entire population of this country appear, in ancient days, to have called themselves *Berbers*, although the term is now used in the above restricted sense only. Upon the advent of the Arabs, the aborigines would seem to have migrated to the region of the Atlas, where their race is now found living in almost a nomadic state. In Algeria, they are known under the name of *Kabyles*, and in Morocco, as *Shelloohs*. The *B.* of the Desert are called *Tuariks* by the Arabs, have become infused with the negro blood, and are estimated to number about 3 millions. They are of middle height, dark, strongly-knit, and with facial characteristics partaking more of the European than the Eastern type. They are a wild, turbulent race, always involved in wars, foreign or domestic, tenacious of their independence, and resisting any advanced degree of civilization. They possess herds, and practise husbandry, besides engaging in the manufacture of such rude implements and fabrics as serve their necessities. In religion, they are Mohammedans of the most fanatic class.

Berbice, (*ber-bēēce'*,) a river of Guiana, S. America, rising in the mountains about 100 m. from the coast, and entering the Atlantic Ocean 10 m. from New Amsterdam, at Lat. 6° 21′ N., Lon. 57° 12′ W.

Berbice, a district of British Guiana, between 6° and 7° N. Lat., and 57° and 58° W. Lon.; *pop.* about 22,000.

Berchta, (*bairg'ta.*) [O. Ger. *peracta*, shining; whence the name *Bertha.*] (*Ger. Myth.*) A spiritual being, probably the same, under a different name, as the *Hulda* of N. Germany; but in N. Germany, Hulda is regarded as a benign spirit; whereas, in S. Germany, *B.* is looked upon as a malevolent being, and her name is made use of to frighten disobedient children. *B.* is especially charged with the overlooking of spinners.

Ber'cy, in France, formerly a town in the dep. of Seine, now an arrondissement of Paris.

Ber'da, a small river of S. European Russia, govt. of Taurida, falling into the Sea of Azof. In the summer months it is partially dry. On its E. bank stands the small town of Petrofsky, the principal station of the Azof Cossacks.

Ber'dash, *n.* A kind of neckcloth at one time used in England.

Berdiansk, (*ber-de-ansk'*,) a thriving maritime town of S. Russia, govt. Taurida, at the mouth of the Berda, on the N. shore of the Sea of Azof, 150 m. N.E. of Simferopol; *pop.* 12,486.

Berdit'chev, a town of Russia in Europe, govt. Volhynia, on its S.E. confines, 24 m. S. of Jitomir. It is dirty and ill-built, and is principally inhabited by Jews. It is, however, the centre of a considerable trade. Its fair is much frequented.

Bere'a, (*Anc. Geog.*) A city of Macedonia, S.W. of Pella, and near Mount Bermius. It was afterwards called *Irenopolis*, and is now called by the Turks *Boor*, or *Cara Veria*. Paul preached the gospel here with success.

Bere'a, in *Kansas*, a post-office of Franklin co.

Bere'a, in *Kentucky*, a post-office of Madison co.

Bere'a, in *Ohio*, a post-village of Cuyahoga co., 12 m. S.W. of Cleveland.

Bere'ans, *n. pl.* (*Eccl. Hist.*) A sect of dissenters from the Church of Scotland, founded in 1773, by the Rev. J. Barclay, who D. in 1798. They believe that the Bible is the sole source of information respecting the existence and attributes of the Deity, that the Psalms relate exclusively to Christ, and that unbelief is the unpardonable sin. Their title was adopted in imitation of the ancient Bereans, who "received the word with all readiness of mind, and searched the Scriptures daily." (*Acts* xvii. 2.) They are also known as *Barclayans*.

Bereave', *v. a.* (*pret.* BEREAVED, BEREFT; *pp.* BEREAVED, BEREFT.) [A. S. *bereafian* — *be*, and *reafian*, to seize, to rob, to spoil.] To deprive of; to strip; to make destitute.

"Madam, you have *bereft* me of all words."—*Shaks.*

—To take away from.

"Controls them and subdues, transmutes, *bereaves*,
Of their bad influence, and their good receives."—*Wordsworth.*

Bereave'ment, *n.* Act of bereaving; state of being bereft; deprivation.

Bereav'er, *n.* One who, or that which, bereaves.

Bereft', *pp.* of BEREAVE, *q. v.*

Berege', *n.* See BAREGE.

Berenga'rians, *n. pl.* (*Eccl. Hist.*) A name given to the followers of Berenger, or Bereugarius, Archdeacon of Angers. — See BERENGER.

Berenger, (*ba-ronzh'ur,*) or BERENGARIUS, of Tours, a theologian of the 11th century. He was B. at Tours, 998, long held an ecclesiastical office there, and was afterwards archdeacon of Angers. He was thoroughly versed in the philosophy of his age, and did not hesitate to apply reason to the interpretation of the Bible. He denied the dogma of transubstantiation, and no less than seven councils were held respecting him, at three of which he was condemned, and at four he was prevailed on to make retractions more or less fully. Though failing thus in courage in the presence of his persecutors, he, nevertheless, continued to teach what he believed. D. 1088.

Beren'ger, (or BERENGARIO,) JACOPO, a celebrated anatomist and physician of the 16th century. B. at Carpi, Italy, and D. at Ferrara, 1550. He made several important anatomical discoveries, and is said to have been the first who used mercury in syphilitic diseases.

Berenice, (*ber-e-ni'se,*) the common name of the female branch of the Egyptian Ptolemies; but from the practice common with the Persians and Egyptians of family intermarriages, and the union of brother and sister, the lives of most of the princesses who bear this name are a record of vice and immorality. The most celebrated of these women was *B.*, the daughter of the renowned Ptolemy Philadelphus, the founder of the Alexandrian Library, and she married her reigning brother Evergetes, for whose sake, while absent on an expedition, as a mark of sorrow and humiliation, she cut off all her hair, and offered it up as a propitiatory sacrifice to the gods. She was ultimately put to death by her own father, about 220 years B. C.

Bereni'ce, a daughter of Herod Agrippa I., who was the son of Aristobulus, who was the son of Herod the Great. (*Acts* xii.; *Matthew* ii.) She was the sister of Herodes Agrippa II., before whom Paul preached A. D. 63 (*Acts* xxv. 13), and the wife of Herodes of Chalcis, who seems to have been her uncle, and left her a young widow. Titus, the son of Vespasian, fell in love with Berenice, who had taken an active part at the time when Syria declared in favor of Vespasian against Vitellius. (*Tacit. Hist.* ii. 2, 81.) Berenice was then a young and very handsome woman. After the capture of Jerusalem she came to Rome (A. D. 75), and Titus is said to have been so much attached to her that he promised to marry her; but on the death of his father he sent Berenice from Rome, much against his will and hers, when

he found that the proposed match was disagreeable to the people. (*Suetonius, Titus.*) Juvenal (*Sat.* vi. 156) appears to allude to this Berenice and her brother Agrippa. Racine has written a tragedy on the subject of Titus and Berenice.

Bereni'ce, an ancient city of Egypt, on a deep bay of the Red Sea, 20 m. S.W. of Ras-Bernass. We are indebted to Belzoni for the resuscitation of this long-lost city, from which have been exhumed many interesting antiquities.

Ber'esford, WILLIAM CARR, VISCOUNT, a distinguished British general, B. 1768. He early entered the military service of his country, and after having served with distinction in India and other parts of the world, he joined, in 1808, the British army in Spain, and fought at Corunna. In 1809, he was appointed to command the Portuguese troops in the field, with the rank of field-marshal. On the 16th May, 1811, he defeated Marshal Soult at Albuera. In 1814 he was raised to the peerage. In Spain, he was created *Duke of Elvas*, and in Portugal, *Conde di Francesco*. He was subsequently governor of Jersey, and in 1828, Master-General of the Ordnance. D. 1854.

Beresi'na, or **Berezina,** a river of Russia in Europe; it rises in the dist. of Dissna, govt. Minsk, which it traverses from N. to S.; after receiving various affluents, and being joined by a canal with the Don, it falls into the Dnieper, near Ritchitza, in Lat. 58° 28′ N., after a course of 200 miles. This river has been rendered famous on account of its disastrous passage by the French army during the retreat of Napoleon I. from Russia, in 1812.

Berg, *n.* A burgh or borough. See BURGH, BOROUGH.
—A large mass of ice. See ICEBERG.

Berg, FREDERICK WILLIAM RAMBERT, a Russian general, chiefly notorious for the severity with which he treated the unfortunate population of Poland during the insurrection of 1863, and which excited the horror and indignation of the civilized world.

Bergamo, (*bair-ga'mo,*) a prov. of Italy, in W. Lombardy, lying between the Lakes Como and Garda, and extending for nearly 100 m. in length, by a width of 45 to 50. *Surface.* In the S. are rich, level pastures, gradually ascending towards the N., where the land rises in easy swells, till, approaching the Tyrol, the hills become mountains densely and beautifully wooded. *B.* yields pasturage for great flocks of sheep in the S., and goats in the N.; the chief products being olives, chestnuts, and wool, while the mountains furnish iron, marble, and grind-stones. *Pop.* 363,754.

BERGAMO, a walled town of N. Italy, cap. of above prov., between the Serio and the Brembo, 29 m. N.E. of Milan. It is well built, has fine ecclesiastical edifices, and public buildings, and the Carrarese school for free instruction in music, painting, and architecture. *Manuf.* Silks, woollens, cotton, iron. A great fair is annually held on the 22d Aug. and 14 following days, when all the products of Lombardy are exposed, silk being the staple article. *B.* was anciently a Roman city. From 1428, it was under the protection of the republic of Venice; was taken by Louis XII. in 1809; and fell to Austria in 1815, and in 1860 was incorporated with the new kingdom of Italy. The Bergamesque dialect is peculiar, and one of the most corrupted forms of the language spoken in Italy.

Ber'gamot, *n.* [Fr. *bergamotte.*] A choice variety of pear, shaped like an apple, and very juicy.
—A particular kind of snuff, flavored with bergamot.

"Give the nose its *bergamot.*"—*Cowper.*

(*Manf.*) A coarse kind of tapestry, invented at Bergamo, in Italy, whence the name.

Essence or *Oil of B.* A fragrant essential oil, obtained, by expression or distillation, from the Bergamot orange, a species of the genus *Citrus*, q.v. It is extensively employed in perfumery for scenting pomades, and as an ingredient in most compound essences, such as *Eau de Cologne, Eau de Millefleurs,* &c.

Ber'gander, *n.* (*Zoöl.*) See SHELDRAKE.

Ber'gen, DIRK VAN DEN, a celebrated Dutch landscape and animal painter, who was a pupil of Vanderveldt; B. at Haarlem in 1645; D. 1689.

Ber'gen, one of the S. provinces of Norway, bounded on the N. by Drontheim, S. by Christiansand, E. by Aggershaus, and W. by the N. Atlantic Ocean. It is divided into two *amts*, viz., S. Bergenhus, and N. Bergenhus. *Area*, 590 geog. sq. m. The whole province is extremely mountainous, and entirely surrounded on its E. frontier by the towering range of the Norwegian Alps, while on its W. seaboard, the coast-line is cut into deep *fiords*, bays, and estuaries, presenting a wild, rugged, and deeply-rifted frontier to the ocean. *Prod.* Timber, tar, fish and cattle. *Pop.* 267,354.

BERGEN, a large and fortified seaport-town, and cap. of the above prov., is situated at the bottom of a deep bay, 190 m. W.N.W. of Christiania; Lat. 60° 24′ N.; Lon. 5° 18′ E. *B.* (like nearly all Norwegian towns) is almost entirely built of wood, and has, accordingly, been frequently subjected to calamitous fires. *Manf.* Salt, tar, turpentine; it also carries on a considerable trade in timber and fish.

Ber'gen, a town of Prussia, cap. of the island of Rügen, in the Baltic, 15 m. N.E. of Stralsund. It stands almost in the centre of the island. *Pop.* about 4,000.

Ber'gen, in *Minnesota*, a post-township of McLeod county.

Ber'gen, in *New Jersey*, a N.E. co., bordering on New York; *area*, 350 sq. m. *Cap.* Hackensack.

Ber'gen, in *New York*, a twp. of Genesee co.

Ber'gen, in *Wisconsin*, a township of Vernon county, on the Mississippi River, about 14 miles below La Crosse.

Bergen-op-Zoom, or BERG-OP-ZOOM, (*bair'gen-op-zoom,*) a strongly fortified town of the Netherlands, on the Zoom, prov. Brabant, 22 m. W.S.W. of Breda, near the E. Scheldt, and on the railway from Antwerp to Rotterdam. *Manf.* Anchovies, and earthenware.—*B.* was one of the first towns occupied by the States-General. In 1622 it stood a memorable siege by the Spaniards, who retired, after losing 10,000 men. In 1747 it was taken by the French, and again in 1794. In 1814 it was nearly taken by the British by a *coup de main*, but they were finally repulsed with considerable loss. *Pop.* 9,779.

Ber'gen Point, in *New Jersey*, a P. O. of Hudson co.

Ber'ger, in *Missouri*, a post-village of Franklin co., on the S. bank of the Missouri River, 50 m. of Jefferson city.

Bergerac, (*bairzh'e-rak',*) a thriving and well-built town of France, dep. Dordogne, in an extensive and fertile plain, on the Dordogne, 27 m. S.S.W. of Périgueux. *Manf.* Iron and copper goods, &c. *Pop.* 13,317.

Ber'ger's Store, in *Virginia*, a P.O. of Pittsylvania co.

Bergh'em, NIKOLAAS, a Dutch landscape and portrait painter, B. at Haarlem, 1624. He was a good etcher, in addition to his merits as a painter. One of his pictures is in the National Gallery, London. D. 1683.

Berg'holtz, in *New York*, a post-office of Niagara co.

Berg'man, TORBEN OLAF, an eminent Swedish chemist, B. 1735. He studied at Upsal University, where he became, in 1767, professor of chemistry. His discoveries and services to science were very numerous. He proved the acid properties of carbonic acid, discovered oxalic acid, and was one of the first to make chemical analyses of mineral bodies. He made experiments in electricity, and published an *Essay on Elective Attractions.* D. 1784.

Berg'mehl, *n.* [Sw. and Ger., mountain meal.] (*Geol.*) A whitish earth, consisting almost entirely of the flinty shields of microscopic plant-growths, (see DIATOMACEÆ.) It occurs in bog and ancient lake deposits in many parts of Northern Europe, and, during times of great scarcity, it has been, when mixed with flour, eaten as food. Some writers assert that hundreds of cart-loads are consumed every year by the inhabitants of the north of Sweden. From analysis, it does not appear to contain any positive nutriment.

Ber'goo, *n.* See WADAY.

Bergues, (*bairg',*) a town of France, dep. Nord, on the Colme, 5 m. S.S.E. of Dunkerque. The town is strongly fortified by Vauban, and has the means of laying the plain around it under water. Though old, it is pretty well built. *Pop.* 6,624.

Beriberi, *ber-e-bĕ're.*) (*Med.*) A peculiar form of scrofula, found only to exist in the East Indies, and having several characters of the disease known in the West Indies as elephantiasis. This disease comes on with spasmodic twitchings of the lower extremities, darting upward to the chest and throat, and producing great debility, œdema, or swelling of the legs and body, accompanied by a congested state of the brain, drowsiness, and coma.

Berina, (*bai-re'na,*) a mountain of the Rhætian Alps, 36 m. from Coire, and remarkable for its extensive glacier. Its pass between the Upper Engadine and the Valteline is at a height of 7,672 ft.

Bering. See BEHRING.

Berja, (*bairzh'a,*) a town of Spain, on the S. slope of the Sierra de Gador, 22 m. W. of Almeria; *pop.* 10,000.

Berkeley, (*burk'le,*) GEORGE, an English philosopher, B. 1684. He was educated at Trinity Coll., Dublin, and afterwards took orders, becoming Dean of Derry. In 1728, he went in company with some friends to Rhode Island, in the hope of founding there a missionary institution for the benefit of the N. American Indians. His scheme failing, he returned to England, and, in 1734, became Bishop of Cloyne. In philosophy, *B.* is an Idealist, and his doctrines are the natural reaction against the prevailing materialism of his age. His most important works are, the *Principles of Human Knowledge; Dialogues of Hylos and Philonous; Minute Philosopher; Analyst;* and *Theory of Vision.* His two works on the properties of Tar-water, *Siris*, and *Further Thoughts*, attracted much celebrity. D. 1753.

Berke'ley, MILES JOSEPH, F.L.S., M.A., a distinguished English naturalist, B. 1803. He was a member of the principal learned societies of Europe. D. July 30, 1889.

Berke'ley, a town and parish of England, co. of Gloucester, situated in a rich country, 101 m. W. by N. of London. It is noted for its ancient castle, which is one of the most perfect specimens of the Norman style in Great Britain. In one of its gloomy chambers King Edward II. is supposed to have been murdered in 1327. *Pop.* of parish (1898) 5,240.

Berke'ley, in *California*, a city of Alameda co., on So. Pac. R.R., and San Francisco Bay, 7 m. N.E. of San Francisco; seat of the University of California. *Pop.* (1898) 10,250.

Berke'ley, in *West Virginia*, a N.E. county, separated from Maryland by the Potomac. *Area*, about 250 sq. m. Bounded by Opequan Creek on the S.E., and traversed by Back Creek. *Surface.* Mountainous. *Soil.* Fertile in the valleys and bottom-lands. Limestone, coal, and iron are found in plenty. *Cap.* Martinsburg. *Pop.*, in 1890, 18,649.

Berke'ley Springs, in *West Virginia*, a post-town and cap. of Morgan co., about 3 m. from the Potomac River, and 125 m. W. of Baltimore. For the Springs, see VIRGINIA (MINERAL WATERS OF).

Berk'ley, in *Alabama*, a post-office of Madison co.

Berk'ley, in *Indiana*, a flourishing township of Jasper co.

Berk'ley, in *Massachusetts*, a post-township of Bristol co., 35 m. S. of Boston, on the E. side of the Taunton River.

Berk'ley Rapids, in *Iowa*, a village of Benton co., on the Cedar, about 15 m. W.S.W. of Cedar Rapids.

Berks, or **Berkshire,** (*burk'shur,*) an inland co. of England, having N. Oxford and Bucks, from which it is separated by the river Thames, E. Surrey, S. Hampshire, and W. Wiltshire, and a part of Gloucester. *Area*, 451,210 acres. This is a very beautiful co., with every variety of soil and surface, and well timbered. Windsor Castle, the chief residence of the English sovereigns, is in this co. *Prin. Towns.* Reading (the cap.), Windsor, and Abingdon.

Berks, in *Pennsylvania*, a S. E. county; *area*, 920 sq. m. It is drained by the Schuylkill River, which flows through it in a S.E. direction, and by Tulpehocken, Maiden, Manatawny, and Little Swatara creeks. The Kittatinny, or Blue Mountain, forms its N.W. boundary, and its S.E. central part is cut by the South Mountain or Blue Ridge. The soil is highly productive, and under good cultivation. Iron mines are numerous. *Cap.* Reading.

Berk'shire, in *Illinois*, a village of Kane co., 50 m. W. by N. of Chicago.

Berk'shire, in *Massachusetts*, a W. co., of about 1000 sq. m., drained by the Housatonic, Deerfield, Farmington, and Hoosick rivers. Surface uneven, Saddle Mountain, in the N. part, being the highest point in Massachusetts. *Soil*, fertile, and presenting fine pastures. Marble, iron-ore, and limestone are plenty. *Cap.* Pittsfield, *Pop.* (1898) 90,150.
—A post-office of the above co.

Berk'shire, in *New York*, a post-township of Tioga co., 15 m. N.N.E. of Owego.

Berk'shire, in *Ohio*, a post-village and township of Delaware co., about 24 miles N.N.E. of the city of Columbus.

Berk'shire, in *Vermont*, a post-township of Franklin co., about 50 m. N. by E. of Montpelier, on the N. side of Missisque river.

Berk'shire Hill, in *New York*, a section of farming-land of great fertility, on the heights between the East and West Owego creeks, in the township of Berkshire, Tioga co.

Berk'shire Valley, in *New Jersey*, a village of Morris co., N.E. from Morristown.

Berlen'gas, a group of rocky islands in the Atlantic, off the W. coast of the Portuguese prov. of Estremadura, 10 m. N.W. of Peniche.

Ber'lichingen, GŒTZ VON, surnamed the "Iron Hand," a brave and turbulent German noble, B. at Jaxthausen in Würtemberg, 1480; D. 1562. He was almost constantly at war, was put under the ban of the empire by Maximilian, and was killed during the siege of a fortress in which he had taken refuge. His story was dramatized by Göthe.

Ber'lin, the capital of the kingdom of Prussia, and of the German Empire, in the province of Brandenburg; Lat. 52° 30′ 16″ N.; Lon. 13° 23′ 58″ E. Its streets are broad and straight, some of them ornamented with rows of trees; squares regular and spacious; houses all of brick, and mostly stuccoed over; public buildings and monuments, numerous and magnificent; so that, notwithstanding its sameness, the want of bustle and liveliness, and the poverty of its environs, *B.* is one of the finest cities in Europe. It was founded in the 12th century. Up to a very recent date, *B.* was a walled city; and some of its 19 gates still remain, the principal of which is the Brandenburg Gate, surmounted by a gigantic car of Victory. Among the principal structures are, the Netherland Palace and the palace of the Emperor, museum, opera house, arsenal (one of the finest in Europe), university, and the palace of Monbijou, occupied by Peter the Great when he visited this city. An equestrian statue, by Rauch, erected in honor of Frederick the Great, stands in the street *Unter den Linden*, and is one of the grandest monuments of its kind in Europe. The Spree, intersecting the city, is crossed by about 40 bridges. The street *Unter den Linden* is the finest in *B.*; it is nearly a mile in length, and the favorite promenade of the wealthy and the fashionable. The *Schloss Platz*, or square of the palace, ranks as the noblest of the squares that adorn this city. *B.* possesses many celebrated literary institutions, hospitals, and asylums. It may be regarded as the political and literary metropolis of N. Germany, and is distinguished alike for the number and celebrity of her statesmen, philosophers, scholars, and artists. Its press is very active, and about 3,000 persons are engaged in literature, and the various trades connected therewith. *B.* is one of the principal manufacturing cities of Germany. Among other branches are included the fabrication of steam-engines, woollens, cottons, ribbons, porcelain, hardware, paper, carriages, watches and jewelry, tobacco, sugar, &c. All the great railway lines of the kingdom centre in *B.*, which has, besides, a large command of inland navigation extending to Hamburg and the Elbe on the W., to Stettin and Swinemünde on the N., and to the Vistula on the E. Owing to the flatness of the ground on which it is built, the drainage of the city was formerly very imperfect; but this defect has been remedied of late years, by the establishment of a thorough system of drainage. There are numerous places of amusement in and near *B.*—The theatres and opera-house are well attended, and there is no city, Vienna excepted, where music is more universally patronized, or where the opera is better performed or more heartily appreciated, than in *B.* The city is the seat of an extensive commerce, and the centre of the financial transactions of the kingdom. Berlin was taken by the Austrians and Russians in 1760; and was occupied by the French from 1806 to 1812. In 1565 *B.* had a pop. of 12,000, which had risen to 90,000

in 1740; yet, for many years afterwards it was still described as a large tract enclosed with walls and built over in such a way as to cover the greatest amount of space possible with brick structures, in accordance with the wishes of its autocratic founder. Its becoming the capital of the new German Empire in 1871, however, opened for *B.* an unexpected era of prosperity and importance. By 1880, its *pop.* had reached 1,122,360; at the present date, 1897, it is estimated that the city contains very nearly, if not quite, 1,700,000 inhabitants.

Berlin, Treaty of. (*Euro. Pol.*) The treaty made in 1878 at San Stephano (see SAN STEPHANO) proving unsatisfactory to some of the European powers, notably so to Great Britain, a Congress was called at Berlin represented by Germany, England, Russia, Austria, France, Italy, and Turkey and presided over by Prince Bismarck, in this same year, when the following partial partition and rectification of the boundaries of Turkey were decided upon, viz.: BULGARIA "is constituted an autonomic tributary principality, under the Suzerainty of the Sultan, with a Christian government and a national militia. The principality is limited on the S. by the Balkins. The Prince to be elected by the population, confirmed by the Porte and the European powers. The plan to be prepared by an Assembly of Nobles, convoked at Tirnova." Full religious liberty is to be enjoyed, and Bulgaria to bear a part of the public debt of the empire. "South of the Balkins there shall be formed the province of EASTERN ROUMELIA, under the direct political authority of the Sultan, having administrative autonomy and a Christian governor-general" appointed by the Porte, with the assent of the powers. Full religious liberty is to be enjoyed. "BOSNIA and HERZEGOVINA to be occupied and administered by Austro-Hungary, with the exception of the Sandjak of Novi-Bazar." Spizza is incorporated with Dalmatia. "The independence of MONTENEGRO is recognized, and Antivari to be annexed thereto," but to be closed to war-ships of all nations. *M.* is to have no flag or ships of war, the Consuls of Austria to protect her merchant flag. Montenegro shall bear a portion of the Turkish national debt. "The independence of SERVIA is recognized," full religious liberty enjoyed, and she to bear a share of the public debt of Turkey. ROUMANIA "is recognized as independent," and full religious liberty enjoyed; *R.* to give back to Russia that part of BESSARABIA, containing abt. 2,500 sq. m., taken under the treaty of Paris (Crimean War), and receives the Dobrudscha and also the territory south, as far as a line starting east of Silistria and joining the Black Sea, south of Mangalia; exact lines of boundary to be fixed by a European commission. The fortifications on the Danube from the Iron Gates to its mouth to be razed, and no ships of war shall navigate the Danube downwards from the Iron Gates. In all parts of Turkey full religious liberty is to be enjoyed; and in no part of the empire shall differences of religion be motive for unfitness in anything pertaining to civil and political rights. ARDAHAN, KARS, and BATOUM are ceded to Russia, the latter to be a commercial port only. The island of CYPRUS is ceded to Great Britain, and for which she agrees to pay to Turkey a stipulated sum annually, and Great Britain, under treaty made with Turkey, June 4th, 1878, engages to defend the Asiatic dominions of the Sultan against any further attack; while the Sultan is to introduce necessary reforms, to be agreed upon between the two powers. In accordance with a protocol to the Berlin treaty, a rectification of the frontier is to be made between Turkey and Greece. Upon the authority of Lord Beaconsfield, Turkey, excluding Bosnia and Bulgaria, retains in Europe 60,000 sq. m. of territory, which is less than she would have lost by the treaty of San Stephano. The latter provided for a territorial extension of Bulgaria nearly three times greater than the Berlin treaty, with other territorial losses in both Europe and Asia. The total area lost to Turkey by the treaty of Berlin, amounts to about 71,000 miles of territory. See *Le Traité de B., annote et commenté, par B. Brunswik.* Paris, 1879.

Berlioz, (*bair'le-oz,*) HECTOR, a French musical composer, B. at La Côte St. André, Isère, 1803. He has produced many symphonies and operas, respecting the merits of which there has been much difference of opinion. Some have thought them extravagant in character, while Liszt was of opinion that they possessed high merit, and Paganini testified his sense of *B.*'s genius by presenting him with an order on his banker for $4,000, declaring him equal to Beethoven. His literary works, principally *Les Soirées de l'Orchestre,* evince a thorough knowledge of the vast range of musical topics. D. 1869.

Berm, (*burm.*) *n.* (*Fort.*) A ledge or pathway, from 3 to 8 feet in width, at the bottom of the outside of a rampart, where it joins the scarp or inner side of the ditch. It is almost on a level with the natural surface of the ground; and serves in part as a passage-way for the troops of the garrison, and in part as a means of preventing the ditch from being filled with earth and rubbish, when the rampart is battered by the besiegers.

Ber'meo, a sea-port of Spain, on its N. coast, prov. of Biscay, 16 m. N.E. of Bilbaó; *pop.* abt. 4,304.

Ber'mondsey, a suburb of London, England, included in the borough of Southwark.

Bermu'da Hundred, in *Virginia,* Chesterfield co., 2 m. N. by W. of City Point, near the mouth of the Appomattox River. *Pop.* 877. This place was fortified during the civil war, in May, 1864, by General Butler, who purposed offensive measures against Petersburg; but being deprived of two-thirds of his effective force, to reinforce the army operating against General Lee, he reported that "the necessities of the army of the Potomac had *bottled him up* at Bermuda Hundred."

Bermu'das, (The,) or SOMER'S ISLANDS, a group of small islands, about 300 in number, in the N. Atlantic Ocean, belonging to Great Britain, stretching N.E. by E. and S.W. by W., abt. 20 m., the light-house on Gibb's Hill being situate in Lat. 32° 14′ 54″ N., Lon. 64° 53′ W., 580 m. S.E. of Cape Hatteras. *Area,* about 30 sq. m. When viewed from the sea, the elevation of these islands is trifling, the highest land scarcely attaining to a height of 200 ft. Their general aspect is similar to the W. India Islands, and they are almost everywhere surrounded by extensive coral reefs, the channels through which are extremely intricate, and can only be safely navigated by native pilots. The principal islands are those of Bermuda, St. George, Ireland, and Somerset. The protection afforded to shipping by their numerous bays, and their position in the track of the homeward bound W. India vessels, have led to the conversion of the *B.* into a maritime rendezvous, and as, likewise, the British naval station in W. Indian waters. The harbor of St. George's Island has been greatly improved, is fortified, protected by a breakwater, and has water and space enough to float the entire U. States navy. — *Prod.* Principally, fruits, vegetables, maize, and tobacco. Pine-apples are very abundant and largely exported. — *Clim.* Mild and salubrious; almost realizing the idea of a perpetual spring. Fish abounds, and forms a profitable source of industry to the inhabitants. Breadstuffs, &c. are imported from the U. States, and manufactured goods from England.—Hamilton, on Bermuda Island, is the seat of the colonial government. *Pop.* 15,884. These islands were discovered by Bermudez, a Spaniard, in 1522, and settled by the English in 1607, and are supposed to be the "still vexed *Bermoothes,*" mentioned in Shakspeare's *Tempest.* — Pulmonary invalids are occasionally sent to Bermuda from the U. States. It affords a good winter retreat, provided due care be taken in selecting a locality sheltered from the strong winter winds. Hamilton has been recommended with this view.

Bermu'dian, in *Pennsylvania,* a post-village of Adams co., 19 m. S. by W. of Harrisburg.

Bern, in Switzerland. See BERNE.

Ber'nacle, or **Barnacle Goose,** *n.* (*Zoöl.*) A bird which inhabits the Arctic regions, and in its autumnal migrations visits the more temperate countries of our Northern States. The length of the *B.* goose, *Barnicla leucopsis,* is rather more than two feet. The bill is black; the forehead, sides of the head, and the throat are pure white; the rest of the head, neck, and shoulders, black; the upper part of the plumage is marked with blue, gray, black, and white; and the legs are black. The history of this bird has been rendered singularly remarkable by the marvellous accounts which were related in the darker ages concerning its growth: it being a received opinion that the *B.* was produced in a kind of arripede, the *Lepas anatifera* of Linnæus, growing on rotten ships, timber, and other kinds of wood and trees which lie under water on the coasts. — There are other species of *B.*, as the *Bernicla ruficollis,* which inhabits the Arctic countries of Asia; the *B. leucoptera,* found in the Falkland Islands, where it is called the Bastard goose; and the *B. antarctica,* which inhabits Terra del Fuego.

Fig. 344.
BERNACLE GOOSE, (*Bernicla leucopsis.*)

Bernadotte, CHARLES JOHN XIV., (*ber'nā-dot',*) King of Sweden and Norway, whose original name was JEAN BAPTISTE JULES BERNADOTTE, was the son of a lawyer at Pau, in France, and B. in 1764. He received a good education, and was designed for the bar, but he suddenly abandoned his studies and enlisted as a private in the Marines. For 9 years, *B.* attained only the rank of sergeant, but in 1792 he had become colonel. In 1793, he distinguished himself under General Kleber, and was made general of brigade, and shortly afterwards, of division. On the Rhine and in Italy, he still further acquired distinction, and he showed that his talents were not those of a mere soldier, by his conduct in a somewhat difficult embassy to Austria. Between him and Napoleon there seems to have been a constant distrust, if not actual hatred; nevertheless, *B.* received a marshal's staff on the establishment of the Consulate, and was created Prince of Ponte-Corvo, in 1806. In 1810, he was elected crown prince, and heir to the throne of Sweden, and the following year he succeeded to Charles XIII. of Sweden. Napoleon, then emperor, reluctantly consented to this nomination, knowing well that *B.* would turn soon an enemy to France. From the instant that he became crown-prince of Sweden, *B.* showed a determination to give all his energies to his adopted country; he formed a secret alliance with Russia in 1812, and, in 1813, took command of the combined armies of N. Germany against France. At no time, during half a century before his accession, had Sweden known such peace and prosperity as that in which he left her at his death in 1844.

Ber'nadotte, in *Illinois,* a post-village and township of Fulton co., on Spoon River, 65 m. N.W. of Springfield.

Bernalil'lo, a W. central county of *New Mexico Territory,* traversed by the Rio Grande and Rio Pnerco, and also watered by the Zuni and Rio San José. Surface, generally mountainous. Soil, fertile and grain-producing. Cap. Albuquerque. —A post-office of the above co.; *pop.* 745.

Ber'nard, PIERRE JOSEPH, (or **Gentil Bernard,** as he is commonly called after Voltaire,) a French poet; B. at Grenoble, 1710. He showed, at an early age, a great taste for poesy, and was at first only an attorney's clerk, but afterwards became secretary to Marshal de Coigny, who had command of the army of Italy. After the marshal's death, he obtained a lucrative appointment, and was now able to indulge his poetic faculties. He wrote an opera, *Castor and Pollux,* which met with great success; the *Art of Loving,* and a number of odes, songs, &c. His works were collected and reprinted in 1803. D. 1775.

Ber'nard, (Great St.,) (anc. *Mont Jovis,*) the name of a famous pass of the Pennine Alps, in Switzerland, leading over the mountains from Martigny to Aosta, Savoy. In its highest part it attains to an elevation of 8,150 feet, being almost impassable in winter, and very dangerous in spring, owing to the avalanches. Very near the summit of the pass, and on the edge of a small lake, is the celebrated hospice founded by Bernard de Menthon, and occupied by brethren of the order of St. Augustine, whose especial duty it is to assist and relieve travellers crossing the mountain. In searching for travellers who have lost their way, or been buried in the snow, they avail themselves of a peculiar breed of dogs of extraordinary size and sagacity. The brethren have faithfully discharged the arduous duties imposed upon them, and have rescued hundreds of travellers from a premature death. The hospice is a massive stone building; it possesses some, but not much, independent property, and is principally dependent on collections made in the Swiss cantons and other States, and on donations from the richer class of travellers. In 1800, when the road was not nearly so good as it has since been made, Napoleon led an army of 30,000 men, with its artillery and cavalry, into Italy by this pass. The railway at present extends to Martigny, at the foot of the Great St. Bernard, and on the Italian side to Biella, so that the mountain is easily crossed.

Fig. 345. — CONVENT OF THE GREAT ST. BERNARD.

Ber'nard, (Little St.,) a mountain of Switzerland, one of the range called the Graian (or Grecian) Alps, lying between Savoy and Piedmont, and 10 m. S. of Mont Blanc. This mountain is 7,076 feet above sea-level, and has an establishment conducted on the same principles as the one on the Great St. Bernard, only much smaller in its details.

Bernard, St., (*bair'nar,*) Abbot of Clairvaux, was born of a noble family in Burgundy, in 1091. He was carefully trained by pious parents, and sent to study at the university of Paris. At the age of 23 he entered the recently founded monastery of Citeaux, accompanied by his brothers and above twenty of his companions. He observed the strictest rules of the order, and so distinguished himself by his ability and acquirements that he was chosen to lead the colony to Clairvaux, and was made abbot of the new house; an office which he filled till his death. His fame attracted a great number of novices, many of whom became eminent men. Among them was Pope Eugenius III., six cardinals, and many bishops. In 1128 he prepared the status for the order of Knights Templars. Popes and princes desired his support, and submitted their differences to his arbitration. By his influence Innocent II. was recognized as lawful Pope; he had a public debate with Abelard on some doctrines of his philosophy, and procured his condemnation; courageously opposed the doctrine of the Immaculate Conception of the Virgin and the festival instituted in its honor; was founder of 160 monasteries; and was the chief promoter of the second crusade. At the Council of Vezelai, in 1146, he spoke as if inspired before the king and the nobles of France, and with his own hand gave them their crosses. He then preached

the crusade in Germany, persuaded the Emperor Conrad to join it, and refused the command which was offered him. His prediction of success was falsified. St. Bernard was the vehement adversary of Arnold of Brescia, and procured his banishment from Rome and from Zurich. He successfully attacked the doctrines of several so-called heretics. He steadily refused the offers of several archbishoprics and other dignities, preferring to remain abbot only. His character and his writings have earned him the title of "Last of the Fathers." The power, tenderness, and simplicity of his sermons and other works have secured the admiration of Protestants and Catholics alike. Dante introduces him in the last cantos of the "Paradise" with profound reverence and admiring love; and Luther studied his writings with the same feelings. St. Bernard died at Clairvaux in 1153, and was canonized in 1174. The best recent biographies of St. Bernard are, the German by Neander, and an English one by J. C. Morison.

Bernardin de St. Pierre. See ST. PIERRE.

Bernardines, (*ber'nardins,*) *n. pl.* (*Eccl. Hist.*) An order of monks named after St. Bernard, a celebrated Franciscan friar of the 14th century, by whom the order was reformed, but not founded Their origin dates from the 12th century, and they differ little from the CISTERCIANS, *q. v.*

Ber'nardin, St., an Italian monk, B. at Massa-Carrara, 1380, whose courage and charity were conspicuous during the plague which ravaged Siena in 1400. In 1404 he entered the order of Franciscans, and was sent to the Holy Land. On his return to Italy he founded above 300 monasteries. He was much respected by the Emperor Sigismund, and his eloquence had the most beneficial effect on all classes in Italy. D. at Aquila, 1444. He was canonized in 1450, his festival being on the 20th of May.

Bernard's, in *New Jersey,* a township of Somerset county.

Ber'nardston, in *Massachusetts,* a post-township of Franklin co., 100 m. W.N.W. of Boston.

Ber'nardsville, in *New Jersey,* a post-village of Somerset co., 35 miles N.E. of Trenton.

Bernau, (*ber'now,*) a town of Prussia, prov. Brandenburg, on the Panko, 15 m. N.E. of Berlin. *Manf.* Silk, velvets, linen, and calicoes.

Ber'nay, a town of France, dep. Eure, on the Charentonne, 26 m. W.N.W. of Evreux. *Manf.* Woollens, linens, yarns, paper, &c. *Pop.* 8,322.

Bern'burg, a town of North Germany, in the duchy of Anhalt, on the Saale, 23 m. S. of Magdeburg. It is well built and has some manufactories and trade. *Pop.* in 1895, 28,326.

Berne, or BERN, (*bern,*) the largest, geographically speaking, of the 19 cantons of Switzerland, and ranking as the second in political importance, is bounded on the N. by the cantons Aargau and Solothurn or Soleure, S. by the Valais, E. by Uri, Lucerne, and Unterwalden, and W. by Freiburg, Vaud, and the Jura; length, N.W. to S.E., 82 m.; greatest breadth, 62 m. *Area,* 2,562 sq. m. Its surface is generally mountainous, intersected, however, by fine and fertile valleys, as those of the Aar, Hasli, Grindelwald, and Simmenthal. It is watered by the rivers Emmen, Simmen, Kander, and Thiel, the tributaries of the Aar and Rhine. Its lakes, Neufchâtel, Bienne, Thun, and Brienz, are formed by the expansion of the rivers Thiel and Aar. *Prod.* Grain, hemp, dairy produce, &c.; agriculture prevailing only to a partial extent. *Manf.* Linens, woollens, wire, wooden toys, and watches. *Cap.* Berne. *Pop.* (1895) 537,000.—*B.* is one of the Protestant cantons, and joined the Swiss Confederation, being the eighth canton, in 1352.

BERNE, the chief city of the above canton, was, by the decision of the Council of the Confederation, in 1848, declared to be the political capital of the commonwealth. It is a fine, clean, well-built town, on the Aar, 23 m. S. of Basle, and possesses many fine public edifices, more notably, the Cathedral, erected 1421–1502. The most remarkable feature in the town are the arcades, running in front of the houses down both sides of the two chief streets. The inhabitants are serious and reserved, and proud of the ancient glory of their city. The aristocracy, or "patricians," as the old families were called, lived secluded from the other classes. The town has bears for its arms; and some of these animals are maintained in a place called *Bürengraben* ("bear's ditch"), on funds appropriated to that special purpose. *Manf.* Watches, wooden clocks, and toys, linen, woollen, and silk fabrics. *Pop.* (1895) 47,270.—*B.* was founded by Duke Berthold V. of Zähringen, in 1191, and was made a free and imperial city by a charter from the Emperor Frederick II. dated May, 1218.

Bern, in *Minnesota,* a post-office of Dodge co.

Bern, in *New York,* a post-township of Albany co., 22 m. N. of the latter city.

Bern, in *Ohio,* a township of Athens co.

—A post-township of Fairfield co.

—A post-office of Noble co.

Bern, in *Pennsylvania,* a flourishing township of Berks co.

Bernese', *n. sing.* and *pl.* (*Geog.*) A native, or natives, of Berne.

—*a.* Belonging, or relating, to Berne, or its people.

Bernhard, Duke of Saxe-Weimar, one of the greatest generals of his age, was born in 1604. He entered the army, and early distinguished himself. After being engaged in several affairs of minor importance, he joined the army of Gustavus Adolphus, in 1631, in the war against the House of Austria. He took part in the siege of Würzburg, assisted at the passage of Oppenheim, took Mannheim, and drove the enemy from the Palatinate. He commenced the conquest of Bavaria, completed the victory of Lützen after the fall of Gustavus, and drove the Austrians from Saxony. He afterwards had a command subordinate to Marshal Horn, and was harassed by intrigues. He took Ratisbon, which was soon lost, and, with Horn, was defeated at Nordlingen, in September, 1634. Soon after he accepted a subsidy from the king of France, and concerted operations with Richelieu. In 1638 he won the battle of Rheinfeld, and took Alt-Breisach. D. 1639.

Bern'hard's Bay, in *New York,* a post-office of Oswego co.

Berni, FRANCESCO, (*bair'ne,*) an eminent Italian poet, B. in Tuscany, 1490. He remodelled Boiardo's *Orlando Innamorato,* and was the author of *Rime Burlesche.* The gracefulness and purity of his diction have been seldom equalled; his humor, though broad, is not low; and though his themes or allusions are often licentious, his works display many traits of moral feeling, which would do no discredit to a better age. D. 1536.

Bernier, FRANÇOIS, (*bair'né-ai,*) a French traveller and physician, whose account of his travels was much appreciated; as he visited countries before unknown to Europeans, and threw considerable light on the state of India up to the time of Aurungzebe, at whose court he resided twelve years, during eight of which he held the appointment of physician to the emperor. He was a favorite of the emir Danichmand, who took him to Cashmere; and on his return to France, Bernier published his travels and philosophical works. D. 1688.

Bernini, GIOVANNI LORENZO, (*bair-ne'ni,*) called *Il Cavaliere B.,* was B. in Naples, 1598, and obtained among his contemporaries the reputation of being the modern Michael Angelo, on account of his success as painter, statuary, and architect. At the age of 18, he produced the *Apollo and Daphne,* in marble, a masterpiece of grace and execution. Being appointed architect of Urban VIII., he executed many works in St. Peter's; built the Palace Barberini and the Campanile of St. Peter's; visited Paris in 1665, his journey being a triumphal procession; at 70 executed the monument of Alexander VII., and ten years later sculptured the figure of Christ in bas-relief for Queen Christina, continuing in the indefatigable pursuit of his art, as sculptor and architect, till the period of his death, in 1680.

Ber'nis, FRANÇOIS JOACHIM DE PIERRE, Cardinal de, a French poet, patronized by Mad. de Pompadour. He was sent as ambassador to Rome, and at length arrived at the dignity of cardinal. B. 1715; D. 1794.

Ber'non, in *Rhode Island,* a village of Woonsocket township, Providence co., about 12 m. N. of Providence.

Bernouilli, JACQUES, (*bair-noo-eel'e,*) a distinguished mathematician, B. at Basle, 1654. He was destined for the Reformed Church, but his inclination led him to the study of mathematics, which he pursued privately, and without any assistance but from books. In 1676 he set out on his travels, and at Geneva devised a method of teaching a blind girl to write. He wrote a treatise on the comet, which appeared in 1680, and soon after went to Holland, where he studied the new philosophy. He returned to Basle in 1682, and read lectures on experimental philosophy and mechanics. About 1684, Leibnitz published, in the *Acta Eruditorum* at Leipsic, some essays on his new *calculus differentialis,* but without discovering the method. Bernouilli, however, and his brother, discovered the secret, and were highly praised by Leibnitz. His works were printed at Geneva, 1741. D. 1705.

BERNOUILLI, JEAN, brother of the above, and like him an eminent mathematician, B. 1667. In 1695, he was appointed professor of mathematics at Gröningen, and on the death of James he returned to Basle, where he succeeded him in the professorship of mathematics. In 1714 he published a treatise on the management of ships: and in 1730, his memoir on the elliptical figure of the planets gained the prize of the Academy of Sciences. His writings were published at Geneva in 1742. D. 1748.

BERNOUILLI, DANIEL, son of the last-named, and, like his father and uncle, highly skilled in mathematics. Among his works is to be noted the *Traité de Hydrodinamique,* the first treatise on that subject. He was member of the academies of Paris, Berlin, and St. Petersburg, and F.R.S. of London; B. 1700; D. 1782.—Other members of this family were also distinguished for their mathematical attainments, and it is stated that the list of foreign associates of the French Academy of Sciences constantly included the name of *B.* from 1699 to 1790.

Bernouse', *n.* See BURNOUS.

Bernstadt, (*bern'stat,*) a town of Prussia, prov. Silesia, reg. of Breslau, on the Wida, 24 m. E. of Breslau. *Manf.* Cloth and linen.

Bernstorff, JOHANN HARTWIG ERNST, COUNT, a celebrated statesman in the service of the king of Denmark, B. at Hanover, 1712. He was employed in divers embassies, and afterwards held the office of foreign minister to Frederick V. for about 20 years, resigning in 1770. D. 1772.

BERNSTORFF, ANDREAS PETER, COUNT, nephew of the above, and also in the service of the king of Denmark. He was appointed prime minister in 1769, when he ceded to Russia the Gottorp part of Holstein in exchange for Oldenburg and Delmenhorst. He introduced a new system of finance, and prepared the abolition of villanage in Schleswig and Holstein. B. 1735. D. 1797.

Bern'ville, in *Pennsylvania,* a village of Berks co., on Tulpehocken Creek, 12 m. N.W. of Reading.

Beroe, (*bēr'o-e,*) *n.* [Fr. *béróe;* Gr. *beron,* one of the Oceanidæ.] (*Zoöl.*) The *Cydippe pileus,* a small marine animal belonging to the class ACALEPHÆ, *q. v.*

Berquin, ARNAULD, an elegant French writer, B. 1749. He is chiefly known as the author of *L'Ami des Enfans* (The Children's Friend), and other interesting works for children. D. 1791.

Ber'rie, in *Ohio,* a thriving township of Athens co.

Berried (*bĕr'id*), *a.* (*Bot.*) Furnished with or having, berries.

Ber'rien, in *Georgia,* a S. co. *Area,* about 750 sq. m. The Allapaha bounds it on the E., and the Little river on the W. *Cap.* Nashville. *Pop.* (1898) 11,200.

—A village of Heard co., 8 miles W.S.W. of Franklin.

Ber'rien, in *Michigan,* a S.W. co. bordering on Indiana and Lake Michigan. *Area,* abont 600 sq. m. It is watered by Galien, Pawpaw, and St. Joseph's rivers. *Surface.* Diversified. *Soil.* Generally fertile. *Products,* corn, wheat, oats, potatoes, wool, hay, pork, fruits, &c. Has some manufactures. *Cap.* St. Joseph. *Pop.* (1898) 47,890.

—A township in the above co.

Ber'rien Cen'tre, in *Georgia,* a P. O. of Berrien co.

Ber'rien Springs, in *Michigan,* a post-village, former cap. of Berrien co., on St. Joseph river, 15 m. S.E. of Benton Harbor. Is in a prosperous farming and fruit-growing region: has medicinal springs, and is a favorite summer resort. *Pop.* (1898) 850.

Berry, (*ber're,*) *n.* (*Bot.*) See BACCA.

—A mound. See BARROW.

—One of the ova or eggs of a fish.

In berry. Impregnated with ova or spawn.

—*v. i.* To bear or produce berries.

—*v. a.* To impregnate with eggs or spawn.

Berry, (*bair'e,*) an ancient province of France, now forming the departments of Cher and Indre, *q. v.* It gave title at various times to French princes, the younger son of Charles X. being the last who held it.

Ber'ry, CAROLINE FERDINANDE LOUISE, DUCHESSE DE, B. at Naples, 1798, was the daughter of Ferdinand I., king of Naples and Sicily, and was married (1816) to the Duke of Berry, the 2d son of Charles X. He was assassinated on a Sunday, while handing the duchess to a carriage as she came out of the opera-house. She passed through a variety of troubles, and in 1830, after the French revolution, accompanied Charles X. to Holyrood Palace, in Edinburgh. In 1832, a movement in La Vendée took place in her favor, which was speedily suppressed. She was in hiding at Nantes, when, being betrayed by a converted Jew, she was found in a small hole behind a stove, where she had been enclosed for sixteen hours, and was carried to the castle of Blaye. In 1833 she was released, having re-married a son of the Prince of Lucchesi-Palli, with whom she retired to Sicily. D. 1870.

Berry, in *Wisconsin,* a thriving township of Dane county.

Ber'ryman, in *Illinois,* a township of Jo Daviess county.

Ber'rysburgh, in *Pennsylvania,* a post-village of Dauphin co., 39 m. N. of Harrisburg. Coal is plentiful here.

Berry's Ferry, in *Kentucky,* a post-office of Livingston co.

Berry's Lick, in *Kentucky,* a P. O. of Butler co.

Berry's Mill, in *Maine,* a P. O. of Franklin co.

Berry's Mill, in *Kentucky,* a village of Union co.

Ber'rysville, in *Indiana,* a township of Knox co., 16 m. E. by S. of Vincennes.

Ber'rysville, in *Ohio,* a post-village of Highland co., 6 m. S.E. of Hillsborough.

Ber'ryton, in *Illinois,* a post-village of Cass co., about 30 m. W.N.W. of Springfield.

Berrytown, in *Delaware,* a village of Kent co., 14 m. S. by W. of Dover.

Ber'ryville, in *Arkansas,* a post-village, cap. of Carroll co., 44 m. N.E. of Fayetteville. *Pop.* (1898) 750.

Berryville, in *Mississippi,* a village of Scott co., 40 m. E. by N. of Jackson.

Berryville, in *Missouri,* a post-office of Pettis co.

Berryville, in *Virginia,* a post-town, cap. of Clark co., on Nor. & West. R.R., 12 m. E. of Winchester, and 60 m. W.N.W. of Washington, D. C. *Pop.* (1898) 765.

Berryer, PIERRE ANTOINE, (*bair're-ai,*) the most distinguished French advocate of modern times, was B. in Paris, 1790. His father, an advocate of the Paris bar, confided him to the care of the *Oratoriens* of Juilly, where he proved a turbulent and indolent pupil, at the same time showing sufficient intelligence and piety to reconcile him to his teachers. It was his desire to become a priest; but yielding to the wishes of his father, he pursued the study of the law with the greatest ardor. Earnestly attached to the cause of Legitimacy, he proclaimed, in 1814, in presence of the magistrates and law students of Rennes, the fall of Napoleon, and mounted the white cockade. A tumult ensued, and the prefect ordered the arrest of the author, who fortunately escaped to Nantes. *B.* was one of the royal volunteers, who took arms during the Hundred Days, to support the ancient dynasty, and to avert the mischief of a second invasion. At the Restoration he exerted himself energetically to moderate the spirit of Bourbon rule, and defended Marshal Ney. He always pointed out the dangers of reaction. Even in defending the cause of the royalists, he professed the maxims of a wise liberty, and protested against every attempt at corruption and vengeance. His pleadings for Lamennais in 1833, for Audrey de Puyraveau and Voyer D'Argenson in 1834, and for Prince Louis Napoleon in 1840, breathe the same spirit of frankness and liberality. *B.* entered the Chamber of Deputies for the dep. of the Haute Loire in 1830, and was the brilliant organ, but not the passive instrument, of his party. After the fall of the Bourbons he remained in France to watch over the interests of the dynasty. To prove his fidelity to his party, he paid a visit to Charles X., at Göritz, in 1836, and another to the Count de Chambord, in London. In the republican assemblies which followed the revolution of Feb., 1848, *B.* confined himself chiefly to questions of finance and ad-

ministration. Faithful to the principles of parliamentary rule, he took an active part in the reunion of the 10th arrondissement, where the National Assembly proclaimed the fall of the President. Since the *coup d'état*, he took no part in politics, except by his participation in the attempts for a fusion of the two branches of the Bourbons. In Feb., 1852, *B.* was elected a member of the

Fig. 346. — BERRYER.

French Academy, and his inaugural speech contained some allusions to the degradation of the Lower Empire, and was on that account obnoxious to the government of Napoleon III., who ordered its suppression. In less than 24 hours, however, the interdict was removed. In the midst of political agitations, *B.* still maintained his position as the first advocate at the French bar. The more recent displays of his forensic talents were in 1858, when he defended the Count de Montalembert, and in 1860–61, in the case of Patterson *vs.* Bonaparte. In conjunction with Thiers, and other members of the monarchical party, *B.* determined, in 1863, to offer himself as a candidate for the *Corps Legislatif*, a step which necessitated his acknowledging the government of the emperor, and taking the oath of allegiance. He was elected, and by his firm attitude in behalf of moderate progress, and some brilliant specimens of oratory, made his influence, and that of his small though growing party, sensibly felt at the Tuileries and throughout the nation. In 1864, while on a visit to Lord Brougham, *B.* was entertained at a banquet given in his honor by the English bar, in the hall of the Middle Temple, London. *B.* was the apostle of free education in France, and was esteemed, in Paris, more than a prince, minister of state, or marshal of France. From the palace of the Tuileries to the workshop of the artisan — everywhere, and in every station of life, his admirers were numbered by myriads. His eloquence was so complete that he became the popular advocate of an unpopular cause. Separated in everything else, the salons of the Faubourg St. Germain, and the counting-houses of the Faubourg St. Antoine, were united to listen to and applaud this great orator. D. Nov. 29, 1868.

Bers, *n.* A sort of electuary, composed of pepper, seed of the white hyoscyamus, opium, euphorbium, saffron, &c. The Egyptians used it as an excitant.

Bersaglieri, (*ber'säl-yair'i,*) *n. pl.* [It.] A corps of riflemen or sharpshooters, introduced into the Sardinian army by General Della Marmora, about the year 1849. They took part in the Russian war, and assisted at the battle of the Tchernaya, 16th Aug., 1855. They were also employed in the Italian wars of 1859 and '66. They number nearly 50,000 men.

Ber'serker, *n.* (*Scandinavian Myth.*) A redoubtable hero, the grandson of the eight-handed Starkader and the beautiful Alfhilde. He despised mail and helmet, and, contrary to the custom of those times, went always into battle unharnessed, his fury serving him instead of defensive armor. By the daughter of King Swafurlam, whom he had slain in battle, he had twelve sons, who inherited the name of *B.*, along with his warlike spirit.

Berth, *n.* [See BIRTH.] (*Naut.*) A station in which a ship rides at anchor; convenient sea-room to moor a ship.—A sleeping-room in a ship for officers, passengers, or crew.

—Office; situation; employment; as, "He has a good *berth*."

A wide berth. (*Naut.*) To keep at a distance from the land, or from another vessel; as, "to give it *a wide berth*."

—*v. a.* To give or find anchorage-ground, or a discharging-station for a ship; as, she was *berthed* in the East India Docks.—To allot to each seaman a place for his hammock; as, to *berth* a ship's company.

Ber'tha, the name of several famous women of the Middle Ages, half historical, half fabulous, (see BERCHTA.) St. BERTHA, whose day is kept on the 4th July, was the beautiful and pious daughter of Charibert, king of the Franks, who, having married (560 A. n.) Æthelbert, king of Kent, became the means of his conversion, and of the spread of Christianity among the Anglo-Saxons. In the romances of the Charlemagne cycle, there figures a BERTHA, called also Berthrada with the Big Foot, as the daughter of Count Charibert of Laon, wife of Pepin the Little, and mother of Charlemagne. In the romances of the *Round Table*, again, BERTHA is the name of a sister of Charlemagne, who makes Milo d'Anglesis the father of Roland. Better known is BERTHA, daughter of Burkhard, Duke of the Allemanni, and wife of Rudolf II., king of Burgundy beyond Jura, who, after Rudolf's death (937), acted as regent for her infant son, Konrad; she afterwards married Hugo, king of Italy; and died towards the close of the 10th century. This queen had the character of being an excellent housekeeper, and is represented on seals and other monuments of the time as sitting on her throne spinning.

Berthier, ALEXANDRE, (*bair'te-ai,*) Prince of Neufchâtel and Wagram, B. at Versailles, 1753. Having obtained a commission in a regiment of Dragoons, he served in the American revolutionary war, in which he acquired considerable reputation. During the French Revolution he became commandant of the national guard at Versailles, and in this situation he exerted himself to check the excesses of the populace. During the reign of terror he served under La Fayette, and afterwards under Bonaparte, in his first Italian campaign. From this time he accompanied Napoleon in all his campaigns as chief of staff; for which position he was eminently fitted, though as a general his talents were not above mediocrity. In 1803 he married a Bavarian princess. In 1805 he was created a marshal of the empire, grand huntsman of the empire, and chief of the first cohort of the Legion of Honor. In 1806 he became Prince of Neufchâtel, and in 1809 Prince of Wagram. In 1810 he officiated as Napoleon's proxy in the marriage of Maria Louisa. On the restoration of Louis XVIII. he accepted the situation of captain of one of the companies of the gardes-du-corps. On the return of Napoleon he retired to Bamberg, where, on the 20th of March, 1815, he died by falling from a window, from which he was surveying the entrance of the Russian troops into the town. His death is enveloped in mystery, as it has been asserted by some that he was thrown from the window by force, though it does not appear that there is any sufficient authority for that supposition.

Berthier, a N.W. co. of prov. of Quebec, on the St. Lawrence. *Area*, 9,500 sq. m. It is watered by the Assumption and other smaller rivers. Lake Maskinonge is in the N.E. part of the co. *Prod.* Flax, oats, and tobacco. *Cap.* Berthier-en-Haut. *Pop.* 19,804.

Berthier-en-Bas, or BELLECHASSE DE BERTHIER, a post-vill. of prov. of Quebec, co. of Bellechasse, on the right bank of the St. Lawrence, 24 m. S.W. of Quebec.

Berthier-en-Haut, a post-vill. of prov. of Quebec, co. Berthier, on the N. bank of the St. Lawrence, abt. 55 m. N.E. of Montreal.

Berthollet, CLAUDE LOUIS, (*bair'tol-ai,*) COUNT, one of the most eminent chemists of his age, was B. in Savoy, 1748, and studied medicine at Turin. He afterwards settled in Paris, where he became intimate with Lavoisier, was admitted a member of the Academy of Sciences, and made a professor at the normal school. He accompanied Napoleon to Egypt; and, during the Empire, was made a senator and an officer of the Legion of Honor; but he was one of the first to desert his patron, when his fortunes were on the decline; and he received the title of Count from Louis XVIII. His principal work is *Essai de Statique Chimique*, 1803; but he wrote many other valuable essays, and also had a large share in the reformation of chemical nomenclature. D. 1822.

Berthollet'ia, *n.* (*Bot.*) A genus of plants, order *Lecythidaceæ*, so named in honor of Berthollet, *q. v.* The only species known is *B. excelsa*, a tree 100 to 120 feet high, forming large forests on the banks of the Oronoko. Its stem does not branch till near the top, whence its boughs hang down in a graceful manner. Its leaves are undivided, arranged alternately upon the branches, about two feet long, and five or six inches wide, of a brilliant green. Its flowers are yellowish-white, with a calyx having a deciduous border, divided into two pieces, a corolla of six unequal petals joined together at the base, and a very great number of white stamens joined into a thick fleshy ring. The fruit, chiefly known in the trade as *Brazil-nut*, also under the name of *Castanha*, *Juvia*, *Paranut*, *Almendron*, &c., is a spherical case, as big as a man's head, with four cells, in each of which are six or eight nuts; its shell is rugged and furrowed, and covered with a rind of a green color. The nuts are irregularly triangular bodies, having a hard shell, which is very much wrinkled, and which is fixed to a central placenta by their lower end; their seed is a firm almond, of a pure white color, yielding a quantity of oil well suited for lamps; but the kernels are chiefly exported as articles of food. They are delicious when quite fresh, but are very apt to become rancid.

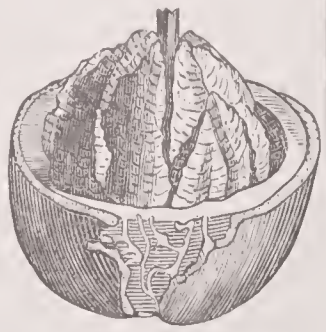


Fig. 347. — BRAZIL NUT.

Bert'houd, or BERGDORF, a town of Switzerland, cant. Berne, on the Emmen, 13 m. N.E. of Berne. In the castle here, Pestalozzi laid the foundation of his educational system. *B.* is the depôt for the celebrated Emmenthal cheese. *Pop.* 4,675.

Ber'tie, in *N. Carolina*, a N.E. co., at the W. extremity of Albemarle Sound; bounded E. by the Chowan, and S. by the Roanoke River, and drained by Cashie River; *area*, about 900 sq. m.; surface nearly level; soil fertile; cap. Windsor.

Bertino'ro, a town of Central Italy, prov. Forli, 7 m. S.E. of the latter town, on the railway from Bologna to Ancona. Excellent wines are produced in its environs. *Pop.* 6,615.

Ber'tram, in *Iowa*, a post-township of Linn co., 18 m. S.W. of Cairo.

Bertrand, HENRI, COUNT, (*bēr-tron',*) a distinguished French general, and the companion in exile of Napoleon I., B. 1770. He would have earned a bright name on the page of history merely by his military achievements during the wars of the first empire, were not those achievements cast comparatively into the shade by the steadfast fidelity with which he clung to Napoleon — aiding that great soldier to gain some of his most splendid victories, covering him when in retreat and peril, as after the murderous affair of Hanau; following him in his exile to Elba; returning with him to share all the perils of Waterloo, and, finally, the long martyrdom of St. Helena. After the death of Napoleon, *B.* returned to France, and was wisely restored to all his dignities by Louis XVIII. In 1830, he was appointed commander of the Polytechnic School; and took part, in 1840, in the expedition which brought back the remains of Napoleon to France. D. 1844.

Bertrand du Guesclin. See DUGUESCLIN.

Bertrand', in *Michigan*, a post-village and township of Berrien co., on St. Joseph's River, 14 m. S.S.E. of Berrien.

Bertrand', in *Missouri*, a village of Mississippi co., 18 m. S.W. of Cairo.

Bertrand Prairie, in *Louisiana*, a post-office of Winn parish.

Ber'tying, *n.* (*Naut.*) The rising up of a ship's sides.

Bervic, CHARLES CLEMENT BALVAY, (*bair'vec,*) a French engraver, B. at Paris, 1756. His best engravings are: *The Laocoon; Education of Achilles; Rape of Dejanira;* and, above all, the full-length engraving of Louis XVI. from the picture by Callet, one of the finest works of the kind ever produced. D. 1822.

Ber'ville, in *Michigan*, a post-office of St. Clair co.

Ber'wick, JAMES FITZJAMES, Duke of, (*ber'rik,*) B. 1670, was a natural son of James II., king of England, and Arabella Churchill, sister of the Duke of Marlborough. His first military service was under Charles, Duke of Lorraine, in Hungary, and he was present at the siege of Buda, and the battle of Mohacz. He was created Duke of Berwick in 1687; accompanied James II. to France, at the Revolution, served under him in Ireland, and was at the battle of the Boyne. He became lieutenant-general in the French army, was naturalized in France, afterwards commanded in Spain, and by the victory of Almanza secured the throne to Philip V. He especially distinguished himself by the defence of Provence and Dauphiny in 1709, against the superior forces of the Duke of Savoy, which has always been regarded as a triumph of strategic skill. He was killed at the siege of Philipsburg, in 1734. He left memoirs of his own life.

Ber'wick, a maritime county of Scotland, having N. and N.E. Haddingtonshire and the German Ocean, S.E., S., and W. the English border, and the counties of Roxburgh and Edinburgh. *Area*, 302,951 acres. Farming is carried on here in the most prosperous and improved manner; agriculture monopolizing the entire industry of this wealthy county. It is watered by the Tweed, and other rivers. *Cap.* Greenlaw. *Pop.* 36,474.

Ber'wick-upon-Tweed, a fortified town and seaport of Great Britain, situated between England and Scotland, and belonging to neither, — forming, as it is called, the "town and county of Berwick-upon-Tweed," — lies on the N. bank of the Tweed, 47 m. E.S.E. of Edinburgh. It is a fine, well-built, and ancient town, possessing an extensive commerce, and much engaged in the fisheries. *B.* was for centuries an object of contention between the English and the Scots, each people by turns occupying and possessing it, until the accession of James I. to the English throne.

Ber'wick, in *Illinois*, a flourishing post-village and township of Warren county, about 15 m. S.S.W. of Galesburg.

Ber'wick, in *Louisiana*, a village of St. Mary's parish, on the W. bank of the Atchafalaya, 80 m. W. by S. of New Orleans.

Ber'wick, in *Maine*, a flourishing township of York county.

Ber'wick, in *Ohio*, a village of Marion co., on the Scioto River, about 6 m. S.W. of Marion.

—A post-village of Seneca co., 9 m. S.W. of Tiffin.

Ber'wick, in *Pennsylvania*, a township of Adams county.

—A post-borough of Briar Creek township, Columbia co., on the N. branch of the Susquehanna River, 95 m. N.N.E. of Harrisburg. Iron and coal ores are abundant in the neighborhood.

—A borough in the above township, also known under the name of ABBOTTSTOWN, its post-office.

Ber'yl, *n.* [Gr. *beryllion;* Lat. *beryllus;* probably from O. Heb. *bahar*, to be pure, clear, bright.] (*Min.*) A variety of *emerald*, q. v., both being double silicates of alumina and glucina, and differing only in their coloring-matter, which is oxide of iron in the *B.*, and oxide of chromium in the emerald. It is a precious stone, sometimes yellowish, occasionally almost colorless, but more often of a greenish-blue tinge, and then called also *Aquamarina*. From its lovely color and great hardness, *B.* is much valued as a jewel, although not so much as the emerald. Its finest crystals come from Brazil and Siberia. — The opaque or common *B.* is greenish or yellowish white, and is found in N. America, in prisms 4 feet long, their planes being 5 inches in breadth. — *B.* occurs chiefly in veins that traverse granite or gneiss, or is imbedded in granite.

Ber'ylline, *a.* Like a beryl; of a light or bluish green.
Beryl'lium, *n.* See GLUCINUM.
Berze'lia, in *Georgia*, a post-village of Columbia co., 20 m. W. of Augusta.
Berzelius, JOHANN JAKOB, BARON, (*ber-ze'le-us.*) one of the greatest chemists of modern times, B. 1779, in Ostgothland, Sweden, where his father kept a village-school. After graduating at Upsal, in 1804, he repaired to Stockholm, where he became an assistant to Sparrmann, who had accompanied Captain Cook in one of his voyages around the world; and at his death, in 1806, he succeeded him in the chair of Chemistry, which he continued to fill for forty-two years. His patient labors and ingenious investigations have done more to lay the foundations of organic chemistry than those of any other chemist. To him pre-eminently belongs the honor of applying the great principles which had been established by Dalton, Davy, Gay-Lussac, and himself, in inorganic chemistry, to the study of the laws which regulate the combinations forming the structures of the animal and vegetable kingdoms; and of thus opening the way for the discoveries of Mulder, Liebig, Dumas, and others. To him, chemistry is indebted for the discovery of several new elementary bodies, more especially selenium, thorium, and cerium; and to his skill as a manipulator may be traced many of the analytical processes at present in use. All the scientific societies of the world contended for the honor of enrolling his name among their members. D. 1848.
Besançon (*bai-sang'sawng,*) a town of France, cap. of the dep. Doubs, on the river of the same name, 45 m. E. of Dijon. The town is very strongly fortified, and is one of the bulwarks of France on the side of Switzerland. *B.* is generally well built, but the streets are narrow and gloomy. It is the seat of an archbishopric. Watch-making is the most important branch of industry. In 1875 *B.* turned out 419,984, and in 1876, 455,968 watches. *B.* is very ancient. It was laid waste by Attila, and has since undergone many vicissitudes. It came, along with Franche Comté, into the possession of France in 1674.
Besayle', *n.* [Nor. Fr. *besayle;* W. Fr. *bisaïeul.* — See AYLE.] A great-grandfather. — (*Eng. Law.*) A writ, now abolished, which lay where a great-grandfather died, seized of land, and on the day of his death, a stranger abated or entered and kept the heir out.
Bescrawl', *v. a.* To scrawl or scribble over. (o.)
Bescreen', *v. a.* To cover with a screen; to shelter; to conceal.

"What man art thou, that, thus *bescreen'd* in night,
So stumblest on my counsel." — *Shaks.*

Bescrib'ble, *v. a.* [*be* and *scribble.*] To scribble over.
Beseech', *v. a.,* (*imp.* and *pp.* BESOUGHT.) [A.S. *be,* and *secan,* to seek.] To seek from; to ask or pray with urgency; to entreat; to implore.

"I, in the anguish of my heart, *beseech* you
To quit the dreadful purpose of your soul." — *Addison.*

—To beg; to petition; to solicit; to ask.

"Before I come to them, I *beseech* your patience." — *Bishop Sprat.*

Beseech'er, *n.* A person who beseeches.
Beseech'ingly, *adv.* In a beseeching manner.
Beseech'ment, *n.* Act of earnestly entreating or beseeching.
Beseem', *v. a.* [Ger. *ziemen, geziemen,* to be suited, to behoove; Swed. and Goth. *sœma,* to become.] To become; to be fit; to be fitting for; to be worthy of, or decent for.

"What form of speech, or behaviour, *beseemeth* us in our prayers to Almighty God?" — *Hooker.*

Beseem'ing, *n.* Fitness; handsomeness.
—*a.* Appropriate; fit; handsome.

"Verona's ancient citizens
Cast by their brave *beseeming* ornaments." — *Shaks.*

Beseem'ingly, *adv.* In a beseeming manner.
Beseeming'ness, *n.* Act or quality of being beseeming.
Beseem'ly, *a.* Suitable; becoming; fit; orderly.
Beset', *v. a.* (*pret.* and *pp.* BESET.) [A.S. *besettan* — *be* for *by,* and *settan,* to set or place.] To set upon; to surround.
—To blockade, besiege, waylay, hem in.

"And therefore hated, therefore so *beset,*
For daring single to be just." — *Milton.*

—To entangle; to embarrass; to perplex; to press on all sides, without any means of escape.

"Draw forth thy weapon, we're *beset* with thieves." — *Shaks.*

Beset'ment, *n.* The state or condition of being beset. (R.)
Beset'ting, *v. a.* Surrounding; besieging; waylaying; entangling, without probable means of escape; pressing upon; as, a *besetting* foible.
Beshrew', *v. a.* To wish a curse to.

"Nay, quoth the Cock, but I *beshrew* us both,
If I believe a saint upon his oath." — *Dryden.*

Beshrouded, *a.* Shrouded; covered with a shroud.
Beside', Besides', *prep.* By or at the side of; near.

"The sweetest thing that ever grew
Beside a human door." — *Wordsworth.*

—Out of the straight course or order; out of; not according to.

"It is *beside* my present business to enlarge upon this speculation." — *Locke.*

—Over and above; distinct from. (Generally written *besides.*)

"Doubtless, in man there is a nature found,
Beside the senses, and above them far." — *Davies.*

—*adv.* By the side of; placed at the side of; in addition to; moreover; over and above; except; not included in the number.

"*Besides,* you know not, while you here attend,
Th' unworthy fate of your unhappy friend." — *Dryden.*

Besiege', *v. a.* To lay siege to; to surround with armed forces; to beset; to invest; to hem in.

"The queen . . . intends here to *besiege* you in your castle." *Shaks.*

Besiege'ment, *n.* State of being besieged.
Besieger, (*be-sē'jur,*) *n.* One who lays siege to; one employed in a siege.

"There is hardly a town taken, in the common forms, where the *besiegers* have not the worst of the bargain." — *Swift.*

Besieg'ingly, *adv.* In a besieging manner.
Beslab'ber, *v. a.* Same as BESLAVER.
Beslav'er, *v. a.* To defile or cover with slaver; to beslabber.
Beslob'ber, Beslub'ber, *v. a.* [*be* and *slobber, slubber.*] To soil, daub, or smear with spittle or saliva. (Used in a vulgar sense.)
Besmear', *v. a.* To smear over; to bedaub; to coat or overspread with anything greasy, adhesive, or dirty; to soil.

"Her gushing blood the pavement all *besmear'd.*" — *Dryden.*

Besmear'er, *n.* One who besmears.
Besmoke', *v. a.* [*be* and *smoke.*] To foul with smoke. — To harden or dry in smoke.
Besmut', *v. a.* [A. S. *besmytan.*] To blacken or befoul with soot.
Besnow', *v. a.* To cover with snow; to make white as with snow.
Besnuff', *v. a.* To render unclean by snuff-taking.
Besom, (*bē'zom,*) *n.* [A.S. *besm, besma,* pl. *besman,* rods, twigs; O. Ger. *besamo;* Ger. *besen.*] A bundle or brush of twigs or rushes bound together for sweeping; a broom.

"A proud young fellow came to him for a *besom* upon trust."
Bacon.

—*v. a.* To sweep or brush, as with a besom.
Be'somer, *n.* A person who uses a besom.
Besort', *v. a.* [*be* and *sort.*] To suit; to fit; to become.

"Such men as may *besort* your age,
And know themselves and you" — *Shaks.*

Besot', *v. a.* To make sottish; to infatuate; to stupefy; to make dull or senseless.

"Or fools *besotted* with their crimes,
That know not how to shift betimes." — *Hudibras.*

—To make; to doat on. (R.)

"Paris, you speak
Like one *besotted* on your sweet delights." — *Shaks.*

Besot'tedly, *adv.* In a foolish or besotted manner.
Besot'tedness, *n.* Infatuation; foolishness.
Besot'tingly, *adv.* In an infatuated or besotted manner.
Besought', *pp.* of BESEECH, *q. v.*
Bespangle, (*bē-spang'gl,*) *v. a.* To adorn with spangles; to dot or sprinkle with something brilliant or shining.

"Not Berenice's locks first rose so bright,
The heav'ns *bespangling* with dishevell'd light." — *Pope.*

Bespat'ter, *v. a.* To spatter over; to soil with mud, filth, &c.

"His weapons are the same which women and children use: a pin to scratch, and a squirt to *bespatter.*" — *Swift.*

—To asperse with calumny or reproach.

"Fair Britain, in the monarch blest
Whom never faction could *bespatter.*" — *Swift.*

Bespawl', *v. a.* [*be* and *spawl.*] To daub or soil with spittle.
Bespeak', *v. a.* (*imp.* BESPOKE; *pp.* BESPOKE, BESPOKEN.) To speak, utter, show, or declare; to address.

"At length with indignation thus he broke
His awful silence, and the powers *bespoke.*" — *Dryden.*

—To speak for, order, or engage beforehand.

"Here is the cap your worship did *bespeak.*" — *Shaks.*

—To indicate or show beforehand; to forebode.

"They started fears, *bespoke* dangers, and form'd ominous prognostics in order to scare the allies." — *Swift.*

—To betoken; to show; to indicate by outward appearance.

"He has dispatch'd me hence,
With orders that *bespeak* a mind compos'd." — *Addison.*

Bespeak', *n.* A term used to signify a special performance in a theatre for the benefit of one of the company; as, "Miss Snivellici's *bespeak.*" — *Dickens.*
Bespeak'er, *n.* One who bespeaks.
Bespeckle, (*bē-speck'l,*) *v. a.* To mark with speckles or spots.
Bespew', *v. a.* To daub with spew or vomit.
Bespice', *v. a.* To season with spices.

"Thou might'st *bespice* a cup,
To give mine enemy a lasting wink." — *Shaks.*

Bespirt', Bespurt', *v. a.* To spirt over. (o.)
Bespit', *v. a.* [*be* and *spit.*] To daub with spittle.
Bespoke', *imp.* and *pp.* of BESPEAK, *q. v.*
Bespot', *v. a.* To mark with spots.
Bespread', *v. a.* To spread over; to cover over.

"His nuptial bed,
With curious needles wrought, and painted flowers *bespread.*"
Dryden.

Besprent', *p.a.* [O. Eng. *besprengyd.*] Sprinkled over.

"What gentle ghost, *besprent* with April dew,
Hails me so solemnly to yonder yew?" — *Ben Jonson.*

Besprin'kle, *v. a.* To sprinkle over; to scatter over.

"A purple flood
The bed *besprinkles,* and bedews the ground." — *Dryden.*

Besprink'ler, *n.* One who, or that which, sprinkles over.
Besprink'lings, *n. pl.* Sprinklings of any liquid.
Bessarabia, (*bes'sa-rai'be-a.*) or EASTERN MOLDAVIA, the most S.W. part of Russia in Europe, having E. the Dniester, S. the Black Sea and the Danube, W. the Pruth, and N. Galicia. Lat. between 44° 45′ and 48° 40′ N., and Lon. between 26° 95′ and 30° 30′ E.; *area,* 18,018 sq. m. The N. is somewhat mountainous and well-wooded, but the S. consists of plains, in many places sandy and arid, in others marshy and productive. Large crops of wheat, barley, and millet are produced. Hemp, flax, and tobacco are also extensively cultivated, and grazing is largely practised; indeed, the breeding of cattle and the exportation of hemp, hides, and tallow, constitute the chief branches of industry. *Towns,* Akerman, Bender, Kishenau, and Ismail. *Pop.* 1,025,346. In 1878, under the Berlin treaty (*q. v.*), a part of *B.* which was lost to Russia in 1856 was restored.
Bessa'rion, JOHN, B. at Trebizond, 1390, one of the most eminent restorers of learning in the 15th century, and founder of the noble library of St. Mark, at Venice, was a monk of the Order of St. Basil. He was drawn from his monastery in the Peloponnesus, where he had passed 20 years, to accompany the emperor John Palæologus to the great council of Florence, where he effected, 1439, a union of short duration between the Greek and Roman churches. He was made a cardinal by Pope Eugenius, and had afterwards the title of Patriarch of Constantinople given him by Pius II. He spent the last 30 years of his life at Rome, devoting himself to the promotion of literature, and discharging several important embassies. An admirer of Plato, he wrote a work in defence of the Platonic philosophy in answer to George of Trebizond. D. 1472.
Bes'sel, FRIEDRICH WILHELM, one of the most eminent German astronomers, B. at Minden, 1784. In 1810, he became director of an observatory erected by the king of Prussia at Königsberg. Here he pursued his labors uninterruptedly, and in 1818 produced his *Fundamental Astronomiæ,* a work which struck the greatest philosophers with admiration, and placed his reputation on the highest pinnacle of scientific renown. He produced many other works, and was elected a member of most of the celebrated learned societies of the world. D. 1846.
Bessemer. See IRON, STEEL.
Bessières, JEAN BAPTISTE, (*bes se-air,*) Marshal of France, and Duke of Istria, B. in Languedoc, 1768. He first served in the Constitutional Guard of Louis XVI.; distinguished himself in the Italian campaign of 1796, especially at Roveredo and Rivoli, and became from that time the intimate friend of Napoleon. He accompanied him to Egypt, contributed to the victory of Marengo, was created marshal in 1804, and soon after Duke of Istria. He overthrew the Russian imperial guards at Austerlitz, and took part in the battles of Jena and Eylau. He served in Spain, in the campaign of Wagram, and in the expedition to Russia. He was killed by a shot while making a reconnoissance of the field of Lützen, the day before the battle, May, 1813.
Best, *a.* [A.S. *betest, betst,* from *bet,* better; Goth. *batista, batists,* most useful.] First in regard to value or usefulness; having good qualities in the highest degree; exceeding or excelling all; as, he is the *best* man.

"When the *best* things are not possible the *best* may be made of those that are. — *Hooker.*

—Most advanced; most complete.

"For pointed satire I would Buckhurst choose,
The *best* good man with the worst-natured muse,"
Earl of Rochester.

Best, *n.* The utmost; the highest endeavor; as, to do one's *best.*

"Who does the *best* his circumstances allow,
Does well, acts nobly; angels could no more." — *Young.*

At best. In the utmost applicable degree to any particular case.

"My friend, said he, our sport is *at* the *best.*" — *Addison.*

To make the best of. To carry anything to its greatest fruition or perfection; to improve to the utmost; as, *to make the best of* a bad job.

"Aluaschar, in order *to make the best of* it, laid it out in glasses." — *Addison.*

Best, *adv.* In the highest degree; beyond all others; superlatively; as, to like one *best.*

"He shall dwell in that place where he shall choose, in one of thy gates, where it liketh him *best.*" — *Deut.* xxiii. 16.

—To the most advantage; with the greatest success.

"He *best* can paint them, who shall feel them most." — *Pope.*

—Most particularly; most thoroughly; as, the *best*-known man.

Best is often used in composition, forming a compound word.

'The Christian religion discovers itself to be the most generous and *best-natured* institution that ever was in the world.' *Tillotson.*

Bestain', *v. a.* To mark with stains; to spot.

"We will not line his thin *bestained* cloak
With our pure honors." — *Shaks.*

Bestead', *v. a.* (*imp.* and *pp.* BESTEAD.) To stead, or fill the place of; to stand in the stead of; to assist; to serve; to profit.

"Hence, vain deluding joys! . . .
How little you *bestead,*
Or fill the fixed mind with all your toys!" — *Milton.*

Best evidence, (*Law.*) means the best evidence of which the nature of the case admits, not the highest or strongest evidence which the nature of the thing to be proved admits of; *e. g.* a copy of a deed is not the best evidence; the deed itself is better.
Bes'tial, *a.* [Lat. *bestialis,* from *bestia,* a beast.] Belonging to a beast, or to the class of beasts.

"His wild, disordered walk, his haggard eyes,
Did all the *bestial* citizens surprise." — *Dryden.*

—Brutish; beastly; vile; low; depraved; sensual.

"I have lost the immortal part of myself, and
What remains is *bestial.*" — *Shaks.*

Bestial'ity, *n.* [Fr. *bestialité.*] The quality or nature of beasts; beastliness.

"What can be a greater absurdity than to affirm *bestiality* to be the essence of humanity." — *Arbuthnot.*

—Unnatural commerce with a beast.

Bestialize, *v. a.* To make a beast of; to brutalize.
Bestially, *adv.* Brutally; in a manner below humanity.
Bestiarii, (*bes-te-air'e-e,*) *n. pl.* [Lat.] (*Hist.*) Among the Romans, men who fought with wild beasts in the games of the circus. They were either persons who fought for the sake of pay, (*auctoramentum,*) and who were allowed arms, or they were criminals, who were usually permitted to have no means of defence against the wild beasts.
Bestick', *v. a.* (*imp.* and *pp.* BESTUCK.) To stick over as with sharp points.

"Truth shall retire,
Bestuck with slaud'rous darts and works of faith
Rarely to be found." — *Milton.*

Bestir', *v. a.* To stir up; to put into brisk or vigorous action; to move with life and vigor. (Generally with reciprocal pronoun.)

"But, as a dog that turns the spit,
Bestirs himself, and plies his feet." — *Hudibras.*

Bestorm', *v. a.* To overtake with a storm.
Bestorm', *v. a.* To agitate; to toss about; to rage.
Bestow', *v. a.* [A.S. *be,* and *stow,* a place; Frisian, *sto,* a principal place.] To set, lay, or place; to lay up; to deposit for safety.

"And when he came to the Tower, he took them from their hand, and *bestowed* them in the house." — 2 *Kings* v. 24.

—To apply; to make use of; to dispose of.

"Otherwise the whole force of the war would infallibly have been *bestowed* there." — *Swift.*

—To give; to confer;—used generally with *on* or *upon.*

"But his nature was such as to *bestow* it *upon* himself."—*Sidney.*

—To give in marriage.

"I could have *bestowed* her upon a fine gentleman, who extremely admired her." — *Tatler.*

Bestow'age, *n.* Stowage. (R.)
Bestowal, (*be-sto'al,*) *n.* Act of bestowing; disposing.
Bestow'er, *n.* One who bestows; a giver; a disposer.
Bestow'ment, *n.* Act of bestowing; bestowal.
—Donation; that which is bestowed.
Bestrad'dle, *v. a.* [*be* and *straddle.*] To bestride.
Bestraught, (*be-strawt',*) *a.* Distracted; mad; out of one's senses.

"What! I am not *bestraught."* —*Shaks.*

Bestrew, (*be-stro',*) *v. a.* (*imp.* BESTREWED; *pp.* BESTREWED, BESTROWN.) To strew or strow; to scatter over; to besprinkle.

"So thick *bestrewn,*
Abject and lost lay these, covering the flood." — *Milton.*

Bestride', *v. a.* (*imp.* BESTRID or BESTRODE; *pp.* BESTRID, BESTRIDDEN.) To stride or step over; to place a leg on each side of something; to ride upon.

"The bounding steed you pompously *bestride,*
Shares with his lord the pleasure and the pride." — *Pope.*

—To step over; as, to *bestride* the threshold of a house.

"Than when I first my wedded mistress saw
Bestride my threshold." — *Shaks.*

Bestrode', *imp.* of BESTRIDE, *q. v.*
Bestrown', *imp.* of BESTREW, *q. v.*
Bestuck', *imp.* of BESTICK, *q. v.*
Bestud', *v. a.* To set with studs; to adorn with bosses.

"And so *bestud* with stars, that they below
Would grow inur'd to light." — *Milton.*

Bet, (*bĕt,*) *n.* [A. S. *bad,* a pledge; *badian,* to give or take a pledge.] A pledge; a wager; that which is laid, staked, or pledged in a contest.

"His pride was in piquet,
Newmarket fame, and judgment at a *bet."* — *Pope.*

—*v. a.* [A. S. *badian.*] To give a pledge; to lay a bet, or wager.

"Complained and sigh'd, and cry'd, and fretted,
Lost every earthly thing he *betted."* — *Pope.*

Bet. The old *imp.* of BEAT. (Now obsolete or vulgar.)
Be'ta, *n.* [Lat., from Celt. *bett,* red.] (*Bot.*) A genus of plants, ord. *Chenopodiaceæ.* DIAG. Calyx 5-sepalled; sta. 5; styles 2, very short, erect, with acute stigmas; seed reniform, imbedded in the fleshy calyx; stems furrowed; leaves alternate; flowers glomerate, green, in spikes or paniculate racemes. — Four species are cultivated as esculents; the others are mere weeds. We shall only occupy ourselves with the former. 1. *Beta vulgaris* (Common beet) is said to be found in a wild state in S. Europe; it is however chiefly known as a plant cultivated in gardens, for its carrot-like sweet and tender roots. Several sorts are mentioned, varying in the size, form, color, and sweetness of their roots: of these, however, two are much more worth cultivating than the others, namely, the *small red* and *long yellow* varieties; they are the most delicate, the sweetest, and have the richest color when served at table. Beet-roots can only be obtained in perfection in a rich, light, sandy soil, through which they can readily penetrate; in stony or stiff situations the roots become forked, and are deprived of their succulence. The seeds are sown in drills or in beds, at the end of March or beginning of April, and are to be well covered with soil; the plants are to be thinned to the distance of a foot apart; in Sept., the roots may be taken up, and should be packed in sand, in some dry place out of the reach of frost. In this country, beet is chiefly employed as an ingredient in salads. — 2. *Beta altissima* (Mangel-wurzel) is a much larger and coarser plant than the common beet, from which it is principally known by its roots being marked internally with zones of red and pink or white. Its native country is unknown; by some it is reckoned a mere variety of the common beet, but this is scarcely probable, considering that it is permanently reproduced from seed. Mangel-wurzel is an object of extensive cultivation for feeding cattle; its leaves afford a very nutritious food for all kinds of live-stock, and the roots, from their extreme sweetness, are by many farmers considered the most valuable of all the agricultural plants upon which cattle are fed in winter. They, however, require to be preserved from frost, and are better adapted to warm climates and a light rich soil than to colder latitudes. In cultivating the mangel-wurzel, it will be found advantageous to soak the seeds in water till they are just beginning to germinate, and then to sow them, taking care that they are speedily covered in with soil; for, from the bony nature of the seeds, it will often happen that they will lie some weeks in the soil before they begin to grow, by which valuable time is lost; or that they will fail altogether, especially if the weather should be dry, as it often is at the time of sowing, which is the middle of May. —

Fig. 348. — BEET-ROOT.

3. *Beta cycla* (Chard-beet) is inferior to the two last in the size of its roots, but is remarkable for the thickness of the ribs of its leaves, which are white, yellow, green, orange-colored, or deep crimson, in different varieties. It is cultivated like the common beet, but the leaves only are used in soups, or their ribs are cut out and stewed like sea-kail. They have however an earthy taste, which it is not in the power of cookery wholly to remove, on which account they are little esteemed. The French call this species *Poirée à cardes;* it is said to have been introduced into France from Portugal; but its native station is unknown. —4. *Beta maritima* (Sea-beet), unlike the three last, is a prostrate plant, with numerous entangled branches, and a tough woody root. It is a common European shore-plant, preferring a chalky soil. Its leaves are small, ovate, deep green, crenelled, rather sharp-pointed, flat, succulent, and placed on long stalks. Its flowers are green and arranged in spikes, each being subtended by a small leafy bract. It is a perennial, and one of the most valuable plants known as a substitute for spinach; its leaves when dressed are extremely delicate and well-flavored, and easily reduced into that pulpy substance which constitutes the great merit of good spinach. It thrives in a garden without any sort of care, and is rather a handsome plant when growing among rubbish, for its leaves are of a particularly rich green, and not liable to be scorched by the sun, or to be injured much by insects. It is increased by seeds, which it yields in abundance. — The beet, principally *B. vulgaris,* yields sugar equal to that of the cane; of this species, the purple-leaved is the most esteemed for the kitchen, and the green-leaved for extracting sugar. As a source of sugar, the *B.* is cultivated on a large scale in many parts of the world; and it is believed that upwards of 400,000,000 lbs. of beet-root sugar are annually produced in Europe, and chiefly in France. The cultivation of the *B.* for sugar purposes should be of great importance in our country, as evidenced by the high prices of sugar-cane since the beginning of the Cuban war. This interesting matter will be further examined under SUGAR.
Betake', *v. a.* (*imp.* BETOOK; *pp.* BETAKEN.) [Swed. and Goth. *betaga; be,* and *taga,* to take.] To take to; to commit to; to resort; to have recourse to; to apply. (Used with the reciprocal pronoun.)

"But when *ourselves* to action we *betake,*
It shuns the mint, like gold that chymists make." — *Dryden.*

Betak'en, *pp.* of BETAKE, *q. v.*
Betel, (*bē-tl.*) [Fr. *bétel;* Sp. *betle, betel brete;* Pg. *betel, bethel, betelhe;* Malabar, *beetla-eodi.*] A narcotic masticatory, used by the Malays and other Eastern races, not only for chewing, but for the object of dyeing the teeth black, and imparting a deep red to the lips — colors regarded as a mark of beauty and distinction, especially by the females. The mode of preparing this morsel for use is very simple. A small quantity of lime as large as a pea is placed on a piece of betel-nut, or fruit of the *Areca catechu,* (see ARECA,) and enclosed in a leaf of *siri,* or betel-pepper. (See CHAVICA.) The roll is taken between the thumb and fore-finger, and rubbed violently against the front gums, while the teeth are closed firmly, and the lips opened widely. It is now chewed for a moment, and then held between the teeth and lips so as to partly protrude from the mouth. A profusion of red, brick-colored saliva now pours out of each corner of the mouth, while the man is exerting himself at his oar, or hurrying along under a heavy load. When he is rich enough to enjoy tobacco, a small piece of that luxury is held with the siri between the lips and teeth. The leaf-tobacco is cut so fine that it exactly resembles the "fine-cut" of civilized lands; and long threads of the fibrous, oaknm-like substance are always seen hanging out of the mouths of the natives, and completing their disgusting appearance. This revolting habit prevails not only among the men, but also among the women; and whenever a number meet to gossip, as in other countries, a box containing the necessary articles is always seen close at hand, and a tall, urn-shaped spittoon of brass is either in the midst of the circle, or passing from one to another, that each may free her mouth from surplus saliva. Whenever one native calls on another, or a stranger is received from abroad, invariably the first article that is offered him is the siri box. — The narcotic effects of this masticatory have not been experimentally investigated by travellers. To one not accustomed to betel-chewing, the nut is powerfully astringent in the mouth and throat, while the quicklime often removes the skin and deadens the sense of taste. After a while it causes great giddiness. On those accustomed to use it, however, the *B.* produces sweet, continuous and sustained exhilarating effects; and that these are of a most agreeable kind, may be inferred from the very extended area over which the practice of betel-chewing prevails.
Betel'geuse, (*-je-uze,*) *n.* (*Astron.*) A star of the 1st mag. 7½° E. of Bellatrin, on the E. shoulder of the constellation Orion. It comes to the meridian on the 21st of January.
Be'tel-nut, *n.* The nut of the *Areca catechu.* — See ARECA, and BETEL.
Beth. [Heb.: Ar. *beit,* house.] In Scripture, this word forms a part of many compound names of places, and sometimes means *the place* or *dwelling;* and at others, *the temple.*
Beth'alto, in *Illinois,* a post-village of Madison co., 10 m. E. of Alton.
Betha'nia, in *North Carolina,* a post-village of Forsyth co.
Bethany, (*beth'a-ne.*) (*Anc. Geog.*) A village on the eastern slope of Mt. Olivet, 2 m. E.S.E. of Jerusalem, and on the road towards Jericho. It was often visited by Christ, (Matt. xxi. 17; Mark xi. 1, 12; Luke xix. 29.) Here Martha and Mary dwelt, and Lazarus was raised from the dead, (John xi.) Here Mary anointed the Lord against the day of his burying (John xii.); and from the midst of his disciples, near this village which he loved, he ascended to heaven, (Matt. xxiv. 50.) Its modern name, Aziriyeh, is derived from Lazarus. It is a poor village of some twenty families.
Beth'any, in *Connecticut,* a post-township of New Haven co., 8 m. N. by W. of New Haven.
Bethany, in *Georgia,* a village of Greene co., 35 m. N. by E. of Milledgeville.
—A village of Jefferson co.
Bethany, in *Indiana,* a village of Bartholomew co., 3 m. W. of Columbus,
Bethany, in *Illinois,* a village of Christian co., 20 m. S.E. of Springfield.
Bethany, in *Michigan,* a township in the N. part of Gratiot co.
—A township of Branch county, about 60 miles north of Adrian.
Bethany, in *Missouri,* a village of Clay co., 15 m. N.N.E. of Liberty.
—A post-village, cap. of Harrison co., 155 m. N.W. of Jefferson City.
Bethany, in *New York,* a township of Genesee co., 240 m. N. by W. of Albany.
—A post-village of *B.* township, Genesee co., abt. 35 m. S.W. of Rochester.
Bethany, in *Ohio,* a post-village of Butler co., 20 m. N.N.E. of Cincinnati.
Bethany, in *Pennsylvania,* a post-borough of Dyberry township, Wayne county, 3 miles north of Honesdale.
Bethany, in *S. Carolina,* a village of York district, about 10 m. N.N.W. of Yorkville.
Bethany, in *West Virginia,* a post-village of Brooke co., on Buffalo Creek, 7 m. from the Ohio River, and 16 m. N.E. of Wheeling.
Bethany Church, in *North Carolina,* a village of Iredell co.
Bethaven, (*beth-ai've.n.*) (*Anc. Geog.*) A plain and desert near Bethel on the E. (Josh. vii. 12; xviii. 12.) It seems to be reproachfully used at times for Bethel itself, after the golden calves were there set up; Bethel meaning the *house of God,* and *B.,* the *house of sin.*
Beth Eden, in *South Carolina,* a village of Newberry district.
Beth'el. [Heb., house of God.] (*Anc. Geog.*) A city W. of Hai, on the confines of the tribes of Ephraim and Benjamin, and occupying the spot where Jacob slept and had his memorable dream, (Judges i. 23.) Thirty years after, he again pitched his tent there. Here the ark of the covenant, and probably the tabernacle, long remained. After Solomon, it became a seat of gross idolatry,—Jeroboam choosing it as the place for one of his golden calves, from the sacredness previously attached to it, (1 Kin. xii. 29.) The prophets were charged with messages against *B.* The first of these was fulfilled by Josiah; and the others in the later desolation of *B.,* where nothing but ruins can now be found. Its site was identified by Dr. Robinson, in the place now called Beitin, 20 m. from Jerusalem, towards Shechem.
Beth'el, *n.* A name given in England to a dissenting chapel.
—In England and U. States, a place of worship appointed for seamen.
Beth'el, in *Alabama,* a P. O. of Wilcox co.
Beth'el, in *Connecticut,* a post-village and township of Fairfield county, about 25 miles north-west of New Haven.
Beth'el, in *Georgia,* a post-village of Glynn co., on Turtle River, about 70 m. S.S.W. of Savannah.
Beth'el, in *Illinois,* a post-village of Morgan co., 48 m. W. of Springfield.
—A township of McDonough co.
Beth'el, in *Indiana,* a thriving township of Posey county.
—A post-village of Wayne co.
Beth'el, in *Iowa,* a post-village of Fayette co., about 48 m. W. of the Mississippi River.
Beth'el, in *Kentucky,* a post-village of Bath co.
Beth'el, in *Maine,* a post-township of Oxford county, on the Androscoggin River, 70 miles N.N.W. of Portland.

Beth'el, in *Michigan*, a post township of Branch county.
—A township of St. Clair co.
Beth'el, in *Minnesota*, a post-township of Anoka county.
Beth'el, in *Missouri*, a post-village of Shelby co., on the N. Fork of North River.
Beth'el, in *New York*, a post-village and township of Sullivan co., 120 m. S.S.W. of Albany.
Beth'el, in *Ohio*, a township in Clark co.
—A post-village in Tate township, Clermont co., 33 m. S.E. of Clermont.
—A township of Miami co.
—A township of Monroe co.
Beth'el, in *Oregon*, a post-village of Polk co., 12 m. N.E. of Dallas.
Beth'el, in *Pennsylvania*, a post-township of Berks co., 35 m. N.E. of Harrisburg.
—A township of Delaware co.
—A township of Fulton co.
—A township of Lebanon co.
Beth'el, in *Tennessee*, a post-office of Giles co.
Beth'el, in *Texas*, a post-office of Anderson co.
Beth'el, in *Vermont*, a post-township of Windsor co., 35 m. S. of Montpelier, and 39 N. of Windsor. This place in an inexhaustible quarry of soapstone.
Beth'el, in *W. Virginia*, a p.-vill. of Mercer co.
Beth'el College. See MAC LEMORESVILLE.
Beth'el Corners, in *New York*, a post-office of Cayuga co.
Beth'el Springs, in *Tennessee*, a P. O. of McNairy co.
Beth'encourt, JEAN DE, (*bai'ten-koor,*) a Norman baron, who was chamberlain to Charles VI., king of France, and being ruined in the war with England, sought to repair his fortunes in foreign countries, and made a descent from Spain on the Canary Isles, in 1402. Not having sufficient force, however, he returned, and obtained reinforcements from Henry III. of Castile, with which he was successful, and was crowned king in 1404, under the title of Louis. He converted the greater portion of the Canaries to Christianity, and in 1405 received from the Pope the appointment of bishop to the islands. The following year he went to Normandy, where he passed the remainder of his days. D. 1425.
Bethesda, (*be-thez'da,*) a mineral spring, or pool, of Judea, without the gates of Jerusalem, on the E. side of the city, and below the rock of the Temple. The word signifies a *house of mercy*, from the cures said to be effected, in diseases of all natures, by the bathers in its solitary waters. The pool, or, more properly, the walled tank, was surrounded by 5 alcoves or porticoes, in which the patients undressed and waited for the favorable hour to immerse themselves. This auspicious time, according to the Evangelists, was when an unseen angel entered the water, and imparted celestial virtue to the fluid, when the water was thrown into commotion; and the sooner advantage could be taken of this sudden agitation, the more potent was the medicinal effect on the patient, the water being inoperative when at rest, or stagnate in the reservoir. This phenomenon was caused unquestionably by the periodical rise of the spring; and as the water was no doubt a chalybeate, from the red ochre, or powder, said to be precipitated, the spring would be naturally stronger and more beneficial when fresh from its mineral bed, and before the atmosphere had time to precipitate its medicinal virtues. (*John* v. 2.) It is now dry, and used as a depôt for dirt and rubbish.
Bethes'da, in *Ohio*, a post-office of Belmont co.
Bethes'da, in *Penn.*, a vill. of Lancaster co.
Bethes'da, in *Tenn.*, a vill. of Williamson co.
Bethink', *v. a.* (*imp.* and *pp.* BETHOUGHT.) To call to mind; to bring to recollection. (Generally accompanied with the reciprocal pronoun.)

"I have *bethought* me of another fault."—*Shaks.*

—*v. i.* To think upon; to consider; to recollect.

"And make him *bethink* himself, whether this attempt be worth the venture."—*Locke.*

Bethlehem, (*beth'le-hem.*) (*Anc. Geog.*) A small city of Judea, about 6 m. S. of Jerusalem, at the foot of a

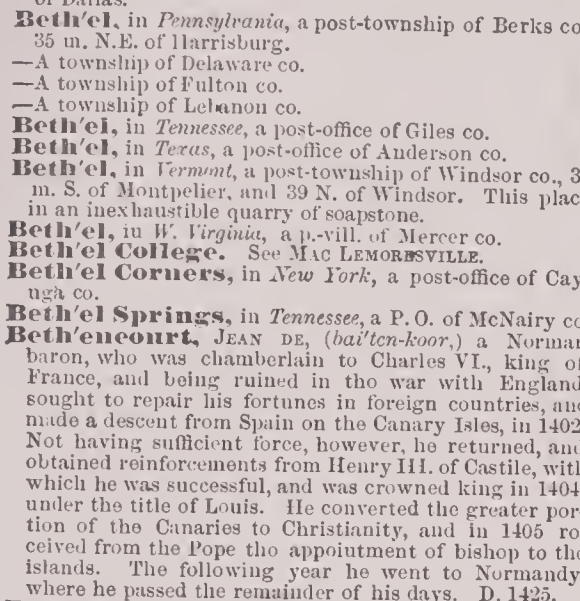


Fig. 349.—BETHLEHEM.

hill covered with vines and olives, and about five or six miles south-east of Jerusalem. It was here that David and Christ were born, and, as the place of the NATIVITY, no part of Palestine is so fraught with interest to the devotee or tourist than a spot so divinely sacred. The present *B.* has about 300 houses, and a population of 2,500 Greeks, Armenians, and Turks, the former chiefly employed in the manufacture of rosaries, crucifixes, and beads. Every part of the neighborhood, where fancy or tradition can mark the footsteps of the Saviour, has been covered with a shrine, oratory, or cell, though the great architectural feature is the magnificent church, built by the Empress Helena, over the spot said to be the actual site of the birthplace. The edifice is in the form of a cross, and bears the name of the founder. In a rich grotto, adorned with silver, and hung with crystal lamps always burning, a silver star, with the words *Hic de Virgine Maria Jesus Christ natus est*, marks the spot of the nativity. The manger stands in a low recess cut in the rock, a few feet from this star. The church is subdivided among the Latins, Greeks, and Armenians, each community having a separate portion of the edifice for devotional purposes.
Beth'lehem, in *Connecticut*, a post-village of Litchfield co., 30 m. N.W. of New Haven.
Beth'lehem, in *Indiana*, a post-village and township of Clark county, on the Ohio river, 18 m. below Madison.
—A township of Cass co.
—A village of Hamilton co., abt. 15 m. N. of Indianapolis.
Beth'lehem, in *Iowa*, a P. O. of Wayne co.
Beth'lehem, in *Maryland*, a P. O. of Caroline co.
Beth'lehem, in *New Hampshire*, a post-town of Grafton co., 75 m. N. by E. of Concord.
Beth'lehem, in *New Jersey*, a post-township of Hunterdon co., 13 m. N.W. of Flemington.
Beth'lehem, in *New York*, a township of Albany co., on the Hudson River, 5 m. S. of Albany.
Beth'lehem, in *Ohio*, a township of Coshocton county.
—A village and township of Stark co., 60 m. S. by E. of Cleveland.
Beth'lehem, in *Pennsylvania*, a township of Northampton co., 7 m. W. by S. of Easton.
—A thriving manuf. borough in the above township, on the Lehigh river, 51 m. N. of Philadelphia. *B.* was founded in 1741 by the Moravians, who have there a fine church, a large seminary, and other buildings. *Pop.* in 1890, 6,762; in 1897, abt. 7,500. See SOUTH BETHLEHEM.
Beth'lehemites, Beth'lehemite, *n.* An insane person; a lunatic.—See BEDLAMITE.
—*pl.* (*Eccl. Hist.*) An order of monks who flourished in the 13th century. They were also styled *Star-bearers*, from their wearing a red star of five rays, with a blue circle in the middle, on their breast, in memory of the star which appeared to the wise men. They established themselves in England in 1257.—Another order bearing this name was instituted at Guatemala, Central America, in 1660. They attended the sick in hospitals. Innocent XI. confirmed the order in 1687, and ordered the brethren to follow the rule of St. Augustine.
Beth'nal Green, an eastern division of London, in Middlesex, including Victoria Park.
Bethought', *pret.* and *pp.* of BETHINK, *q. v.*
Beth-Pe'or. (*Anc. Geog.*) A town of Moab, infamous for the worship of Baal-peor. In the adjacent valley Moses rehearsed the law to Israel, and was buried.
Bethsai'da, [Heb., place of fishing.] (*Anc. Geog.*) A city in Galilee, on the W. shore of the lake of Genesareth. It was the birthplace of the apostles Philip, Andrew, and Peter, and was often visited by Christ.—Another, *B.* of Gaulonitis, N. of the same lake, and E. of the Jordan. Near this place, Christ fed the five thousand. This town, enlarged and called *Julias* by the tetrarch Philip, is now little but ruins.
Bethshe'an, Beth'shan. (*Anc. Geog.*) A town, more generally known by the name of Scythopolis, which was situated 2 m. W. of the Jordan, at the extremity of the valley of Jezreel, an arm of the great plain of Esdrælon, running down from it to the valley

Fig. 350.—BETHSHEAN.

of the Jordan in a S.E. direction. It stood on the brow, just where the former valley drops down by a rather steep descent to the level of the latter. *B.* was assigned to Manasseh, though not at once subdued, (*Josh.* xvii. 11–16.) The dead body of Saul was fastened to its walls. (1 *Sam.* xxxi. 10-12; 2 *Sam.* xxi. 12.) The place is now called Beisan, and is about 24 m. S. of Tiberias. The present village contains 70 or 80 miserable houses. The ruins of the ancient city are of considerable extent, along the banks of the rivulet which ran by it, and on the side of the valley; bespeaking it to have been nearly 3 m. in circuit.
Bethshe'mesh, [Heb., "house of the sun."] (*Anc. Geog.*) A city of Judah, 15 m. W. of Jerusalem, chiefly memorable for a battle between Judah and Israel, in which Amaziah was defeated. (2 *Kin.* xiv. 12–14.)
Bethump', *v. a.* [*be* and *thump.*] To belabor or cudgel soundly.

"I was never so *bethumpt* with words,
Since first I call'd my brother's father dad."—*Shaks.*

Bethune, (*bai-toon',*) a fortified town of France, dep. Pas de Calais, on a rock, at the foot of which is the Brette, 18 m. N.N.W. of Arras; *pop.* 8,611.
Betide', *v. n.* (*imp.* BETID or BETIDED; *pp.* BETID.) [A. S. *tidan*, from *tid*, time, season.] To happen to; to befall to; to bechance to; to come to.

"Said he then to the palmer, reverend sire,
What great misfortune hath *betid* this knight."—*Spenser.*

—To come to pass; to happen.

"Let me hear from thee in letters
Of thy success in love; and what news else
Betideth here in absence of thy friend."—*Shaks.*

Betime', Betimes', *adv.* By the time; seasonably; in good season or time.

"Send succours, lords, and stop the rage *betime.*"—*Shaks.*

—Early; soon; in a short time.

"Short is the date, alas! of modern rhymes;
And 'tis but just to let them live *betimes.*"—*Pope.*

Bet'lis, or **Bit'lis,** a town of Turkish Armenia, 18 m. W. from the W. extremity of Lake Van. Lat. 38° 35′ N.; Lon. 42° 50′ E. *Pop.* 15,000.
Beto'ken, *v. a.* [A. S. *betœcan.* See TOKEN.] To show or signify by a token or sign; to signify.

"Ceremonies fit to *betoken* such intents."—*Hooker.*

—To foreshow; to portend; to presage; indicative of something about to happen.

"The kindling azure, and the mountain's brow
Illum'd with fluid gold, his near approach
Betoken glad."—*Thomson.*

Beton, (*be-tŏng',*) *n.* [Fr. *béton*; Lat. *bitumen*, fossil tar.] (*Masonry.*) The French concrete, composed by first mixing the proper proportions of lime and sand, either by hand or by a pug-mill, in the same manner as for ordinary mortar.
Beto'nica, BETONY, *n.* [Fr. *bétoine.*] (*Bot.*) A genus of plants, order *Lamiaceæ.* There are 2 species, the flowers and leaves of which were formerly employed in medicine. They have been abandoned as having little or no virtue.
Betook', *imp.* of BETAKE, *q. v.*
Betorn', *a.* Torn or rent to pieces.
Betoss', *v. a.* To toss about; to agitate violently; to make commotion.

"What said my man, when my *betossed* soul
Did not attend him as we rode?"—*Shaks.*

Betrap', *v. a.* To ensnare; to entice into a trap.
—To clothe, deck, or caparison with trappings.
Betray', *v. a.* [*be*, and Lat. *tradere*; It. *tradire*; Fr. *trahir.*] To deliver up by treachery or fraud; to surrender by breach of trust.

"'Tis an old tale and often told,
Of maiden true *betrayed* for gold."—*Sir Walter Scott.*

—To violate confidence; to treacherously injure.

"How, wouldst thou again *betray* me?"—*Milton.*

—To disclose or reveal treacherously, clandestinely, or in breach of trust.

"Be swift to hear, but be cautious of your tongue, lest you *betray* your ignorance.—*Watts.*

—To mislead; to render liable to inconvenience.

"His abilities created him great confidence; and this was like enough to *betray* him to great errors."—*King Charles* I.

—To indicate; to show what would rather be concealed.

"Nor, after length of years, a stone *betray*
The place where once the very ruins lay."—*Addison.*

—To fail in regard to reliance placed upon; as, the legs of a drunken man *betray* him.
Betray'al, *n.* Act of betraying; treachery.
Betray'er, *n.* One who betrays; a traitor.

"They are only a few *betrayers* of their country."—*Swift.*

Betray'ment, *n.* Betrayal; act of betraying.
Betrim', *v. a.* [*be* and *trim.*] To deck; to decorate; to dress; to place in order; to embellish.

"Thy banks with pionied and twilled brims
Which spongy April at thy best *betrims.*"—*Shaks.*

Betroth', *v. a.* [*be* and *troth.*] To pledge the troth or truth to; to affiance; to vow or promise to be true and faithful.

"By soul's public promise she
Was sold then, and *betroth'd* to Victory."—*Cowley.*

—To espouse; to contract with a view to marriage.

"And what man is there that hath *betrothed* a wife, and hath not taken her?"—*Deut.* xx. 7.

—To nominate to a bishopric, in order to consecration.

"If any person be consecrated a bishop to that church, whereunto he was not before *betrothed*, he shall not receive the habit of consecration."—*Ayliffe.*

Betroth'al, *n.* Act of betrothing; betrothment.
Betroth'ment, *n.* (*Law.*) A contract between a man and a woman, by which they agree that at a future time they will marry together. The contract must be mutual; the promise of the one must be the consideration for the promise of the other. It must be obligatory on both parties at the same instant, so that each may have an action upon it, or it will bind neither. Either party may

call upon the other to fulfil the engagement, and, in case of refusal or neglect to do so within a reasonable time after request made, may treat the *B.* as at an end, and bring action for the breach of the contract. For a breach of the *B.* without a just cause, an action on the case may be maintained by either party for the recovery of damages.

Betrust', *v. a.* To entrust; to put into the confidence of another. (R.)

"Whatsoever you would *betrust* to your memory, let it be disposed in a proper method."—*Watts.*

Betrust'ment, *n.* Act of entrusting.

Bet'sey Lake, in *Michigan*, a post-office of Grand Traverse co.

Bet'so, *n.* [It. *pezzo*, a piece of money.] The smallest Venetian money; its value is about a farthing.

Bet'ter, *a., comp.* of *good.* [A. S. *bet*, more, better; *betere, betera*, better.] Having good qualities in a greater degree than another; as, that is a *better* style.

"The *better* part of valour is discretion."—*Shaks.*

—Superior; preferable, in regard to fitness, convenience, rank, &c.

"*Better* fifty years of Europe than a cycle of Cathay."—*Tennyson.*

—Improved in health; recovering from sickness; as, the fever has left him, and he is much *better.*

To be better off. To be in improved or better condition.

Bet'ter, *n.* Superiority; advantage; (usually preceding *of.*)

"The gentleman had so much the *better of* the satirist."—*Prior.*

—Improvement; higher excellence.

"The Corinthians that morning, as the days before, had the *better.*"—*Sir P. Sidney.*

—A superior; as, he has more arrogance than his *betters.* (Nearly always used in the plural.)

Bet'ter, *adv., comp.* of *well.* In a more excellent manner; with greater success; as, *better* late than never.

—More correctly, or fitly.

"The *better* to understand the extent of our knowledge, one thing is to be observed."—*Locke.*

—More; in a higher degree; as, she loves him *better* than me.

Bet'ter, *v. a.* [A. S. *beterian, betrian*, from *bet, betera.*] To make better; to improve; to ameliorate; to benefit; to correct; to repair; to amend; to advance.

"With well-tim'd zeal, and with an artful care,
Restor'd and *better'd* soon the nice affair."—*Cowley.*

Bet'ter, *n.* One who bets. See BETTOR.

Bet'tering, *n.* [A. S. *betrung.*] Act of improving; improvement.

Bet'terment, *n.* A making better; improvement.

(*Law.*) Improvement made to an estate, which renders it better than mere repairs. The term is also applied to denote the additional value which an estate acquires in consequence of some public improvement, as laying out or widening a street, &c.

Bet'termost, *a.* Best. (R.)

Bet'ting, *n.* The laying of a wager. See GAMING.

Bettini, DOMENICO, (*bet-te'ne,*) an Italian painter, B. at Florence, 1644, was pupil of Mario de Fiori, and almost equalled his master. He was the first to group flowers and fruits in landscapes, instead of drawing them detached, as was previously the style. D. 1705.

Betton'gia, *n.* (*Zoöl.*) A genus of kangaroos.

Bet'tor, *n.* One who bets or lays a wager.

Betts'ville, in *Ohio*, a post-village of Liberty township, Seneca co., 48 m. W.S.W. of Sandusky city.

Bet'ty, *n.* (A cant word.) An instrument used by thieves to break open doors.

—[It. *bocetta.*] A Florence flask, or pear-shaped bottle, wound around with straw, and used to hold olive-oil.

Bet'ula, *n.* [Lat., from Celt., birch.] (*Bot.*) The birch, a genus of trees or shrubs, order *Betulaceæ.* The genus is characterized by its flowers growing in catkins, the scales of which are thin and three-lobed, and by the scales subtending three flat fruits, each furnished with two styles, and expanded into a thin wing on either side; these fruits are what are vulgarly called birch-seeds. The species are, with one exception, found beyond the tropic in the northern hemisphere; the species of the southern hemisphere is a little evergreen plant called *B. antarctica*, of which little is recorded except that it inhabits Terra del Fuego. Among the American species, the most remarkable, and at the same time the most valuable of the genus, is *B. papyracea*, the paper or canoe birch. (See *Fig.* 102.) It grows in great quantities between Lat. 43° and 73° N., and often acquires the height of 70 feet. Its wood is sometimes used in North America for cabinet-makers' work; but it is not of much value for exposure to weather, as it soon decays if subjected alternately to damp and dryness. Its bark is the part which is the most esteemed; this part is said to be so durable that old fallen trees are stated to be frequently found with their form so well preserved that one would think them perfectly sound, but upon examining them it is found that the whole of the wood is rotted away, and nothing is left but the sound and solid case of bark. This part is used for a number of useful purposes; log-houses are sometimes thatched with it; little boxes, cases, &c., and even hats, are manufactured from it; but its great value is for making canoes. For the purpose of obtaining pieces sufficiently large for such a purpose, the largest and smoothest-barked trees are selected; in the spring, two circular incisions at the distance of several feet are made, and a longitudinal incision on each side; then, by introducing a wedge of wood between the trunk and bark, the latter is easily detached. With threads prepared from the fibrous roots of the white spruce fir (*Abies alba*), the pieces of bark are sewn together, over a light frame-work of wood, and the seams are caulked with the resin of the balm of Gilead fir. Canoes of this sort are so light as to be easily transported upon the shoulders of men. It is said that one capable of carrying four persons and their baggage, only weighs from forty to fifty pounds. Several varieties are found in the plantations of this country; they differ principally in the breadth and downy character of the

Fig. 351.— BLACK OR MAHOGANY BIRCH, (*Betula lenta.*)
1. Inside of a barren scale with the anthers detached.
2. Inside of a fertile scale, with the ovaries attached.
3. Inside of a scale with their ripe fruits.
4. A ripe fruit, natural size.
5. The same magnified.
6. A transverse section of the same.

leaves, and in the hairiness of the branches. The true *B. papyracea* has branches and leaves with scarcely any hairs; the variety *B trichoclada* has extremely hairy branches and heart-shaped leaves: and that called *B. platyphylla* has very broad leaves. *B. lenta*, the black or mahogany birch, has catkins short, erect; branches quite smooth; leaves thin, cordate, oblong, tapering to a point; stipules very large and membranous. None of our birches produce timber so valuable as this. Its wood is hard, close-grained, and of a reddish brown. It is abundant in the Middle States, as in New York, New Jersey, and Pennsylvania, but more to the south it only appears on the summits of the Alleghanies. Deep rich soil is what it profers; and when it attains its greatest dimensions, which are as much as seventy feet of height and three of diameter, it is a handsome tree, budding remarkably early in the spring, when its leaves are covered with a short thick coat of down; this disappears later in the season, and leaves them of a bright and lively green. — Among the European species, *B. alba*, the common birch, the most beautiful of the European forest-trees, grows, under favorable circumstances, to the height of 60 to 70 feet. Tho leaves are small, of an ovate-triangular shape, and doubly serrated. The bark is smooth and silvery white, and the outer layers are thrown off as the trunk increases in diameter.

Betulaceæ, (*bet-u-lai'se-e.*) (*Bot.*) The Birch worts, an order of plants, alliance *Amentales.* — DIAG. A two-celled ovary, a solitary pendulous ovule, and a superior radicle. — This order contains but 56 species in the two genera, *Alnus* and *Betula*, q. v.

Bet'uline, *n.* (*Chem.*) A resin contained in the bark of the black birch, *Betula nigra.*

Betu'tor, *v. a.* To instruct. (R).

Bet'wah, a river of India that has its source in Lat. 23° 14′ N., and Lon. 77° 22′ E., and joins the Jumna in Lat. 25° 57′ N., and Lon. 80° 17′ E., at abt. 30 m. E.S.E. of Calpee.

Between, (*bē-twēn',*) *prep.* [A. S. *betweonan, betwynan*, from *be* and *twegen*, two.] In the intermediate space; betwixt. — In the middle of. — From one to another. — Bearing relation to two. — Belonging to two.

"Castor and Pollux with only one soul *between* them." — *Locke.*

—Noting difference of one from the other.

"Children quickly distinguish *between* what is required from them, and what not." — *Locke.*

Between-decks, *n.* (*Naut.*) The space contained between any two whole decks of a ship.

Betwit', *v. a.* To taunt; to twit.

Betwixt, (*bē-twikst',*) *prep.* [A.S. *betwyx, betwyxt*, from *be*, and *twegen*, two.] It has the same signification with BETWEEN, and is indifferently used for it.

Beu'dantite, *n.* (*Min.*) A hydrous silicate of lead and peroxide of iron with phosphate of peroxide of iron. It occurs in small black and brown rhombohedrons in the district of Nassau on the Rhine. Named after Beudant, a French mineralogist.

Beu'lah, in *N. Ca.*, a twp. of Johnson co.

Beust, FRIEDRICH FERDINAND, BARON VON, B. in Dresden, Jan. 13, 1809, studied at Göttingen and Leipzig, and entered the Foreign Office. After holding the post of Assessor of Land-survey, in 1832, he spent between two and three years in visiting Switzerland, France, and England. He became Secretary of the Saxon Legation at Berlin in 1836, occupied the same post at Paris in 1838, was Chargé d'Affaires at Munich in 1841, in London in 1846, and Ambassador to the Court of Berlin in 1848; Minister of Foreign Affairs for Saxony in Feb., 1849, receiving the portfolio for Agriculture in the following May. He took a prominent part in the discussions preceding the treaty of 1852, and in 1853 became Minister of the Interior, when he resigned his post as Minister of Agriculture. On the breaking out of the Danish war, in 1863, Baron Von Beust distinguished himself by his fidelity to Federal interests, and by a rebuke he administered to Lord Russell in answer to a despatch from the latter. He represented the Germanic Diet at the London Conference of 1864, during the continuance of which he twice visited Paris to confer with the Emperor Napoleon, whose guest he was afterwards at Fontainebleau. After the war between Austria and Prussia, Baron Von Beust was made Minister of the Household by the Emperor of Austria, Nov. 14, 1866, and President of the Council on the retirement of Count Belcredi, Feb. 4, 1867. The Emperor of Austria, acting under *B.*'s advice, made great concessions to Hungary, besides important reforms in the administration of the empire. Appointed minister to England, Dec. 1871. D. 1886.

Bev'an's, in *New Jersey*, a post-village of Sussex co.

Bev'el, *n.* [Fr. *buvean;* Ger. *bügel*, from *biegen*, to bend, to bend into a curve or angle.] (*Arch.*) An instrument for taking angles. One side of a solid body is said to be bevelled with respect to another when the angle contained between their two sides is greater or less than a right angle. The term *splay* is nearly synonymous with *B.;* but it is applied to openings which have their vertical sides sloped for the purpose of enlarging the aperture. — This name is also given to the instrument with which carpenters and masons work surfaces which are required to slope at the same angle. In its simplest form it is a piece of wood, with a thin plate of steel working in a groove at one end, so that it may form any angle with the wood less than two right angles.

(*Her.*) Applied to a chief, open or broken, like a carpenter's rule.

—*v. a.* To cut or form to a bevel angle.

—*v. n.* To slant, or incline off to a bevel angle.

Bev'el Angle, *n.* A term used among artificers to denote an angle which is neither a right angle nor half a right angle.

Bev'el-gear, *n.* (*Mech.*) A species of wheel-work, in which the axles of two wheels working into each other are neither parallel nor perpendicular, but inclined to one another in a certain angle. Wheels of this kind are also called *conical wheels*, because their teeth may be regarded as cut in the frustum of a cone. — See WHEEL.

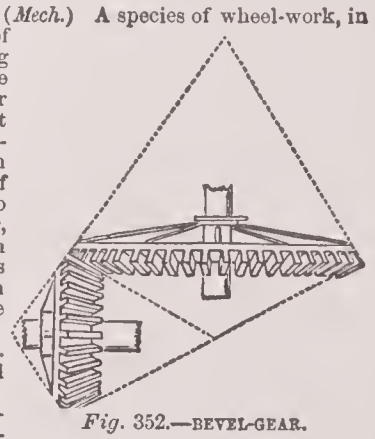


Fig. 352.—BEVEL-GEAR.

Bev'elled, *p. a.* Formed to a bevel angle.

Bev'elling, *n.* — (*Naut.*) In ship-building, the winding of a timber, &c., agreeably to directions given from the mould-loft.

Bev'erage, *n.* [It. *beveraggio*, from *bevere*, from Lat. *bibere*, to drink; Fr. *breuvage*, from O. Fr. *beuvrage.*] Any liquor for drinking; a DRINK, *q. v.*

Bev'erley, a town of England, in the East Riding of Yorkshire, 8 m. from Hull; *pop.* 10,226.

Bev'erly, in *Illinois*, a post-village and township of Adams co., abt. 3 m. E.S.E. of Quincy, situated in a rich farming district.

Bev'erly, in *Kentucky*, a P. O. of Christian co.

Beverly, in *Massachusetts*, a flourishing post-town of Essex co., on an inlet of Ann Harbor, opposite Salem, with which it is connected by a bridge, 16 m. N.N.E. of Boston.

Bev'erly, in *New Jersey*, a thriving city of Burlington co., on the Delaware river, 15 m. above Philadelphia. Steamboats between Philadelphia and Burlington touch at this place. *Pop.* in 1897, about 2,200.

Beverly, in *Ohio*, a post-village of Washington co., on the Muskingum River, 30 m. above Marietta, and 60 below Zanesville.

Beverly, in *W. Virginia*, a post-village, capital of Randolph co., in Tygart's Valley River.

Beverly Farms, in *Massachusetts*, a P. O. of Essex co.

Be'vier, in *Missouri*, a post-village of Macon co., 75 m. W. of Hannibal, and 5 W. of Macon city.

Bev'ile, *n.* (*Her.*) See BEVEL.

Bev'ilport, in *Texas*, a village of Jasper co., on the Angelina River, about 7 m. W. of Jasper, the co. seat.

Bev'is Tavern, in *Ohio*, a post-office of Hamilton co.

Bev'y, *n.* [Etymol. uncertain.] A flock of birds, particularly of quails. — A company, or assembly, especially of females.

"Nor rode the nymph alone;
Around a *bevy* of bright damsels shone." — *Pope.*

Bewail, (*bē-wāl',*) *v. a.* To utter a wail of distress for; to bemoan; to lament; to express deep sorrow for.

"Yet wise Enaius gave command to all
His friends, not to *bewail* his funeral." — *Denham.*

—*v. n.* To utter or express deep grief.

Bewail'able, *a.* Lamentable.

Bewail'er, *n.* One who bewails.

Bewail'ing, *n.* Lamentation.

Bewail'ment, *n.* Act of bewailing; lamentation; grief.

Beware, (*be-wār'*,) *v. n.* [A.S. *bewerian, bewarian,* from *be,* and *warian,* to guard against; Sw. and Goth. *bewara,* to guard.] To guard one's self from; to guard against; to avoid; to take care of; to regard with caution. — It is observable that this verb, occurring chiefly in the imperative mood, is not declinable, and is only used in such forms of speech as admit the word *be;* thus we say, *he may beware, let him beware, he will beware;* but not, *he did beware,* or, *he has been beware.*

Bewdley, (*bude'le,*) a town of England, in Worcestershire, on the Severn, 14 m. from Worcester.

Beweep', *v. a.* [A. S. *bewepan,* to bewail.] To weep over; to lament. (R.)

Bewhis'per, *v. n.* To whisper. (R.)

Bewhore', *v. a.* To corrupt with regard to chastity. (R.) — To pronounce to be a whore.

Bewil'der, *v. a.* [Ger. *verwildern;* Du. *verwilderen.*] To lead or bring into the state of one in a wild or wilderness, who knows not his way; to confuse; to puzzle; to perplex.

"It is good sometimes to lose and *bewilder* ourselves in such studies." — *Watts.*

Bewil'deredness, *n.* The state of being bewildered.

Bewil'deringly, *adv.* In a perplexing manner.

Bewil'derment, *n.* State of being bewildered, or act of bewildering.

Bewitch, (*bē-wich',*) *v. a.* To affect by witchcraft, fascination, or charms.

"Look how I am *bewitch'd;* behold, mine arm
Is like a blasted sapling withered up." — *Shaks.*

—To enchant; to fascinate; to charm; to overpower by charms.

"The charms of poetry our souls *bewitch.*" — *Dryden.*

Bewitched', *p. a.* Fascinated; charmed.

Bewitch'edness, *n.* State of being bewitched.

Bewitch'er, *n.* One who bewitches.

Bewitch'ery, *n.* Fascination; charm; resistless attraction.

Bewitch'ing, *n.* The act of enchanting or fascinating. —*a.* That has power to bewitch or fascinate; that has power to control by the acts of pleasing.

Bewitch'ingly, *adv.* In a fascinating manner.

Bewitch'ingness, *n.* Quality of being bewitching.

Bewitch'ment, *n.* Power of bewitching or charming; state of being bewitched; fascination.

Be'wits, *n. pl.* (*Falconry.*) Straps of leather by which bells are fastened to a hawk's legs.

Bew'leyville, in *Kentucky,* a township of Breckinridge co.

Bewray, (*be-rā',*) *v. a.* [A. S. *be,* and *wregan,* to accuse; Icel. *rægia;* Fris. *wrogia, wreia.*] To point out; to discover perfidiously. (R.)

Bex'ar, in *Georgia,* a village of Corveta co., 120 m. W. N.W. from Milledgeville.

Bex'ar, in *Texas,* a S.E. central co., once consisting of an immense territory, but afterward subdivided. *Area,* 1,180 sq. m. *Surface,* somewhat diversified, and fairly well watered by numerous creeks and smaller streams. *Soil,* fertile, near the streams, and suited for stock raising. *Products,* cotton, corn, millet, pecans, wool, butter, vegetables, fruits, hides, and cattle. *Cap.* San Antonio, an old Spanish settlement, but now a prosperous city and R.R. center. *Pop.* (1898) 61,250.

Bey, (*bā,*) *n.* [Turk. *beg.*] A Turkish and Tartar title of dignity, used with no very accurate application for prince, lord, or chief, and frequently subjoined to the proper names of persons of rank.

Beylic, (*bā'lik,*) *n.* A province governed by a bey.

Beyond', *prep.* [A. S. *begeond, begeondan.*] Before; at a distance not yet reached.

"What's fame? a fancy'd life in others breath,
A thing *beyond* us, even before our death:
Just what you hear, you have."—*Pope.*

—On the farther side of; as, *beyond* sea. — Farther onward than.

"He that sees a dark and shady grove,
Stays not, but looks *beyond* it on the sky."—*Herbert.*

—Part; out of the reach of.

"This is matter of fact, and *beyond* all dispute."—*Bentley.*

—Above; proceeding to a greater degree than

"His expenses are *beyond* his income."—*Locke.*

—Above in excellence.

"His satires are incomparably *beyond* Juvenal's."—*Dryden.*

—Remote from; not within the sphere of.

"With equal mind, that happens, let us bear;
Nor joy, nor grieve, too much for things *beyond* our care."
Dryden.

To be beyond, to deceive; to circumvent.

—*adv.* At a distance; yonder.

"Lo! where *beyond* he lieth, langulshing."—*Spenser.*

Beyond Sea. (*Law.*) In England, a term signifying out of the kingdom. The courts of Pennsylvania have decided that the phrase means *out of the U. States.* — In the various statutes of limitation, the term *Out of the State* is now generally used.

Beyra, or BEIRA, (*bai-ē'ra,*) a province of Portugal, bounded on the N. by the province of Tras-los-Montes and Entre-Duero-e-Minho, on the E. by Spain, on the S. by Portuguese Estremadura and Alentejo, and on the W. by the Atlantic. Lat. between 39° 30′ and 41° 30′ N.; Lon. between 6° 40′ and 9° 50′ W. *Area,* 5,817 sq. m. *Desc.* Mountainous in general; and, where fertility exists, wheat, barley, and rye are extensively cultivated. Its honey is in great repute, and the valley of Mondego produces fine oranges, lemons, figs, and other fruits. The inhabitants, however, are mostly employed in agriculture, and immense numbers of cattle, sheep, and swine are pastured. — *Rivers.* The Douro in the N., Tagus in the S., the Aguada in the N.E., and the Mondego in the centre. *Towns.* Coimbra (cap.), Ovar, Oveiro, and Lamego. *Pop.* 1,277,244.

Beyrout', BEIROUT, BEIRUT, (*bī-root',*) a town and the principal seaport of Syria, on the S. side of an extensive bay open to the N., 48 m. S.S.W. of Tripoli, 19 m. N.N.W. of Sidon, and about 3 m. S. from Cape Beyrout, the

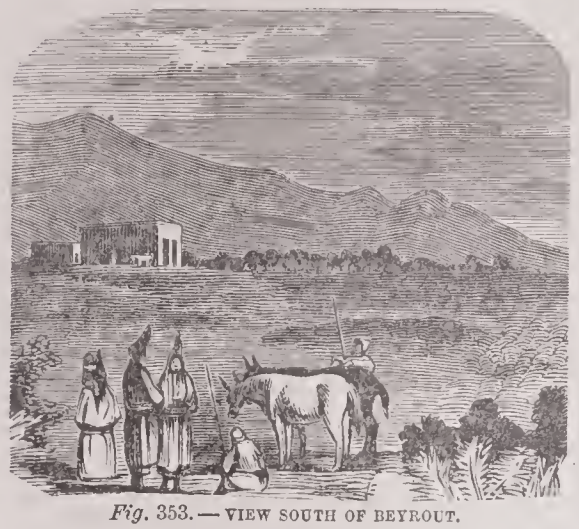


Fig. 353. — VIEW SOUTH OF BEYROUT.

latter being in Lat. 32° 49′ 45″ N., Lon. 35° 26′ E. There are here no public buildings of any especial beauty, nor are there many remains of antiquity to be seen. *B.* has no port, but there is a good anchorage ⅓ m. from the town, in 6 or 7 fathoms; and large ships may anchor a little further off in 10 or 20 fathoms. After centuries of neglect, *B.* has, in recent times, again become a place of some importance. — *Exp.* Galls, madder, gums, silk, wine, and oil. — *Imp.* Muslins, cottons, tin, hardware, cloths, and W. India produce. A plentiful supply of water from the river Nahr Beyrout, and a great number of wells, modify, in some degree, the heat of the atmosphere, and render the town much cleaner than the generality of those in the E. The neighborhood is very fertile. — *B.* is the ancient *Berytus,* a Phœnician town of great importance, and so named from the number of its wells. Though destroyed in Alexander's wars, it rose again under the Romans, and flourished greatly, till utterly destroyed by an earthquake in 551. It again rose to eminence under the Saracens, though frequently stormed by the Crusaders, and again retaken. — *B.* is famous in the Christian legends as the scene of St. George's victory over the Dragon. — *Pop.* about 70,000.

Be'za. See BÈZE.

Bez'an, *n.* (*Com.*) A cotton cloth manufactured in the E. Indies.

Bezant, (*be-zānt'.*) (*Numis.*) A gold coin struck at Byzantium, (Constantinople;) it varied in weight and in value. There were, also, white or silver *B.* — According to Camden, a piece of gold, which was anciently offered by the king of England on high festivals, was called a *bizantine,* and valued at $75,00.

(*Her.*) A circle, *or.* The name is derived from the gold coin. It was probably introduced into coat-armor by the Crusaders.

Bezant'ler, *n.* The second branch of a stag's horn.

Béze, THÉODORE DE, (*bai'zā,*) an eminent French Protestant theologian and reformer, B. at Vezelai, 1519. After studying at Orleans and Bourges, he went, in 1539, to Paris, where he spent nine years, and then went to Geneva and married a woman to whom he had long been secretly engaged. Soon afterward he was appointed professor of Greek, at Lausanne, a post which he held for ten years. In 1558, he was sent to ask the intercession of several German princes in behalf of the persecuted Huguenots in France. The next year he settled at Geneva, and was thenceforth the associate of Calvin till his death, and his successor as Professor of Theology and head of the Protestant party. *B.* undertook a mission to the King of Navarre, and succeeded in winning him to the side of the reformers. He took a leading part at the celebrated Colloquy of Poissy, and was allowed to preach in Paris. He attended the Prince of Condé during the civil war, and was at the battle of Dreux. *B.* took part in several other synods and conferences between the opposing religious parties. His wife died in 1588, and he married again in a short time. His energy and activity of mind, like his bodily health, continued unabated till he was nearly 80 years of age, and he only ceased preaching in 1600. Among his works are a Latin translation of the New Testament, and *Histoire des Eglises Reformées en France.* D. 1605.

Bez'el, or BEZIL, *n.* That part of a ring in which the stone is fixed.

Béziers, (*baiz'e-ai,*) a city of France, dep. Hérault, on a fertile hill, in a rich country, at the junction of the *Canal du Midi* with the Orb, 38 m. S.W. of Montpellier. Its situation makes it the centre of a considerable trade, but it is principally distinguished by its distilleries, which are extensive, and produce brandy little inferior to that of Coguac. In 1209, during the first crusade against the Albigenses, *B.* was besieged by the Catholic army, who, having carried it by assault, committed, at the instigation of the Pope's legate, an indiscriminate massacre of those found within its walls, whether heretics or not.

Bezoar, (*be-zor'.*) [Fr. *bézoard;* Per. *bâd-zahr,* from *bâd,* wind, and *zahr,* poison, *i. e.,* driving away poison.] A word applied to concretions found in the stomachs of various animals, and called *Bezoar-stones.* They are brittle egg-shaped masses, about the size of a small walnut, and are mostly dark olive in color. On being cut open, they present the appearance of a nucleus surrounded by concentric deposits. They occur principally in the stomachs of Oriental goats, deer, and antelopes, and were formerly looked upon as possessing supernatural properties. They were supposed to cure all diseases, and act as antidotes against every poison; and were so much sought after as to be worth ten times their weight in gold. The most valued of these was obtained from the wild goat of Persia, and was called the *Lapis Bezoar Orientalis.* They are found, more or less, in all herbivora, and sometimes occur in the stomachs of persons living much on farinaceous food. They contain lithofellic and ellagic acids.

Bezoar'dic, *n.* (*Med.*) A term applied to medicines, as antidotes, cordials, having the properties that were supposed to belong to the bezoar.

—*a.* That is composed of bezoar, or possesses its properties.

Bezoar'-goat, *n.* (*Zoöl.*) The Indian antelope.

Bezo'nian, *n.* [It. *bisogno,* need, want.] A scoundrel; a beggar. (R.)

"Under which king, *Bezonian?* speak, or die."—*Shaks.*

Bezout, (*bai'zoot,*) ETIENNE, a French mathematician, member of the Academy of Sciences, B. 1730. He wrote a course of mathematics for the use of the navy; another for the corps of artillery; a general theory of algebraic equations; and other esteemed works. D. 1783.

Bezou'tian, *n.* (*Math.*) A term applied to the *n*-ary quadric whose discriminant is the symmetrical determinant obtained by eliminating, according to Bezout's abridged method, the variable, from two binary quantics of the same degree (*n*).

Bezou'tics, *n.* (*Math.*) See ELIMINATION.

Bhadrinath, (*bad-ri-nath',*) a small town of Hindostan, prov. Kumaon, 80 m. N. of Almorah, 10,294 ft. above the level of the sea; Lat. 30° 43′ N.; Lon. 79° 39′ E. It is remarkable for a temple much venerated by the Hindoos.

Bhamo, or BAMO, a town of the Birman empire, cap. of a Shan principality, on the Irrawaddy, 180 m. N.N.E. of Ava, and 20 m. W. of the Chinese border; Lat. 24° 10′ N., Lon. 96° 45′ E. Next to Ava and Rangoon, it is the largest place in the empire, and contains 2,000 houses, mostly inhabited by Chinese. *Pop.* 30,000.

Bhang, (*bāng,*) *n.* The common Indian name for the seed-capsules and larger leaves of the native hemp, employed for making the HASHISH, *q. v.*

Bhat'gong, a city of N. Hindostan (*Nepaul*), 8 m. E.S.E. of Catmandoo; Lat. 27° 40′ N.; Lon. 85° 8′ E. Though much decayed, it is still the favorite residence of the Nepaulese brahmins.

Bhatneed', a town of Hindostan, prov. Rajpootana, cap. of the Bhatty country, 195 m. W.S.W. of Delhi; Lat. 29° 36′ N.; Lon. 74° 12′ E.

Bhaugulpore, or BOGLIPOOR, (*bog-le-poor',*) a town of British India, cap of a district of same name, on the Ganges, 104 m. N.W. of Moorshedabad; *pop.* about 30,000. The district, supposed to be inhabited by the aborigines of Hindostan, is situated between Lat. 24° and 26° N., Lon. 86° and 89° E. *Pop.* 2,019,900.

Bhooj, (*booj,*) a city of Hindostan, cap. of the prov. Cutch, 35 m. N. of the Gulf of Cutch; Lat. 23° 15′ N., Lon. 69° 52′ E. — This town is celebrated for its gold and silver works. Near it is a temple dedicated to the *Nag,* or cobra-capello. *Pop.* 20,000.

Bhopaul, or BOPAUL, (*bo-pawl',*) a state of Hindostan, tributary to the British, between Lat. 22° 30′ and 23° 30′ N., and Lon. 77° and 79° E.; *area,* 6,772 sq. m. The capital town is of the same name. The country is full of jungles, and the ruling people are Patans.

Bhurtpore, or BHURTPOOR, (*boort-poor',*) a small territory of Hindostan, under the protection of the British, with a capital of the same name, situated abt. 33 m. N. of Agra, in Lat. 27° 17′ N., and Lon. 77° 23′ E. *Area,* 1,946 sq. m. *B.* is inhabited by Jauts, who settled here about 1700 A. D.

Bi-, [Lat. *bis,* twice,] a prefix signifying two, twice, or double; as, *bi*carbonate of potash, a compound of potash with two atoms of carbonic acid; *bi*locular, two-celled; *bi*valve, two valves, &c.

Biafra, (BIGHT OF,) (*be-af'ra,*) an inlet of the Atlantic, on the W. coast of Africa, containing the islands of Fernando Po, Prince, and St. Thomas. It lies within Lon. 5° and 10° E.

Bialystok, (*be-al'e-stok.*) [Russ. *Bjelostock.*] An administrative district of Russia in Europe, formerly a part of Poland, now a part of the govt. of Grodno; Lat. between 52° and 54° N.; Lon. between 22° and 24°. *Area,* 3,436 sq. m. Forests are extensive, and agriculture is almost the only employment. *Pop.* about 260,000.

BIALYSTOK, cap. of the above territory, Lat. 53° 7′ 35″ N., Lon. 23° 15′ E., is a handsome town.

Bia'na, a town of Hindostan, prov. Agra; Lat. 25° 57′ N.; Lon. 77° 8′ E.

Bian'ca, in *Minnesota,* a post-village of Wright co., abt. 44 m. N.W. of St. Anthony.

Bianchi'ni, FRANCESCO, an Italian astronomer and antiquary, B. at Verona, 1662. He improved many astronomical instruments, and discovered the spots on the planet Venus. His principal work is *Universal History,* in Italian. D. 1729.

Bian'gular, Bian'gulate, Bian'gulated, *a.* Having two angles.

Biard, PIERRE, (*be'ar,*) a French sculptor and architect, B. at Paris, 1559. His chief work is the equestrian statue of Henry IV., placed over the great entrance to the Hôtel de Ville, Paris. D. 1609.

Biard, AUGUSTE FRANÇOIS, a French painter, B. at Lyon, 1800. After studying in the Academy of Fine Arts of

his native place, he visited Spain, Greece, Syria, and Egypt, and his sketches rapidly found their way into public collections and private galleries. Later, his love of travel led him to visit Russia, Norway, Lapland, Greenland, and Spitzbergen. *B.* was chiefly successful in the delineation of comic and burlesque groupings, always taken from life. His principal works were: *Arabs overtaken by the Simoom in the Desert; Odalisque of Smyrna; The Sequel of a Masquerade; A Skirmish of Masquers with the Police; The Family Concert; Slave Market on the Gold Coast of Africa; Combat with Polar Bears; A Ball on an English Corvette*, &c. D. 1882. His wife, from whom he separated in 1843, devoted herself to literature, and was known under the name of *Léonie d'Aunet*. She published many novels, but her best work was *Voyage d'une Femme au Spitzberg*, a narration of the journey which she took with her husband.

Biarritz (*be'ar-reetz'*), a seaside village of France, in the department of the Basses Pyrénées, 5 miles from Bayonne; *pop.* 1,928.—This place is much frequented for the sake of its baths and the beautiful scenery in its vicinity, and from its having been once the chosen marine resideuce of Napoleon III., Emperor of the French, who built a château here. Its fine sandy beach is noted along the coast.

Biartic'ulate, *a.* [Lat. *bis*, two, and *articulus*, joint.] Applied to the autennæ of insects when they consist of but two joints, and also to the abdomeu under the same circumstauces, as in the *Nycteribia biarticulata*.

Bi'as, one of the seven sages of Greece, and a native of Priene, in Ionia, celebrated for his practical knowledge and strict regard to justice. He flourished about 550 B.C., and died at a very advanced age.

Bi'as, *n.* [Fr. *biais*, a slope, from Lat. *obliquus*, oblique, slanting; It. *bieco*.] The weight lodged ou one side of a bowl, which turns it from the straight line.

> "Madam, we'll play at bowls—
> 'Twill make me think the world is full of rubs,
> And that my fortune runs against the *bias*.' —*Shaks.*

—A leaning of the mind; inclination; propensity; bent; disposition; anything which influences.

> "Morality influences men's lives, and gives a *bias* to all their actions."—*Locke.*

Bi'as, *v.a.* (*Imp.* BIASSED; *pp.* BIASSING, BIASSED.) To cause to slope; to turn out of a straight line or course; to incline to one side; to give a particular direction to the miud; to incline; to warp; to prejudice.

Bi'as, *adv.* Across; diagonally.

Biauric'ulate, *a.* [Lat. *bis*, two, and *auricula*, an auricle.] (*Anat.*) Applied, in comparative anatomy, to a heart with two auricles, as in most bivalve molluscs, and in all reptiles, birds, and mammals.

Biax'al, *a.* (*Min.*) That has two axes.

Bib, *n.* [Lat. *bibo*, to drink.] A small piece of cloth worn by infants over the breast while driuking or imbibing nourishment.

—*v.n.* To tipple: to sip; to drink frequently; as, "He was constantly *bibbing*." —*Locke.*

Biba'cious, *a.* [Lat. *bibax*, *bibacis*.] Addicted to drinking.

Bibasic, (*bī-bās'ik,*) *a.* (*Chem.*) Noting acids which require *two* equivalents of a protoxide of a base to form a neutral salt, such as the pyrophosphoric, lactaric, and malic acids.

Bibb, in *Alabama*, a central county, traversed by the Cahawba River; surface hilly; soil partly fertile. *Area*, 1,030 sq. m. Cap. Centreville.

Bibb, in *Georgia*, a central county, bounded S.W. by Echaconnee Creek, and crossed N. to S. by the Ocmulgee River; *area*, 250 sq. m.; surface hilly; soil generally poor; cap. Macon.

Bibber, (*bib'er,*) *n.* [From Lat. *bibo*, to drink.] A drinker; a tippler; a man given to drinking; as, a wine-*bibber*.

Bibbiena, (*beeb-be-ai'na,*) BERNARDO, a Roman cardinal, B. 1470. He entered the service of the Medici, and was made cardinal by Leo X., who employed him on several important missions. Aspiring to the papacy, he is said to have excited the Pope's jealousy, and is supposed to have been poisoned. Bibbiena wrote a famous comedy called *Calandra*, which is still in repute among the Italians. D. 1520.

Bibbiena, (*beeb-be-ai'na,*) GIUSEPPE DA, an Italian painter and architect. B. at Bologna, 1696. He introduced a new form into the building of theatres, and was the inventor of modern theatrical decorations. D. 1756.

Bib'ble-Bab'ble, *n.* Prating; idle talk.

Bibbs, *n. pl.* (*Naut.*) Pieces of timber bolted to the hounds of a mast, to support the trestle-trees.

Biberach, (*be'ba-rak,*) a town of Würtemberg, circ. of the Danube, in a fertile valley, on the Rics, 22 m. S.S.W. of Ulm. Near the town are the mineral waters of Jordansbad. *B.* is the birthplace of Wieland; and in 1796, the French, under Moreau, defeated the Austrians in its vicinity.

Bib'io, *n.* (*Zoöl.*) A genus of insects, sub-fam. *Bibionidæ*. They are of small size; their flight is slow and heavy: they are fouud in damp, marshy places; and some species are troublesome pests to our domestic animals.

Bibiou'idæ, *n. pl.* (*Zoöl.*) A sub-fam. of dipterous insects, distinguished from all the other Tipulidæ, by having the body and legs shorter and more robust; antennæ cylindric; and wings large.

Bibiru', *n.* (*Bot.*) See NECTANDRA.

Bib'itory, *a.* [Lat. *bibo*, *bibitus*, to drink.] Belonging to drinking or tippling.

Bi'ble, *n.* [Gr. *biblion*, diminutive from *biblos*, a book; from *byblos*, the papyrus, or the inner bark of it, which was made into paper for books.] THE BOOK, by way of pre-eminence; the HOLY SCRIPTURES; the volume containing the collected books of the Old and New Testaments. The Greek word in primitive use was *ἡ γραφή*, or, *τὰ ἱερὰ γράμματα*; and *τα βιβλία* is not found till the 5th century, applied to the Sacred Writings by St. Chrysostom. The name *Old Testament* first occurs in St. Paul's Second Epistle to the Corinthiaus (iii. 14), written in A.D. 55. The canon is geuerally believed to have been closed by Simon the Just, about B.C. 292. The *Apocrypha* (q.v.) was added B.C. 150. The Old Testament canon consists of 39 books, divided into 929 chapters, containing 592,439 words. Of this portion of the *B.*, the oldest edition is the *Septuagint*, translated into the Greek, according to the tradition of Aristeas, B.C. 277, by 72 Jews. The work was undertaken at the desire of Ptolemy Philadelphus. The books of the *New Testament*, written in Hellenistic Greek, were first collected about the middle of the 3d ceutury. Peter (*2d Epistle* iii. 16), in 65, speaks of St. Paul's Epistles as though they had been collected in his time. Doubtless, the separation of the genuine from the spurious had already commenced when St. Peter wrote. The New Testament is divided into 27 books containing 265 chapters. The Sacred Writings were translated by the early Christians into various languages. Eusebius says, "They were translated into all languages, both of Greeks and barbarians, throughout the world, and studied by all nations as the oracles of God." Many of the Fathers bear similar testimony. Origen published a *B.* called *Hexapla*, in 6 columns, with different versions, and, on adding to, called it the *Octapla*. The division of the *B.* into chapters has been erroneously attributed to Stephen Langton, Archbishop of Canterbury, in 1206. The Psalms were always divided as at present, and Hugo de Sancto Caro, a Dominican friar, and afterwards a cardinal, who compiled the first concordance to the *B.*, divided the matter into sections, and the sections into under-divisions; and these sections are the chapters. He flourished about 1240, and D. in 1262. Rabbi Isaac Nathan, in 1445, introduced regular verses. These alterations have since been much improved. In the Latin translation of the *B.*, by Paginus of Lucca, published at Lyons in 1528, Arabic numerals are placed in the margin, opposite the verses.

EARLY TRANSLATIONS.

B.C.
277. (*circ.*) The Septuagint. The Old Testament is translated into Greek.
100. Old Syriac version.

A.D.
128. Aquila, a Jewish proselyte, translates the Old Testament into Greek.
176. Theodotion translates the Old Testament.
205. Lymmachus, by order of Septimus Severus, translates the Old Testament into Greek.
200–300. Coptic translation.
300–400. Ethiopic version.
360. Gothic version, by Uphilas.
405. Jerome completes the Latin vulgate, commenced about 385.
410–413. Armenian version.
709. Saxon translation of the Psalms.
721. Saxon translation of the Gospels.
725. Bede's Saxon translation of the whole Bible is completed.
864. Slavonian translation.
1160. French translation of the whole Bible, by Peter de Vaux.
1290. English translation.
1380. Wyckliffe's English version.

EARLIEST PRINTED BIBLES IN DIFFERENT LANGUAGES.

Translation.	*N. T.*	*Bib.*	*Place of Printing.*
Mazarin, (*Latin,*)	.....	1455	Paris.
Vulgate	.....	1462	Mentz.
German, (*Vulgate,*)	.....	1467	
Italian "	.....	1471	Venice.
Dutch "	.....	1475	Cologne.
Spanish "	.....	1478	Valencia.
French "	.....	1487	Paris.
Bohemian "	.....	1488	Prague.
Hebrew, (*Old Testament,*)	.....	1488	
Greek	1516	.....	Basle.
German	1522	1534	Wittenberg.
Helvetian	1525	1529	Zurich.
English	1526	.....	Antwerp.
Ditto	.....	1535	[Uncertain.]
French	.....	1535	Geneva.
Swedish	1534	1541	Upsal.
Danish	1524	1550	Copenhagen.
Dutch	.....	1560	
Italian	.....	1562	Geneva.
Spanish	1556	1569	Frankfort or Basle.
Russian	1519	1581	Ostrog.
Finnish Dialect	1548	1642	Stockholm.
Welsh	1567	1588	London.
Hungariau	1574	1589	Vienna.
Icelandic	.....	1584	Holum, Iceland.
Polish	1585	1596	
Bohemian	.....	1593	Cralitz, [Moravia.]
Virginian Indians	1661	1663	Cambridge, U.S.
Vulgate, (*Eng. edition,*)	.....	1635	Rouen.
Modern Greek	1638	.....	Geneva.
Turkish	1666	.....	Oxford.
Irish	1602	1685	London.
Ditto	.....	1704	Belfast.
Lapponic	1755	.....	
Manx	1763	.....	
Gaelic	1767	1802	Edinburgh.
Portuguese	1781	1783	Lisbon.
Greenlandic	1799	.....	Copenhagen.
Chinese	1814	.....	Calcutta.

REMARKABLE EDITIONS OF ENGLISH BIBLES.

A.D.
1526. Tyndale's New Testament. (*Antwerp.*)
1530. Tyndale's Pentatcuch. (*Marburg, Hesse.*)
1531. Joye's Isaye (*Isaiah*). (*Strasburg.*)
1535. Bartholetus, first Latin Bible printed in England, (*4to. London*).—Tyndale and Coverdale's folio.
1537. Matthew's Bible. (*Folio.*)
1537. An edition of Coverdale's Bible. (*4to. Southwark.*)
1539. The Great (or Cromwell's Bible) (*London*). The first Bible printed by authority in England.
1539. Taverner's Bible. (*Folio, London.*)
1540. Cranmer's edition of the Great Bible. (*Fol. London.*)
1560. Geneva Bible. (*4to. Geneva.*)
1568. Parker's or the Bishop's Bible. (*Fol. London.*)
1571. The Gospels, in Saxon and English. The Saxon from the Vulgate, and the English from the Bishop's Bible. (*London.*)
1576. Geuevan Bible. (*Fol. Edinburgh.*) The first Bible printed in Scotland.
1609. First Roman Catholic Bible in England. (*4to. Douay.*)
1611. The Royal, or King James I.'s, Bible. (*Fol. London.*)
1632. The "Wicked" Bible. (*8vo. London.*)
1633. First Scottish editiou of Authorized Bible. (*8vo. Edinburgh.*)
1657. Walton's Polyglott Bible. (*Fol. London.*)
1717. Vinegar Bible. (*Fol. Oxford.*)
1850. Wyckliffe's Bible. (*4to. Oxford.*)
1869. The Amer. *B.* Union (Baptist) revised translation.
1878. Bible and Commentary. Ed. by F. C. Cook, with many able assistants. Known as *The Speaker's Commentary*, as it was undertaken at the iustance of the Speaker of the English House of Commons in 1863. Vol. I. issued, London, 1878.
1885. The New Version, of which the New Testament was issued in 1881, and the old in 1885.

For list of books iu the Bible, see CANON OF SCRIPTURE.

Bible-oath, *n.* Au oath on the Bible; a sacred obligation.

Bib'ler, *n.* [Lat. *bibo*, to drink.] A tippler.

Bible Societies, *n. pl.* The following are the principal associations formed for the dissemiuation of the Scriptures, with the date of institution:

A.D.
1649. New England, re-incorporated in 1661. (*American.*)
1662. Society for the Propagation of the Gospel in Wales. (*Welsh.*)
1698. Society for Promoting Christian Knowledge. (*Eng.*)
1701. Society for the Propagation of the Gospel in Foreign Parts. (*English.*)
1709. Society for Promoting Christian Knowledge in Scotland. (*Scottish.*)
1712. Society at Halle. (*German.*)
1750. Society for Promoting Christian Knowledge among the Poor. (*English.*)
1780. Naval and Military Bible Society. (*English.*)
1785. Society for the Support and Encouragement of Sunday Schools. (*English.*)
1792. French Bible Society.
1803. Society for Promoting a more Extensive Circulation of the Scriptures both at Home and Abroad. (*English.*)
1804. British and Foreign Bible Society, being the Society of 1803 remodelled.
" German Bible Society.
" New York Bible Society.
1805. Berlin Society, changed to Prussian Bible Society in 1814.
1808. Philadelphia Bible Society.
1813. Russian Bible Society. Suspended in 1826.
1817. American Bible Society.
1831. Trinitarian Bible Society.
1850. American Bible Union, N. Y.

Since the revolution iu Italy of 1859, and that in Spain of 1868, Bible societies have been established in both countries.

Some of these societies have a large number of branch establishments. Pope Pius VII. issued a bull at Rome, June 29, 1816, against Bible societies, denouncing the movement as a crafty device, by which the very foundations of religion are undermined.

Bib'lical, *a.* Pertaining to the Bible.

Bib'lically, *adv.* In accordance with the Bible.

Bib'licism, *n.* Biblical doctrine, learning, or literature. (R.)

Bib'licist, *n.* One skilled in Biblical knowledge.

Bibliog'rapher, *n.* [See BIBLIOGRAPHY.] One versed in bibliography.

Bibliograph'ic, Bibliograph'ical, *a.* Pertaining to the history of books.

Bibliograph'ically, *adv.* In a bibliographical manner.

Bibliography, (*bib-li-og'ra-fe,*) *n.* [Fr.; from Gr. *biblos*, and *graphō*, to write, to describe.] A description, account, or history of books. The knowledge which is required to classify books, accordiug to the various subjects on which they treat, has been termed *intellectual B.*; that of the internal peculiarities of books—the number of editions through which they have passed, the printer or publisher, their date as to time and place, their form and size, and their comparative completeness, correctuess, typographical beauty, and rarity—*material B.* The first brauch borders closely on the province of criticism; for the most valuable bibliographical works, being what are termed in French *catalogues raisonnés*, are those in which the books are accompanied with some remarks on the character of their contents. The second branch of *B.* has been of late years cultivated with all the ardor attached to a fashionable and somewhat eccentric pursuit. The lovers of rare editions and curious copies of works, from being, to borrow

a French term, *Bibliophiles*, formed some years ago a peculiar sect entitled *Bibliomaniacs*, with whom the fancy for books had become a passion, like that of Dutch connoisseurs in tulips and pictures. Many works of novel and curious research in this department of literature have been produced to guide their taste. The following list contains a selection of works, which, from the critical matter which they contain, may be considered to belong to the history of literature, as well as of books and editions: — Lowndes's *Bibliographer's Manual of English Literature*, giving an account of rare, curious, and useful books, new edition by Bohn; a valuable work (1868). Darling's *Cyclopædia Bibliographica*, a library manual of theological and general literature and guide to books (London, 1857–8). *A Critical Dictionary of English Literature and British and American Authors*, by S. A. Allibone (Phila., 1859–69, and a Supplement, 1891). Horne's *Manual of Biblical Bibliography*. Dibdin's *Library Companion*, 1824. Ebert's *Allgemeines bibliographisches Lexikon*, 2 vols. (Leipzig, 1821–30); (an English translation of this work has appeared in 4 vols. 8vo. (Oxford, 1837). Heinsius's *Allgemeines Bücher-Lexikon*, with Supplements, 11 vols. (Leipzig, 1812–52). Ersch's *Handbuch der Deutschen Literatur*, 2d edition, 4 vols.; (Leipzig, 1822–40); (3d edition, by Geissler, 1845). Vater's *Literatur der Grammatiken Lexica*, and *Wörtersammlungen aller Sprachen der Erde*, 2d edition (Berlin, 1847. Brunet's *Manuel du Libraire et de l'Amateur des Livres*, 5th edition, 6 vols. 8vo. (Paris, 1866). Querard's *La France Littéraire*, 10 vols. (Paris, 1827–42). De Bure's *Bibliographie Instructive, ou, Traité de la Connoissance des Livres rares et singuliers, contenant un Catalogue raisonné de la plus grande partie de ces livres précieux qui ont paru successivement dans la République des Lettres depuis l'invention de l'imprimerie*, 7 vols. 8vo. (Paris, 1763–8.) M. Barbier's *Dictionnaire des Anonymes et Pseudonymes*, 4 vols. 1822–25.

Bibliol'atry, *n.* [Gr. *biblion*, a book, *latreia*, worship.] Worship of a book.

Bibliolog'ical, *a.* Pertaining to bibliology.

Bibliol'ogy, *n.* [Gr. *biblion*, a book, and *logos*, discourse, treatise.] A treatise on books; bibliography.—Biblical literature, doctrine, or theology.

Bib'liomancy, *n.* [Gr. *biblion*, and *manteia*, prophecy.] Divination by the Bible, sometimes called *Sortes Biblicæ*, was a common practice among the early Christians, who were accustomed to regulate their conduct by opening the Sacred Scriptures, and accepting the passage which first presented itself as a guide. Although condemned by the councils of Vanues in 465; Agde, in 506, and Orleans in 511, this mode of divination was practised for many years. The Mohammedans exercise a similar divination by means of the Koran. The ancients used the works of Homer and Virgil in the same manner — the *Sortes Homericæ*, and the *Sortes Virgilianæ* being popular means of prognosticating future events.

Biblioma'nia, BIBLIOMANY, *n.* [Gr. *biblion*, and *mania*, madness.] Book-madness; a rage for possessing rare and curious books. — See BIBLIOGRAPHY.

Biblioma'niac, *n.* One who has a rage for books.

Bibliomani'acal, *a.* Relating to bibliomania.

Biblioma'nianism, *n.* The same as BIBLIOMANIA.

Bibliom'anist, *n.* The same as BIBLIOMANIAC.

Bibliopeg'ic, *a.* Relating to the binding of books.

Bibliop'egy, *n.* [Gr. *biblion*, and *pegnunai*, to make fast.] The art of binding books.

Bib'liophile, Biblioph'ilist, *n.* A lover of books or bibliography.

Biblioph'ilism, *n.* [Gr. *biblion*, and *phileō*, to love.] Love of books or bibliography.

Bibliopho'bia, *n.* [Gr. *biblion*, and *phobeo*, to fear.] A dread of books. (R.)

Bib'liopole, Bibliop'olist, *n.* [Gr. *biblion*, a book, and *poleo*, to sell.] A bookseller.

Bibliopol'ic, Bibliopol'ical, Bibliopolis'tic, *a.* Relating to booksellers, or bookselliug.

Bibliop'olism, *n.* The business of selling books.

Bibliot'aphist, *n.* [Gr. *biblion*, and *taphos*, a burial.] One who hides or buries books.

Bibliothe'ca, *n.* [Lat., from Gr. *biblion*, and *thēkē*, a case, box, or repository; from *tithēmi*, to put or place.] Properly, a repository for books; a library. —In literature, a treatise giving an account or list of all the writers on a certain subject; thus, we have bibliothecas of theology, law, philosophy, &c. There are, likewise, universal bibliothecas, which treat indifferently of all kinds of books; also select bibliothecas, giving an account of none but authors of reputation. — See BIBLIOGRAPHY.

Biblioth'ecal, *a.* Relating to a library.

Bib'liotheke, *n.* [See BIBLIOTHECA. Fr. *bibliothéque*.] A library.

Bib'list, *n.* One who makes the Scriptures the sole rule of faith. — A biblical scholar.

Biborate of Soda, *n.* (*Chem.*) The chemical name of BORAX, *q. v.*

Bib'ulous, *a.* [Lat. *bibulus*, from *bibo*, to drink.] Spongy; that has the quality of imbibing fluids or moisture.

Bib'ulus, LUCIUS CALPURNIUS, Consul of Rome at the same time with Cæsar. Opposing at first the democratic measures proposed by his colleague, he saw that his resistance was useless, and took no further part in public affairs. The wits of Rome were accustomed to designate that period as the year of the consulate of Caius and Julius Cæsar, alluding to Cæsar's two prenomens. D. about 40 B. C.

Bical'carate, *a.* [Lat. *bis*, twice, and *calcar*, a spur.] (*Zoöl.*) Applied to a limb or part armed with two spurs.

Bical'lose, Bical'lous, *a.* [Lat. *bis*, and *callus*, hard flesh.] (*Bot.*) That possesses two small callosities or protuberances.

Bicanere, or **Biekaneer,** (*bik'a-neer,*) a territory of Hindostan, prov. Rajpootana, chiefly between Lat. 27° and 29° N.; having N. the Bhatty country; S. the Joudpoor and Seypoor dom.; E. Hurriana and the Shehawutty country, and W. Jesselmeer and the great desert, of which it forms a part; *area*, 18,000 sq. m. The soil is sandy and only irrigated by wells. The Rajah has been under British protection since 1818.

BICANERE, the cap. of the above dom., in the Indian desert, 145 m. N.N.W. of Ajmeer; Lat. 27° 57′ N.; Lon. 73° 2′ E. The desolation around it is as great as that of the wildest tract of Arabia.

Bicap'sular, *a.* [Lat. *bis*, and *capsula*, capsule.] (*Bot.*) Having two capsules, containing seeds, to each flower.

Bicar'bide of Hydrogen. See MARSH-GAS.

Bicar'bonate, *n.* (*Chem.*) A carbonate containing two equivalents of carbonic acid to one of the base.

Bicar'inate, *n.* [Lat. *bis*, and *carina*, keel.] (*Bot.*) That has two keel-like projections, as the upper palea of grasses.

Bice, Bise, *n.* [Etymol. uncertain.] (*Painting.*) A light-blue color prepared from smalt. From it, by a mixture with yellow orpiment, another color is formed of a green hue, bearing the same name.

Bicent'enary, *n.* See NONCONFORMISTS.

Biceph'alous, (*bī-sef'a-lus,*) *a.* [Lat. *bis*, and Gr. *cephale*, the head.] Having two heads.

Bi'ceps, *n.* [From Lat. *bis*, and *caput*, head.] (*Anat.*) The name of two muscles of the upper extremities, which, rising by two narrow tendons from different parts of the scapula, or shoulder-blade, are inserted one into each radius or outer bone of the fore-arm—the principal flexor of the fore-arm.—Also, the name of a set of muscles of the thighs, acting as flexors of those limbs. — See SKELETON.

Bicêtre, (*be-sai'tr,*) a village of France, 1 m. from Paris, where, in the reign of Charles V., a large building was erected for disabled soldiers, but which was destroyed in the wars under Charles VI. It was rebuilt by Louis XIII., and was used as a military asylum until the Hôtel des Invalides was established at Paris. It was afterwards used as an hospital for the old, the sick, and the insane, and also served as a prison. A fort was built in 1842.

Bichat, (*bee-shah,*) MARIE FRANÇOIS XAVIER, an eminent French physiologist, B. 1771. He went to Paris in 1793, and studied under Desault, who soon made him his friend and associate. He was an indefatigable student and observer, and made very numerous experiments and discoveries in anatomy. His splendid researches have shed a new light on physiology, by giving an intelligible account of the several tissues and organs of the body, and of their varied functions. His great work is the *Anatomie générale appliquée à la Physiologie et à la Médecine.* He also wrote *Recherches Physiologiques sur la Vie et la Mort, Traité des Membranes*, and *Anatomie Descriptive.* D. 1802.

Bichloracet'ic Acid. (*Chem.*) A product recently obtained. *Form.* $HO.C_4HCl_2O_3$.

Bichro'mate, *n.* [See CHROMIUM.] (*Chem.*) A salt containing two equivalents of chromic acid to one of the base.

Bicip'ital, Bicip'itous, (*bi-sip'it-al,*) *a.* [Fr. *bicipital*; Lat., from *bis*, and *caput, capitas*, the head.] Relating to the biceps; as, the *B. tubercle*, a prominence near the upper extremity of the radius, to which the tendon of the biceps is attached.

Bick'er, (*bik'er,*) *v. n.* [W. *bicra*; Scot. *bicker*; probably from the root of *beak* or *pick*.] To skirmish; to fight off and on; to quarrel; to scold; to contend in petulant altercation.

> "I see thy fury; if I longer stay,
> We shall begin our ancient *bickerings*." — *Shaks.*

—To quiver; to ply backward and forward.

> "And from about him fierce effusion roll'd
> Of smoke, and *bickering* flame, and sparkles dire."—*Milton.*

—*n.* A beaker. (Prov. Eng.)

Bick'erer, *n.* A skirmisher; a quarreller.

Bick'ering, *n.* A skirmish; a quarrel.

Bick'iron, *n.* [Corrupted from *beak-iron*.] An iron ending in a beak or point, as the pointed part of an anvil.

Bick'erstaffe, ISAAC, a popular play-writer, was born in Ireland about 1735. At the age of eleven he became page to the lord-lieuteuant, Lord Chesterfield, and was afterward an officer of the marines, but was dismissed from the service and fled the country, dying abroad. Among his plays were: *The Maid of the Mill; He Would if He Could; The Hypocrite; The Captive*, &c.

Bicol'ligate, *a.* [Lat. *bis*, and *colligo*, I bind together.] (*Zoöl.*) Connected by a basal web, as the anterior toes in birds.

Bi'color, *a.* [Lat. *bis*, and *color*.] That has two colors.

Bicon'jugate, *a.* [Lat. *bis*, and *conjugo*, to join together.] (*Bot.*) Twice paired, as when the petiole of a compound leaf forks twice.

Bi'cornu, Bicorn'ous, *a.* [Lat. *bis*, and *cornu*, a horn.] Having two horns, or two hornlike processes.

Bicor'nis, *a.* [See BICORN.] (*Anat.*) Sometimes applied to the hyoid bone, from its having two processes like horns.—Also, to the uterus of most quadrupeds that has two horny divisions.

Bicor'poral, *a.* [Lat. *bis*, and *corpus*, a body.] Having two bodies.

Bicru'ral, *a.* [Lat. *bis*, and *crus, crucis*, a leg.] Having two legs.

Bicus'pid, *a.* [Lat. *bis*, and *cuspis*, a point.] (*Anat.*) Any thing having two points. Some anatomists use this word to define the teeth, as the *cuspidati*, teeth with one point, or the canine; *bicuspidati*, teeth with two points, the two teeth immediately behind the canine; the *multicuspidati*, or many-pointed, the molar teeth.

Bicus'pidate, *a.* (*Bot.*) Having a double point.

Bi'cycle, *n.* See SECTION II.

Bid, *v. a.* (*imp.* BIB or BADE; *pp.* BID or BIDDEN.) [A.S. *biddan*; Goth. *bidjan*.] To interest; to beseech; to request; to invite. (o.)

> "Go ye therefore into the highways, and as many as ye shall find, *bid* to the marriage." — *Matt.* xxii. 9.

—To require; to demand; to command.

> "Thames heard the numbers as he flowed along,
> And *bade* his willows learn the moving song." — *Pope.*

—[A.S. *bredan*; Du. *bieden*, to offer, proffer.] To offer; to propose; to bring forward; to propose to give.

> "He that *bids* most shall have it." — *Collier.*

—To pronounce or declare; to proclaim.

> "How *bid* you welcome to these shattered legions?" — *Philips.*

To bid beads, to distinguish each bead by a prayer.— *To bid fair*, to make fair promise.

Bid, *n.* An offer to pay a specified price for an article about to be sold at auction.

Bid'al, BID'ALE, or BID'ALL, *n.* [*bid* and *ale*.] An ancient custom in England, by which friends are invited to drink ale at some poor man's house, and there to contribute something to his relief.

Bidassoa, (*be-das-so'a,*) a river which, rising in the Spanish Pyrenees, forms the boundary between that country and France, and falls into the Bay of Biscay between Andaye and Fontarabia. At its mouth is an island, where, in 1659, was concluded the treaty of the Pyrenees.

Bid'deford, in *Maine*, a manuf. city of York co., on Saco river, about 14 m. S. W. by S. of Portland. *Pop.* in 1890, 14,443; in 1897, about 16,000. See SACO.

Bid'der, *n.* One who offers to pay a specified price for an article offered for sale at public auction.

(*Law.*) The *B.* has a right to withdraw his bid at any time before it is accepted, which acceptance is generally manifested by knocking down the hammer.

Bid'ding, *n.* Command; order.

> "At his second *bidding* darkness fled,
> Light shone, and order from disorder sprung." — *Milton.*

(*Com.*) Offer of a specified price; act of making bids at public auction.

—Invitation to a wedding. (Prov. Eng.)

Bid'ding-Prayer, *n.* (*Eccl. Hist.*) A form of prayer for the souls of benefactors, said before sermons and homilies, in the Roman Catholic Church. — The 55th canon of the Church of England enjoins that before all lectures, the preachers or ministers shall move the people to join with them in prayer in a certain form. This form is called *bidding-prayer*, because in it the preacher is directed to bid the people to pray for certain specified articles. It is now rarely used.

Bid'dle, NICHOLAS, an American financier, b. in 1786; was graduated at Princeton College, and entered the Penna. legislature, where he became distinguished for his aggressiveness and energy. Was appointed president of the U. S. Bank in 1823, and held that position until the end of 1836, when he was made president of the second U. S. Bank. This institution he handled with much skill for a time, but in October, 1841, it was forced to suspend. Indictment proceedings were begun against *B.* and others, on a charge of conspiracy to defraud, but were never pressed. D. in 1844.

Bid'dy, *n.* A childish name for a hen, or a chicken; also, for a servant-girl.

Bide, (*bīd,*) *v. n.* [A.S. *bidan*, to tarry, to remain.] To dwell; to inhabit; to remain. (o.)

—*v. a.* To endure; to suffer.

> "Poor naked wretches, wheresoe'er you are,
> That *bide* the pelting of this pitiless storm!" — *Shaks.*

—To wait for; to abide. See ABIDE.

Bideford, (*bid'e-furd,*) a seaport-town of Devonshire, on the Torridge, 2 m. from Barnstaple. *Manf.* Earthenware, woollens, and carpets. *Pop.* about 6,000.

Bi'dens, *n.* [Lat. *bis*, and *dens*, a tooth, the achenia having 2 (or more) barbed teeth.] (*Bot.*) The Burr-Marigold, a genus of plants, sub-ord. *Tubuliflorœ.* — DIAG. Involucre nearly equal, double, scaly or leafy at the base; rays few, neutral; disc perfect; receptacle chaffy, flat; pappus of 2–4 awns, rough backwards; achenia quadrangular. Many species are found in the U. States, and among them, *B. frondosa*, a common weed, often called beggar-ticks, found in moist, cultivated fields. Its stem is 2 feet high, sending out many spreading branches; flowers in clusters at the end of the branches, without rays, yellow, surrounded by a large and leafy involucre, blossoming in August.

Biden'tal, BIDEN'TATE, BIDEN'TATED, *a.* [See BIDENS.] (*Anat.* and *Bot.*) Applied to an animal that has but two teeth, as the *Delphinus bidens*; or to a part furnished with two tooth-like processes.

Bidet, (*bee-day'.*) [Fr.] A small horse. Hence, perhaps, applied to a chamber bathing-apparatus, which has to be bestridden. It is a useful arrangement, in case of hemorrhoids, &c.

Bid'-hook, *n.* (*Naut.*) A hook belonging to a boat.

Bid'well, in *California*, a thriving township of Butte county.

—A post-village, called also *Bidwell's Bar*, in the above township, 9 m. E.N.E. of Oroville.

Bie'berite, *n.* (*Min.*) A hydrated sulphate of cobalt and magnesia, which occurs in flesh-red and rose-colored, translucent, friable stalactites, and in crusts investing other minerals, in rubbish of old mines at Bieber near Hanau.

Biehle, in *Missouri*, a post-office of Perry co.

Bielefeld, (*bēl'e-felt,*) a town of Prussia, 26 m. from Minden. It is the centre of the Westphalian trade, and has manf. of leather, soap, woollen stuffs, &c.

Biel'er, in *California*, a coast-village of Sonoma co., 45 m. W.N.W. of Santa Rosa.

Bielgorod, (*bele-gor'od'*,) a town of Rnssia in Enrope, 73 m. froin Koursk.

Biella, (*be-ail'la*,) a town of N. Italy, cap. of a prov. of same name, on the Cervo, 50 m. from Tnrin.

Bienne, (Lake of,) (*be-ain'*,) in Switzerland, 16 m. from Berne. It is 10 m. long, by 1 to 3 broad, and contains the island of St. Pierre, which was the residence of Roussean in 1765.—At its N. extremity stands a small town of the samo name.

Biennial, (*bi-en'ni-al*,) *a.* [Lat. *bis*, twice, *annus*, a year.] Continuing for two years; as, a *biennial* plant.—Taking place once in two years; as, a *biennial* meeting.—*n.* (*Bot.*) A plant which springs from the seed one year, but does not flower and seed nntil the second year, when it perishes. The *B.* root is commonly enlarged at the close of the first seasou, by au accumulation of nutriment intended for the support of the plant dnring its flowering and fruiting. The carrot or the tnrnip is a familiar example of snch a root.

Bien'nially, *adv.* Once in two years; at the return of two years.

Biens, (*bains*,) *n. pl.* [Fr., goods.] (*French Law.*) This term includes all kinds of property, real and personal. *B.* are divided into *B. meubles*, movable property, and *B. immeubles*, immovable property. This distinction between movable and immovable property gives rise, in the civil as well as in the common law, to many important distinctions as to rights and remedies.

Bienville, (*bain'vĭl*,) in *Louisiana*, a N.W. par., bonnded W. by Lake Bistineau, and traversed by Black Lake and Salino bayou. Lake Bistinean, which enters Red river near the S.W. of the parish, is navigablo by steamboats for abont 60 m. *Cap.* Arcadia. *Pop.* (1898) 16,200.

Bier, (*bēr*,) *n.* [Fr. *bière;* A. S. *bœr;* Pers. *bir*, from the root of *bear*.] A carriage or frame of wood for conveying dead human bodies to the grave.

Bierstadt, (*bēr'staht*,) ALBERT, an American painter, B. at Düsseldorf, 1829. He has made himself famous by his wonderful pictnres of American scenery, chief among which are, *Lander's Peak*, *Rocky Mountains; A Storm in the Rocky Mountains;* and *The Domes of the Yosemite*, &c.

Biesting, BEESTNING, or COLOSTRUM, *n.* [A.S. *beost*, *bysting*.] The first milk yielded by tho cow immediately after the birth of the calf. This word is often nsed in tho plural form, *biestings*.—See BEESTINGS.

Bifa'cial, *a.* [Lat. *bis*, and *facies*, face.] That has the opposite surfaces alike.

Bifa'rious, *a.* [Lat. *bifarius*.] Twofold; having two parts.

(*Bot.*) Two-ranked; arranged in two vertical rows,—frequently applied to flowers and ovules.

Bifa'riously, *adv.* In a bifarious manner.

Bi'fer, *n.* [Lat. *bis*, and *fero*, to bear.] (*Bot.*) Applied to a biferous plant, *i. e.*, to a plant that bears fruit twice a year.

Bif'erous, *a.* (*Bot.*) That bears fruit twice a year.

Bif'fin, *n.* (*Cookery.*) An apple baked slowly and pressed flat, as a Norfolk *biffin*.

Bi'fid, Bif'idate, Bif'idated, *a.* [Lat. *bis*, and *findo*, to cleave.] (*Bot.*) See CLEFT.

Biflo'rate, Biflo'rous, *a.* (*Bot.*) Having two flowers; two-flowered.

Bi'fold, *a.* [Lat. *bis*, and Eng. *fold*.] Twofold; donble; of two kinds, degrees, &c.; as, *bifold* authority

Bifo'liate, *a.* [Lat. *bis*, and *folium*, a leaf.] (*Bot.*) Having two leaves; two-leaved.

Bifo'liolate, *a.* (*Bot.*) Applied to leaves consisting of two leaflets.

Bifollic'nlar, *a.* [Lat. *bis*, and *folliculus*, a sack.] (*Bot.*) That has two follicles.

Bifo'rate, *a.* [Lat. *bis*, and *foris*, a door.] (*Bot.*) Having two perforations or apertures, as the anthers of the *Rhododendron*.

Bif'orine, *n.* (*Bot.*) A minute oval sac found in the interior of the leaves of somo Araceous plants. It tapers to each end, where it is perforated, and is apparently composed of two bags, one within the other, the inner bag being filled with the fine acicnlar crystals or spiculæ, called *raphides*. When the *B.* is placed in water, it discharges its spicnlæ with cousiderable violence, first from one end, and then from tho other, recoiling at every discharge, and eventually emptying itself, when it becomes a flaccid, motionless bag.

Bi'form, Bi'formed, *a.* [Lat. *bis*, and *forma*, form.] Having two forms, bodies, or shapes.

Biform'ity, *n.* A double form. (R.)

Bifront'ed, *a.* [Lat. *bis*, and *frons*, the front.] Having two fronts.

Bifur'cate, Bifur'cated, *a.* [Lat. *bis*, and *furcus*, a fork.] Two-forked; divided into two branches.

Bifurca'tion, *n.* A forking, or division into two branches.

Bifur'eous, *a.* (*Bot.*) Two-forked.

Big, *a.* [O. Ger. *pigo* or *piga*, a heap; Dan. *bug*, the belly, bulge; Icel. *bólga*, a swelling,—allied to *bulk;* W. *bog*, a swelliug.] Great in bulk; large.

"When the idea uudcr consideration becomes very *big*, or very small, its precise bulk becomes obscure aud confused."—*Locke.*

—Teeming; pregnant; great with young.

"A bear *big* with young hath seldom been seen."—*Bacon.*

—Full of something, and desirous, or about, to give it vent; generally used before *with*.

"The great, th' important day,
Big with the fate of Cato and of Rome."—*Addison.*

—Distended; swollen; ready to burst;—nsed often of the effects of passion, as grief, rage, &c.

"Thy heart is *big;* get thee apart, and weep."—*Shaks.*

Great in air and mien; proud; swelling; tumid; haughty; surly.

"How else, said he, bnt with a good bold face,
And with *big* words, and with a stately grace?"—*Spenser.*

—Great in spirit; lofty; brave.

"What art thou? have not I
An arm as *big* as thine? a heart as *big?*"—*Shaks.*

Bi'ga, *n.* [Lat.] (*Antiq.*) A chariot or car drawn by two horses; called by Snetonius (*Calig.* c. 19) *Bijuge curriculum*. The biga was tho most common chariot in nse among the Romans. They also had their quadrigæ, and

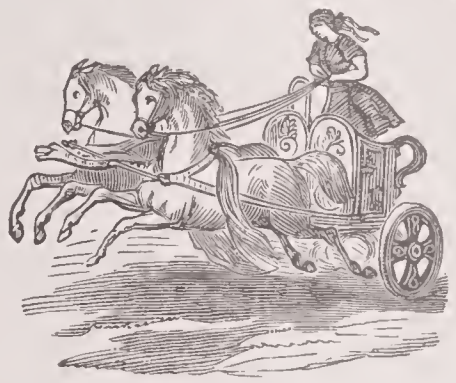


Fig. 354.—ROMAN BIGA.

sometimes their sejuges, septim-juges, &c., and Snetonius assnres us that Nero, when he was a performer in the Olympic games, made use of a decem-jugis, a chariot drawn by ten horses coupled together. (*Suet. in Ner.* c. 24.)—Pliny attributes the invention of the biga to the Phrygians. (*Hist. Nat. lib.* vii., c. 56.) Isidorus says the inventor was Chiristines the Sicyonian. (*Origines lib.* xvii. c. 35.)

Big'amist, *n.* One who has committed bigamy, or has two wives or husbands at once.

Big'amy, *n.* [Fr. *bigamie;* from Lat. *bis*, and Gr. *gamos*, marriage.] (*Law.*) The wilfully contracting a second marriago when the contracting party knows that the first is still existing. The state of a man who has two wives, or of a woman who has two husbands, living at the same time. In England, this crime is punishable by the stat. 1 *Jac.* I. c. 11, which makes the offence felony; but it exempts from punishment tho party whose husband or wife shall continue to remain absent for seven years before the second marriage, without being heard from. The statutory provisions in the U. States against *B.*, are in general similar to, and copied from the English statute, excepting as to the punishment, which is different in many of tho States.—When the man has more than two wives, or the woman more than two husbands, living at the same time, the party is said to have committed *polygamy;* but the name of *B.* is more frequeutly given to this offence in legal proceedings.

Bigaroon', *n.* [Fr. *bigarreau*.] The large white-heart cherry.

Big Bar, in *California*, a township of Eldorado county.

—A post-village of Trinity co., 20 m. W. of Weaverville.

Big Bay Creek, in *Illinois*, near the S.E. corner of tho State, falls into the Ohio River.

Big Bea'ver, in *Michigan*, a post-office of Oakland co.

Big Bea'ver, in *Pennsylvania*, a township of Beaver county.

—A township of Lawrence co.

Big'-bellied, *a.* Having a large belly; advanced in pregnancy.

Big Bend, in *Arkansas*, a post-office of Polk co.

Big Bend, in *Louisiana*, a P. O. of Avoyelles parish.

Big Bend, in *Pennsylvania*, a post-village of Venango county.

Big Bend, in *W. Virginia*, a post-office of Calhoun co.

Big Bend, in *Wisconsin*, a post-village of Waukesha co., on Fox River, about 20 m. of Milwaukee.

Big Beth'el, in *Virginia*, a village of York co., about 10 m. N.W. of Fortress Monroe. During the Civil War, two divisions of Union troops, dispatched by General Butler to snrprise the Confederato camp at this place, 9th June, 1861, meeting in the darkness, commenced a fight, in which soveral were killed before the error was discovered. On the next day, they, about 2,500 strong, attacked the Confederates, (about 1,800 men,) by whom they were defeated with a loss of 16 killed, 34 wouuded, and 5 missing.

Big Black River, in *Mississippi*, rising in Choctaw co., and flowing S.W., embouches into the Mississippi at Great Gulf. Its estimated length is about 200 m. On 7th May, 1863, the Confederate works commanding this river were taken by Gen. McClernand, after a sanguinary action. The garrison, (about 1,500 meu,) 17 guns, several thousand stand of arms, and a large qnantity of commissary stores, were captured.

Big Blue, in *Missouri*, a village of Jackson co., 8 m. W. of Independence.

Big Blue Creek, (BATTLE OF.) See LITTLE BLUE CREEK.

Big Blue River, in *Missouri*, Jackson co., flowing N. into Missouri River.—Little Blue River flows through the same county, and enters the Missouri below the above.

Big'-boned, *a.* Having large bones.

Big Bottom, in *Arkansas*, a village of Independence co.

Big Buffalo, in *W. Virginia*, a P. O. of Harrison co.

Big'byville, in *Tennessee*, a village of Manry co., 50 m. S. by W. from Nashville.

Big Ce'dar, in *Missouri*, a village of Jacksou co., 14 m. S. of Independence.

Big Cedar Creek, in *Iowa*, falls into Skunk River, in Henry co.

Big Cedar Creek, in *South Carolina*, enters the Broad River, near the N.W. part of Richland district.

Big Cedar Grove, in *Indiana*, a creek which enters the White Water 6 m. below Brookville.

Big Clear Creek, in *W. Virginia*, a post-office of Green Brier co.

Big Clif'ty, in *Kentucky*, a post-office of Grayson co.

Big'-corned, *a.* Having large grains.

Big Cot'tonwood, in *Utah*, an unimportant village of Salt Lake co.

Big Cove Tannery, in *Pennsylvania*, a post-office of Fulton co.

Big Creek, in *Alabama*, Greene co., flows into Black Warrior river.

—A post-office of Geneva co.

Big Creek, in *Arkansas*, rising in the E. part of the State, and flows S. into the White river, in Monroe co.

—A township of Crawford co.

—A township in Philip's co.

Big Creek, in *Georgia*, a post-village of Forsyth co., 10 m. S.W. of Cumming.

Big Creek, in *Indiana*, rising in Ripley co., and falling into Graham's Fork of White River, in Jefferson co.

—A township of White co.

Big Creek, in *Iowa*, a township of Black Hawk county.

Big Creek, in *Louisiana*, a P. O. of Rapides parish.

Big Creek, in *Michigan*, a post-office of Mecosta co.

Big Creek, in *Missouri*, in the W. part of the State, takes a course S.E., and enters Grand River, in Henry county.

—In the N.W. part of that State, flows through Harrison co., and enters Grand River in Daviess co.

Big Creek, in *Missouri*, a twp. of Henry co.

—A village of Johnson co., 40 m. S.E. by S. of Independence.

—A post-office of Texas co.

Big Creek, in *South Carolina*, a post-office of Salnda county.

Big Creek, in *Wisconsin*, a hamlet of Monroe co.

Big Cypress Bayou, in *Texas*, rising in Wood and Hopkins counties, and emptying into Caddo Lake, a few m. below Jefferson, in Marion co.

Big Dry Wood Creek, in *Missouri*, flowing into Marmiton river in Vernon co.

Big Eau Claire, (*o-klair'*,) in *Wisconsin*, a river flowing through the E. part of Marathon co., and emptying into the Wisconsin about 6 m. from Wausau.

Big Eau Plaine, (*o-plain'*,) in *Wisconsin*, a river of Marathon co., which after a S.E. course enters the Wisconsin River, near the S. frontier of the county.

Bigelo'via, *n.* (*Bot.*) A genus of plants, order *Violaceæ*. The species are unimportant.

Big'elow's Mills, in *Indiana*, a post-office of Laporte co., 15 m. S.W. of Laporte.

Bigem'inate, *a.* [Lat. *bis*, and *gemino*, to double.] (*Bot.*) Twice paired; applied to leaves having two secondary petioles, each of which bears a pair of leaflets.

Big'ener, *n.* [Lat. *bis*, and *gener*, a son-in-law.] (*Bot.*) A hybrid between two plants of different genera.

Big Fishing Creek, in *Pennsylvania*, entering the Bald Eagle Creek, in Clinton co., about 4 m. W. of Lock Haven.

Big Flats, in *New York*, a post-office of Chemnng co., 293 m. from New York city

Big Flats, in *Wisconsin*, a post-township of Adams co., 10 m. N. of Friendship.

Big Foot Prairie, in *Illinois*, a P.O. of McHenry co.

Big Fork, in *Arkansas*, a P. O. of Polk co.

Bigg, (*big,*) *n.* [Sw. and Goth. *biugg;* Dan. *byg*.] A variety of winter barley having six rows of grains.

Big'ger, in *Indiana*, a township of Jennings co.

Big'gin, *n.* [Fr. *béguin*.] A cap of a certain shape, called also *Biggon*, *Biggonnet*, worn by the *Beguines*, q. v. A child's cap.

—A contrivance for holding coffee-gronnds (being a small bag or a metallic vessel minutely perforated at the bottom) through which boiling water is ponred.

Big Glades, in *Virginia*, a township of Russell co.

Biggleswade, (*big'glz-waid,*) a town of England, in Bedfordshire, 41 m. N.N.W. of London. It is a neat and modernized town. *Manf.* Thread-lace. It has one of the largest corn-markets in England. *Pop.* 4,430.

Big'gon, Big'gonet, *n.* See BIGGIN.

Big Grove, in *Illinois*, a flourishing township of Kendall co.

Big Grove, in *Iowa*, a flonrishing township of Benton county.

—A township of Johnson co.

Biggs'ville, in *Illinois*, a post-village of Henderson co., on the Chicago, Burl. & Quincy R.R., 15 m. E.N.E. of Burlington, Iowa. *Pop.* (1898) 610.

Big Hatch'y River, in *Tennessee*. See HATCHIE RIVER.

Big Hill, in *Kentucky*, a post-office of Madison co.

Big Hill, in *Texas*, a post-office of Gonzales co.

Big Hollow, in *New York*, a post-office of Greene co.

Big Horn River, in *Wyoming* and *Montana*, the largest tributary of the Yellowstone river, rising near Fremont's Peak, in Lat. above 42° 20′ N., Lon. 110° W. It falls into the Yellowstone at Big Horn, Mont.

Bight (*bīt*), *n.* [O. Ger. *bingan*, to bend; Du. *boyt;* Icel. *beyt*, a bending, from *beya*, to bend; A. S. *bugan*, to bend.] (*Naut.*) The double part of a rope when it is folded, in contradistinction from the ends.

(*Geog.*) A small bay; as, the *Bight* of Benin.

(*Farriery.*) The inward bend of a horse's chambrel, and the bend of the fore-knee.

Big Indian Creek, in *Indiana*, rising in Floyd co., and flowing S.W., enters the Ohio, about 9 miles above Leavenworth.
Big Island, in *Ohio*, a twp. of Marion co.
Big Island, iu *Virginia*, a post-office of Bedford co.
Big Lake, in *Minnesota*, a post-township of Sherburne co.
Bigland'ular, *a.* (*Bot.*) Having two glands.
Big'ler, in *Pennsylvania*, a post-office of Adams co.
Big Liek, iu *North Carolina*, a post-office of Stanley co.
Big Liek, in *Ohio*, a township of Hancock co., about 40 m. N.N.W. of Marion.
Big Lick, or GAINSBORO, iu *Virginia*, a village of Roanoke co., 170 m. W. by S. of Richmond.
Big'ly, *adv.* In a tumid, swelling, blustering manner.

"*Bigly* to look, and barb'rously to speak."—*Dryden.*

Big Me'to, in *Arkansas*, a small river rising near Little Rock, and flowing S. E. into the Arkausas river, in Arkansas co.
Big Mill Creek, in *Pennsylvania*, falling into the Clarion river.
Big Mound, in *Iowa*, a post-office of Lee co.
Big Muddy, in *Illinois*, a village of Franklin co.
Big Neek, in *Illinois*, a post-office of Adams co.
Big'ness, *n.* Bulk; size; largeness; dimension.
Bignon, LOUIS PIERRE EDOUARD, (*been'yawng,*) a French statesman, B. at Meilleraye, 1771. He early became a diplomatist, and was made intendant of Berlin after the battle of Jena. Ambassador in Poland, both before and after the retreat from Moscow, he rendered the most important services to the French army. He subsequently held many important offices, was a member of the Chamber of Deputies under the Restoration, and was made a peer of France in 1839. He wrote, at the express desire of Napoleon, a *History of French Diplomacy.* D. 1841.
Bigno'nia, *n.* [Named after the Abbé Bignon, librarian to Louis XIV.] (*Bot.*) The Trumpet-flower, the typical genus of the ord. *Bignoniaceæ*, q. v. All the species are magnificent plants when in blossom, and such is espe-

Fig. 355.—CHINESE TRUMPET-FLOWER.
(*Bignonia grandifolia.*)

cially the case with *B. grandifolia*, the Chinese Trumpet-flower, a climber, native of China and Japan, which has splendid scarlet flowers. In temperate countries it only grows freely in hot-houses.—The *B. radians*, found in our country from Pennsylvania to Florida, and W. to Illinois, in woods and thickets, along rivers, is a beautiful climber, with a stem 20–80 ft. in length, ascending trees. One variety has yellow-scarlet flowers, another bright-scarlet, blossoming from June to August. Some botanists give these two species *grandifolia* and *radians* to the genus *Tecoma.*
Bignonia'eeæ, *n. pl.* (*Bot.*) An ord. of plants, alliance *Bignoniales.*— DIAG. Axile placentæ, winged sessile seeds without albumen, and large leafy cotyledons.—They are trees or shrubs, often twining or climbing, differing from Figworts (*Scrophulariaceæ*) only in their leafy cotyledons and want of albumen. The order extends northwards in N. America as far as Pennsylvania, and southwards into the S. provinces of Chili. It Europe it is unknown in the wild state. The species are best known for the great beauty of the flowers, which, from their large size, gay color, and great abundance, are often among the most striking objects in a tropical forest. From the leaves of the species *B. chica*, the Indians of S. America obtain a red dye called *chica*, or *carajura*, which they use for painting their bodies. Several kinds of Bignonia form large trees in the forests of Brazil, where they are felled for the sake of their timber; that called *Ipe-tabacco* furnishes durable ship-timber; the *Ipeuna*, another species, is the hardest wood in Brazil. There are 44 genera and 450 species.
Bignoni'ales, *n. pl.* (*Bot.*) The Bignonial alliance, a series of plants, including the orders *Pedaliaceæ, Gesneraceæ, Crescentiaceæ, Bignoniaceæ, Acanthaceæ, Scrophulariaceæ*, and *Lentibulariaceæ.*—DIAG. Perigynous exogens, with dichlamydeous, monopetalous, unsymmetrical flowers, capsular or berried fruit, having its carpels quite consolidated; parietal, free central, or axile placentæ, and an embryo with little or no albumen.
Big North Fork, of White River. See WHITE RIVER, of Arkansas.
Big Oak, in *Mississippi*, a post-office of Kemper co.
Big Oak Flat, in *California*, a post-village of Tuolumne co., 10 m. S.E. of Sonora.
Bigorre, (*be-gor'*,) an ancient province of France, now included in the dep. of the Hautes-Pyrénées.
Bigot, (*big'ot,*) *n.* [Fr.; Sp. *bigote*, a moustache, a symbol of firmness and courage among Spanish soldiers of the 15th and 16th centuries, who were distinguished by a rigid adherence to whatever the Roman See imposed and taught.] A person who is obstinately and unreasonably wedded to a particular creed, opinion, practice, or ritual.
Big'oted, *a.* Obstinately and bliudly attached to some creed, opinion, practice, or ritual.
Big'otedly, *adv.* In the manner of a bigot.
Bigotry, (*big'ot-re,*) *n.* Blind or unreasonable zeal in favor of a creed, party, sect, or opinion; excessive prejudice.
Big Pateh, in *Wisconsin*, a post-office of Grant co.
Big Pigeon River, iu *North Carolina* and *Tennessee*, rising in the Blue Ridge Mountains in the W. of the former State, and taking a course N.W. and W., enters French Broad River, near Newport, in the latter State.
Big Pine Creek, in *Indiana*. See PINE CREEK.
Big Pine Creek, in *Texas*, enters Neches River at the E. end of Trinity co.
Big Pine-Tree Creek, in *South Carolina*, flows through Kershaw district into the Wateree, near Camden.
Big Piney Fork. See GASCONADE RIVER.
Big Plain, iu *Ohio*, a post-office of Madison co.
Big Plover River, in *Wisconsin*, flows from the N. E. part of the State into the Wiscousin river at Portage Court-House.
Big Pond, in *Alabama*, a village of Lamar co.
Big Pond, in *Arkansas*, a village of Marion co.
Big Raccoon Creek, in *Indiana*. See RACOON CREEK.
Big Rapids, in *Michigan*, a thriving city, *cap.* of Mecosta co., on the Muskegon river, 60 m. N. by E. of Grand Rapids. *Pop.* (1890) 5,202; (1897) about 7,000.
Big Reedy, in *Kentucky*, a P. O. of Edmonson co.
Big Renox, in *Kentucky*, a P. O. of Cumberland co.
Big River, iu *Missouri*, rising in Washington co., and flowing N. through Jefferson, empties into Maramec river.
Big River, in *Wisconsin*, a post-office of Pierce co.
Big River Mills, in *Missouri*, a village of St. Francois co.
Big Rock, in *Illinois*, a post-township of Kane county.
Big Rock, in *Iowa*, a post-township of Scott co.
Big Rock, iu *Kentucky*, a village of Harlan co.
Big Rock, in *Ohio*, a village of Morgan co., on the Muskingum River, 85 m. S.E. of Columbus.
—A post-office of Athens co.
Big-round, *n.* Of large circumference.
Big Run, in *Ohio*, a post-office of Athens co.
Big Run, in *Pennsylvania*, a post-village of Jefferson co. *Pop.* (1898) 860.
Big Sandy, in *Nebraska*, a thriving village of Jefferson co.
Big Sandy Creek, in *Indiana*, falling into the Ohio, in Spencer co.
Big Sandy Creek, in *Tennessee*, rising in the W. of the State (Henderson co.) and emptying into the Tennessee river, in Henry co., after a course of about 80 m.
Big Savan'na, in *Georgia*, a post-office of Dawson co.
Big Sew'ickley Creek, in *Pennsylvania*, falling into the Youghigheny river.
Big Shanty, in *Georgia*, a post-office of Cobb co.
Big Sioux, in *South Dakota*, a township of Union co.
Big Skin Creek, in *W. Virginia*, a P. O. of Lewis co.
Big Snibar Creek, in *Missouri*, falls into the Missouri River at Lafayette co., abt. 5 m. above Lexington.
Big'-sounding, *a.* That has a pompous sonud; as, *big-sounding* sentences.
Big Spring, in *Alabama*, a village of Marshall co., 145 m. N. of Montgomery.
Big Spring, in *Illinois*, a post-township of Shelby county.
Big Spring, in *Indiana*, a village of Crawford co., 14 m. N. of Leavenworth.
Big Spring, in *Kansas*, a village of Douglas co., abt. 12 m. E.S.E. of Topeka.
Big Spring, in *Kentucky*, a post-village of Breckinridge co., partly situate in Meade and Hardin counties, 44 m. S.W. of Louisville.
Big Spring, in *Michigan* a village of Ottawa co.
Big Spring, in *Minnesota*, a village of Fillmore co.
Big Spring, in *Missouri*, a post-village of Montgomery co., 50 m. N.E. of Jefferson City.
Big Spring, in *Ohio*, a thriving township of Seneca county.
Big Spring, iu *Pennsylvania*, a post-office of Cumberland co.
Big Spring, in *Tennessee*, a post-office of Howard co.
Big Spring, in *Wisconsin*, a post-office of Adams co.
Big Spring Depot, in *Virginia*, a village of Montgomery co.
Big Spring Point, in *New York*, a village of Yates co., 190 m. W. of Albany.
Big Springs, in *Iowa*, a village of Johnson co.
Big Springs, in *Kansas*, of Douglas co.
Big Springs, in *Nebraska*, of Taylor co.
Big Springs, in *Ohio*, of Logan co.
Big Stone Gap, in *Virginia*, a post-office of Wise co.
Big Stream, in *New York*, a village of Yates co.
Big Swamp, in *N. Carolina*, a village of Columbus co.
Big-swollen, Big-swoln', *a.* Greatly swelled; turgid; ready to burst.

"Might my *big-swollen* heart
Vent all its griefs, and give a loose to sorrow."—*Addison.*

Big Syeamore, in *West Virginia*, a village of Clay county.
Big Thompson, now LOVELAND, in *Colorado*, a post-village of Larimer co., on the Big Thompson river, 59 m. N. of Denver, and on the E. slope of the Rocky Mountains. *Pop.* (1898) 795.
Big Timber, in *Kansas*, a village of Riley co.
Big Timber Creek, in *New Jersey*, bounding Gloucester and Camden counties, and entering the Delaware 5 m. below Camden.
Big Tree Corners, in *New York*, a P. O. of Erie co.
Big Trees, in *California*, a post-office of Calaveras co.
Big Tybee Island. See TYBEE ISLAND.
Big'-uddered, *a.* Having large udders; having dugs swelled with milk.
Big Vermilion River. See VERMILION RIVER.
Big Walnut Creek, in *Ohio*, rises in the central part of the State, and falls into the Scioto, 12 m. S. of Columbus.
Big'-wig, *n.* A name applied in England to a person of consequence, more especially to judges who wear large wigs.
Big Wood River. See BOISÉ RIVER.
Big Woods, in *Minnesota*, a post-office of Marshall co.
Bijanagur, (*be-jan-a-goor'*,) (*Vijayanagura*, the "city of triumph,") ANNAGOONDY (Canarese), or ALPATNA, an ancient and celebrated city of Hindostan, prov. Bejapoor, on both banks of the Toombuddra, that part of it on the S.E. bank only being properly called Bijanagur, and belonging to the British presidency of Madras; 117 m. S.S.E. of Bejapoor, and 27 N.W. of Bellary; Lat. 15° 14′ N., Lon. 76° 37′ E. It was formerly the metropolis of a kingdom, which, in 1515, comprised the two Carnatics, above and below the Ghauts. It was taken and sacked by the Mohammedans in 1564.
Bijnee', or **Khunta'ghaut,** a territory of British India, prov. Bengal. It lies on both sides of the Brahmapootra, and consists chiefly of a level and fertile country. *Prod.* Rice, sugar, wheat, betel, mulberry-trees, mustard, &c.
BIJNEE, cap. of the above prov., 23 m. N. of Goalpara; Lat. 26° 29′ N., Lon. 90° 47′ E.
Bijon, (*bē-zhō',*) *n.; pl.* BIJOUX, (*bē-zhö'.*) [Fr., from Lat. *bis*, double, and *jocus*, a jest, a trifle.] A trinket or a little box; a jewel; an elegant ornament.
Bijoutry, (*bē-zhö'tri,*) *n.* [Fr. *bijouterie.*] Jewelry; gems, or curiosities of value.
Bijn'gate, *a.* [Lat. *bis*, and *jugum*, a yoke.] (*Bot.*) Applied to leaves pinnated with two pairs of leaflets.
Bikh, *n.* See ACONITUM.
Bila'biate, *a.* [Lat. *bis*, and *labium*, a lip.] (*Bot.*) Applied to a flower that has all or any of its parts collected into separate parcels or lips. Thus, a calyx having two of its sepals collected into one parcel, and the others into a second parcel, or a corolla with its five petals adhering two and three together, is *B.*, as in the plants of the order *Lamiaceæ*, q. v.
Bilam'ellate, Bilam'ellated, *a.* [Lat. *bis*, and *lamella*, a plate.] (*Bot.*) When a part is divided longitudinally into two lamellæ or plates; also, bearing two vertical plates.
Bilan, (*bē'lon,*) *n.* [Fr.] A book in which bankers, merchants, and traders write a statement of all they owe and all that is due to them. The term is used in Louisiana.
Bil'ander, *n.* (*Naut.*) A small vessel with two masts, formerly used on Dutch canals for the carriage of goods.
Bilat'eral, *a.* [Lat. *bis*, and *latus, lateris*, side.] Having two sides.
(*Law.*) A *bilateral contract* is that in which both the contracting parties are bound to fulfil obligations reciprocally towards each other.
Bilbaõ, (*bil'bōw,*) a seaport-town of Spain, and the capital of the prov. of Biscay, in a fine plain, on the Ibaizabal, about 6 m. above its confluence with the sea at Portugalete, and 45 m. W. of San Sebastian; Lat. 43° 14′ 3″ N.; Lon. 2° 56′ 5″ W. It is a well-built and paved town. Four bridges span the river, which divides the old town from the new. *B.* is purely commercial, the harbor is difficult to enter. *B.* is the principal port of the N. of Spain, and possesses an extensive commerce, exporting chiefly iron, steel, wool, fish, corn, and fruits. *Manf.* Hardware, anchors, leather, tobacco, &c. Large vessels usually anchor at Portugalete, near the mouth of the river, or at Olaveaga, about 4 m. below the town. Spring tides rise about 13 feet; and by taking advantage of them, vessels of considerable size occasionally reach the town. *B.* was founded in 1300. *Pop.* 19,886.
Bil'berry, *n.* [From Sax. *bilig*, a bladder, and *berry.*] (*Bot.*) See VACCINIUM.
Bilbo, (*bil'bō,*) *n.*; *pl.* BILBOES (*bil'bōz.*) [From the Spanish town Bilbaõ, often pronounced *bilboa* in English.] A short rapier or sword, first made at Bilbao.

"To be compass'd like a good *bilbo*, in the circumference of a peck, hilt to point, heel to head."—*Shaks.*

—*pl.* BILBOES. (*Naut.*) A large bar or bolt of iron, with shackles on it, formerly used for criminals on board ships.

"Methought I lay worse than the mutines in the *bilboes.*"—*Shaks.*

Bilboquet, (*bil'bo-kā',*) *n.* [Fr. Etymol. uncertain.] The toy called a cup and ball.
Bilderdyk, WILLEM, (*beel-dair-dike'*,) a Dutch poet, B. at Amsterdam, 1756. Though ranking among the chief poets of his country, *B.* has little originality or imagination. His two best works are, *Love of Fatherland*, and *Rural Life.* D. 1830.
Bild'stein, *n.* [Ger. *bild*, an image, and *stein*, a stone.] (*Min.*) The same as *Amalgatolite*, q. v.
Bile, (*bil,*) *n.* [Fr., from Lat. *bilis;* allied, to *fel. fellis*, the gall-bladder.] (*Physiol.*) One of the most important secretions in the body; a thick unctuous, yellow fluid, secreted in the liver, and carried to the gall-bladder; having a rank, heavy smell, and an acrid, bitter taste. The refuse blood from the lower extremities and great organs of the abdomen, on its return to the heart by the great ascending vein, *vena cava*, passes through the liver, where it is subjected to the action of certain secreting vessels, which, separating from it much of its carbon, and other impurities, forms a new substance,

called bile, which is carried by innumerable small vessels, that afterwards unite to form one tube, called the hepatic duct, terminating in the neck of the gall-bladder, and conveying to that receptacle all the secretion brought from every part of the liver. To be more strictly anatomical: — Proceeding from every part of the bowels, and membranes that surround them, are numerous small veins, which converge, and finally form one large trunk, called the portal vein, *vena porta*. This vein, entering the liver, immediately divides and subdivides over the substance of that gland, till it is diffused in the most minute ramifications. The blood conveyed by the *vena porta* is the darkest and most impure in the system. From the extreme termination of the

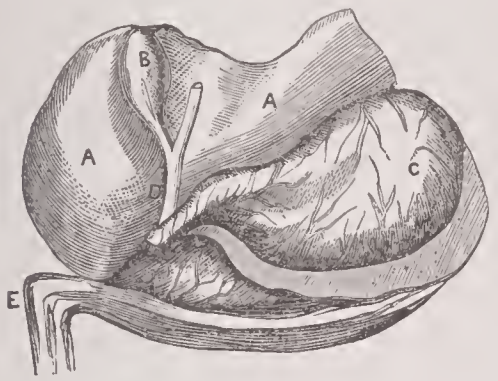


Fig. 356. — THE BILIARY ORGANS.

A, A, the Liver, raised to show B, the Gall-Bladder, joined beyond its neck by the Hepatic Duct. C, the Stomach and commencement of the small Intestine or Duodenum, in which the common Biliary Duct terminates. D E, Colon.

venous filaments of this vessel arise a system of minute tubes — the biliary ducts — which secrete from the impure blood the new fluid of the bile. These small vessels, uniting, finally form one large tube, called the hepatic or liver duct, which terminates at the elongated neck of the gall-bladder. — Whenever a quantity of digested food is passed out of the stomach into the duodenum, or beginning of the small intestine, a certain amount of bile is emitted from the gall-bladder on the digested aliment, at the same time that a peculiar fluid, like saliva, is poured into the same organ from the pancreas. The effect produced on the digested food by the emission of the bile and pancreatic juice is almost immediately to separate the digested matter into *two parts*, the solid and refuse portion, colored with the bile, and a white, creamy fluid, the *chyle*, or nutrient principle of all the aliment consumed, and which, absorbed by the lacteal system of vessels, is carried through the glands of the mesentery, and by the thoracic duct, to the heart, to restore the waste suffered by the blood during its circulation through, and its construction of, the body. (See DIGESTION, CHYLE.) Besides acting, in a manner, as a renet, to separate the nutritions from the refuse matters of the stomach, the bile acts as a natural stimulant to the bowels.

(*Chem.*) *Bile* consists essentially of a solution of two salts, known as *glycocholate* and *taurocholate* of soda. Both *glycocholic* and *taurocholic* acids are resinous, and do not neutralize the alkali, so that the bile has a strong alkaline character. Another characteristic feature of this secretion is the large proportion of carbon which it contains, carbon entering from 67 to 61 per cent., respectively, in the composition of glycocholic and taurocholic acids. Another characteristic of the bile is *cholesterine*, a crystalline substance somewhat resembling the fats, and often deposited in large quantities in the form of biliary calculi. The peculiar coloring matter of the bile has never been obtained in a pure state.

(*Med.*) Any cause that leads to a divergence of the bile from its natural course, is certain to result in some functional disturbance. When, for instance, the bile enters, by *regurgitation*, as it is called, the stomach, instead of the duodenum, it is taken up by the blood, enters the system, and produces nausea, sickness, headache, giddiness, and many of the symptoms of a narcotic poison; and showing itself in the capillary and smaller veins, tinges the eyes, nails, and skin of a yellowish color, as in jaundice. Such disturbances are called *biliary affections*, or liver complaints, and, in general, proceed from a redundancy or a deficiency of bile. See LIVER, JAUNDICE, &c.; GALL-BLADDER, &c.

—Bitterness of humor; ill feeling; as, to stir one's *bile*.

—An obsolete orthography for BOIL, *q. v.*

Bilediil'ǧerid, the name given to an extensive territory of Africa, embracing the country lying between the S. declivity of Atlas and the Sahara or Great Desert; and between Fezzan on the E., and Cape Num. on the Atlantic, on the W. It mostly consists of vast deserts, differing but little from the Great Desert, with which it is connected. In parts, however, where there is water, extensive plantations of the date-palm, which here flourishes in great luxuriance, are met with. It is said by some that its real name, *Biled-el-Jerid*, means "country of the date-palm;" while others, among whom is Shaw, interpret *Biled-el-Jerid* as meaning dry or "parched country."

Bile'-stone, *n.* (*Med.*) See GALL-STONE.

Bilge, (*bilj.*) [A. S. *bælg*, or *bylg*, a bulge.] (*Naut.*) Of a ship, the bottom of her floor, or the breadth of the part she rests on when aground. — *Bilge-water* is the water which lodges on her floor below the level of the well of the pump; and *bilge-pumps*, or *burr-pumps*, are those that carry it off.

—[A different orthography of *bulge*.] The protuberant part of a cask at the middle.

—*v. n.* (*Naut.*) To suffer a fracture in the *bilge;* to spring a leak.

Bilged, (*bilj-d',*) *a.* (*Naut.*) Having a fracture in the bilge.

Bilge'-ways, *n.* (*Naut.*) Pieces of timber placed under a vessel's bilge to support her when being launched.

Bil'hah, the handmaid of Rachel, given by her to her husband Jacob when herself childless, that she might become a mother through her handmaid. *B.* was the mother of Dan and Naphtali, (*Gen.* xxx. 1-8.)

Bil'iary, *a.* Belonging to the bile.

B. Ducts. (*Physiol.*) By this term is understood the *hepatic*, or liver duct; the *cystic*, or biliary duct; and a continuation from the union of these two, called the common duct of the bile, which carries the secretion into the duodenum. The hepatic duct carries the secretion to the neck of the gall-bladder, or the cystic duct; the last, or common excretory duct, being merely a continuation of the other.

Biliful'vin, *n.* The yellow coloring-matter of the *bile*, q. v.

B. Formations or *Calculi.* (*Med.*) See GALL-STONE.

Bilim'bi, *n.* (*Bot.*) See AVERRHOA.

Bilin, (*be'leen,*) a town of Bohemia, on the Bila, 17 m. from Leitweritz, famous for its mineral springs, the waters of which it exports to the extent of 500,000 jars annually; *pop.* abt. 3,000.

Bilingual, (*bī-lin'gwal,*) *a.* [Lat. *bis*, and *lingua*, tongue.] In two languages.

Bilin'guist, *n.* One who speaks two languages.

Bilin'guous, *a.* Having, or speaking two languages.

Bilious, (*bil'e-us,*) *a.* [Fr. *bilieux;* Lat. *biliosus*, from *bilis*, bile.] Pertaining to bile; affected or produced by bile. An epithet given to certain constitutions and diseases, which are believed to be the effect of superabundance of the biliary secretion; as *B. temperament*, *B. symptoms*, *B. fever;* but often used without any definite ideas, as regards the bile, being attached to it.

Bili'phein, *n.* (*Chem.*) The brown coloring-matter of bile, to which the color of excrement is due.

Bilit'eral, *a.* [Lat. *bis*, and *litera*, a letter.] Consisting of two letters.

Bilk, *v. a.* [Probably a corrupt form of *balk.*] To frustrate or disappoint; to deceive or defraud; as, "your *bilk'd* hopes." — *Dryden.*

—*n.* A cheat; a trick. (R.)

Bill, *n.* [A. S. *bile;* probably related to Lat. *pilum*, a dart or pointed instrument.] (*Zoöl.*) The beak or hard horny mouth of a bird, consisting of two mandibles. There is no appearance of lips either in the upper or lower jaw; and, except in the case of parrots in the fœtal state, and some varieties of water-fowl, they are not furnished with proper teeth. In the two exceptions mentioned, the rudiments of teeth have been observed. A portion of the bill at the base of the upper mandible is covered with a membrane, which is called the *cere*, from the waxy appearance which it presents in some species of birds. It is sometimes covered with feathers, and sometimes it is naked; but it is often found protected by hairs or bristles. The nostrils of a bird are usually situated in the *cere*, but in some cases they are placed so far forward as hardly to be observable. The bills of birds vary in shape according to their habits and the different substances upon which they feed. The bills of birds of prey are very strong, the upper part being hooked and very sharp, so as to be able to tear and cut

Fig. 357. — THE YELLOW VULTURE.

to pieces the flesh of the animals upon which they seize. A strong short bill, with the edges sharp and notched, is the usual indication of courage in a bird, and a sign that it preys upon living animals. The great variety in the modification of the forms of bills is very interesting, and is treated of under the names of the different species of birds; such as crop-bills, spoon-bills, horn-bills, parrots, &c. In the case of those birds which live upon insects, the bill is very seldom found hooked, but usually short and slender. The bills of those birds which catch insects flying, are remarkable for their deep division, which enables them to gape widely. Birds which live upon seeds have short but strong bills, with which they can crush their food. Aquatic birds have, as a general rule, broad sensitive bills, which are provided with laminæ on the inner edge, for the purpose of straining the muddy water, from which they take the principal part of their food. The bills of every species of bird which extracts its food from mud, are modified according to the nature of the food it seeks. Besides the general use of tearing or crushing food, the birds make use of their bills when fighting with each other, and also for the purpose of dressing their plumage, building their nests, and for other functions. Many fishes and reptiles have mouths resembling bills, and the *Ornithorhynchus paradoxus* is a singular specimen of a quadruped with a bill. (See fig. 244.)

—Anything resembling a bird's bill or beak; — a cutting instrument with a hook for *pulling;* an axe; a hatchet; a mattock; the point at the extremity of the fluke of an anchor.

—*v. n.* To caress, as doves by joining bills; to fondle; as, to *bill* and coo.

Bill, *n.* [Norm. *bille*, from Lat. *bulla*, a bubble in water, anything of a round swelling shape, or boss. Melted wax dropped on paper assumes this shape. In the Middle Ages, *bulla* signified a seal.] A term originally applied to any sealed letter or document, but now employed to denote any formal written statement of any kind. — A label or note; an account of money due, or goods purchased; an advertisement posted up; a physician's prescription, &c.

(*Law.*) *B. in Chancery* or *Equity.* A complaint in writing, addressed to the chancellor, containing the names of the parties to the suit, both complainant and defendant; a statement of the facts on which the complainant relies, and the allegations which he makes, with an averment that the acts complained of are contrary to equity, and a prayer for relief and proper process. — On this matter consult STORY, *Equity Pleading.*

B. of Adventure. See ADVENTURE.

B. of Costs. See COSTS.

B. of Credit. Paper issued by the authority of a State, and designed to circulate as money.

B. of Exception. In the trial of civil causes, wherever the court, in making a decision, is supposed by the counsel against whom the decision is made, to have mistaken the law, such counsel may tender exceptions to the ruling, and require the judge to authenticate the bill, stating the point wherein he is supposed to err; and this he is obliged to seal by the statute of Westminster the 2d (13 Edw. I. c. 31), the principles of which have been adopted in all the States of the Union, though the statute has been held to be superseded in some by their own statutes. This bill is in the nature of an appeal, examinable, not in the court out of which the record issues for the trial at *Nisi Prius;* but in the next immediate superior court, upon a writ of error, after judgment given in the court below.

B. of Exchange. See EXCHANGE.

B. of Health. A certificate or instrument granted by a consul, or other competent authority, to the master of a ship at the time of her clearing out from any port or place suspected of being liable to infectious disorders, declaring the state of health in the place at that time. A *clean bill* imports that at the time the ship sailed no infectious disorder was known to exist; a *suspected*, or *touched bill*, denotes that there were rumors of an infectious disorder; a *foul bill*, or the absence of clean bills, imports that the place was infected when the vessel sailed. If the ship brings a clean bill of health, the passengers and goods are not subject to any quarantine; but if a foul or suspected bill, they are subject to a quarantine of qualified duration, according as the infection is known, or only suspected, to have existed in the country at the ship's departure. — See QUARANTINE.

B. of Indictment. See INDICTMENT.

B. of Lading. An acknowledgment signed by the master of a ship, and given to a merchant or consignor, containing an account of the goods which the master has received on board from him, with a promise to deliver them at an intended place, on payment of freight. Each bill of lading must be treble, — one for the merchant who loads the goods, another to be sent to the consignee, and the third to remain with the master of the ship. A bill of lading is only used when the goods sent are only part of the cargo: for, when a merchant loads the whole of the vessel on his own personal account, the instrument passed between him and the master of the ship is called a *charter-party*, q. v.

B. in Legislature. See STATUTE.

B. Obligatory. A bond absolute for the payment of money. It is called, also, a *single bill*, and differs from a promissory note only in having a seal.

B. of Parcels. An account containing in detail the names of the items which compose a parcel or package of goods. It is usually transmitted with the goods to the purchaser, in order that if any mistakes have been made, they may be corrected. It is now but seldom used, the term *invoice* being substituted for it. — See INVOICE.

B. Payable. A bill of exchange accepted, or a promissory note made by a merchant, whereby he has engaged to pay money at a specified date. It is so called from being made payable by him. An account is usually kept of such bills in a book under that title, and also in the ledger. — See BILL-BOOK.

B. Receivable. A promissory note, bill of exchange, or other written security for money payable at a future day, which a merchant holds; so called because the amounts for which they are given are receivable by the merchant at the time stated. They are entered in a book so called, and are charged to an account in the ledger, under the same title, to which account the cash, when received, is credited.

B. of Rights. The declaration delivered by the two Houses of the English Parliament to the Prince of

Orange, Feb. 13, 1688, at the period of his election to the British throne; in which, after a full specification of various acts of James II., which were alleged to be illegal, the rights and privileges of the people were asserted.

B. of Sale. A written agreement under seal, by which one person transfers his right to, or interest in, goods and personal chattels, to another. It is of frequent use in the transfer of personal property, especially that of which immediate possession is not, or cannot be given. By the maritime law, the transfer of a ship must generally be evidenced by a bill of sale; and by Act of Congress, every sale or transfer of a registered ship to a citizen of the U. States, must be accompanied by a bill of sale, setting forth, at length, the certificate of registry.

Bill, *v. a.* To advertise by bills; to cover (as a wall) with bills.—To enter (as goods) in a bill; to charge.

"His masterpiece was a composition that he *billed* about under the name of a sovereign antidote." — *L Estrange.*

Bil'lage, *n.* (*Naut.*) The breadth of a ship's floor when aground.

Billar'diera, *n.* [From the French botanist Labillardière.] (*Bot.*) A genus of plants, order *Pittosporaceæ*. The species are climbing shrubs, natives of Australia and Tasmania, where they are commonly known as apple-berries. They have simple alternate evergreen leaves, and axillary pendulous flowers. The fruits are soft berries, which, when ripe, are of a bluish color, and have a pleasant sub-acid taste. A few species are cultivated in the conservatories of this country, for the sake of their handsome flowers.

Billaud-Varennes, (*bēl-yō-vah'rain,*) Jacques Nicolas, the son of a French advocate at Rochelle, was educated at the same college as Fouché, and proved himself one of the most violent and sanguinary characters of the French revolution. He bore a principal part in the murders and massacres which followed the destruction of the Bastile; voted immediate death to Louis XVI.; and officiated as president of the convention on 18th of Oct., 1793. He was afterwards deported to Cayenne, and subsisted on a small pension allowed him by Petion. B. 1756. D. in Hayti, 1819.

Billbergia, (*bil-ber'ji-a,*) *n.* [From the Swedish botanist Billberg.] (*Bot.*) A genus of plants, order *Bromeliaceæ*. The species are natives of S. America. From the root of *B. tinctoria* a yellow color is extracted in Brazil.

Bill'-boards, *n. pl.* (*Naut.*) Iron-shod stools fixed in the fore channels of a ship, on which the flukes of the anchor are stowed.

Bill'-book, *n.* (*Com.*) A book in which a person keeps an account of all bills issued by, or becoming due to him. See Bill, (Receivable and Payable.)

Bill'-broker, *n.* (*Com.*) One whose business it is to negotiate the discounting or purchase of bills.

Billed, (*bild,*) *a.* (*Zoöl.*) Furnished with a bill, as a bird.

Bil'lerica, in *Massachusetts*, a thriving manufacturing town of Middlesex co., 18 m. N. by W. of Boston. *Pop.* of township, 2,300 in 1890.

Bil'let, *n.* [Fr. *billet*, diminutive of *bille*.] A small paper or note in writing; a little bill.

"When he found this little *billet* . . . . he was exceedingly confounded." — *Clarendon.*

—A ticket given to a soldier on entering a strange town or place of stay, to direct him at what house to lodge.

(*Her.*) A bearing of which the origin is very uncertain; represented on an oblong square form, sometimes showing the thickness, and always with a flat surface.—*Billety*, or *semée of billets*, signifies that the escutcheon or charge is strewed over with these bearings, without regard to particular number or station.

(*Arch.*) See Billet and Zigzag.

—*v. a.* To direct a soldier by a billet or ticket where to lodge; to quarter, as soldiers.

Bil'let, *n.* [Fr. *billot*, a large trunk of a tree; probably allied to *bole*, the trunk of a tree.] A small log of wood for firing purposes.

"Their *billet* at the fire was found."—*Prior.*

Bil'let and Zig'zag, *n.* (*Arch.*) The term given to a moulding frequently introduced in mediæval architecture, consisting of a torus ornamented by alternate chequers, like a staff cut into short lengths and disposed horizontally or around a moulding, and of another moulding, composed of a series of small projections, arranged round a curve in alternate directions, but in a consecutive manner.

Billet-doux, (*bil-la-dō,*) [Fr. *billet*, a small note, and *doux*, sweet, pleasant.] A love note or letter; a tender billet.

"'Twas then, Belinda! if report say true,
Thy eyes first open'd on a *billet-doux*."—*Pope.*

Bil'let-head, *n.* A piece of timber at the bow of a whale-boat, around which the harpoon-line is run out when the whale darts off.

Bil'let-mould'ing, *n.* (*Arch.*) See Billet and Zigzag.

Bill'fish, *n.* (*Zoöl.*) See Scomber.

Bill'hook, *n.* [*bill* and *hook*.] A small hatchet or cleaver with an edge curved inwards towards the point used for cutting billets or stakes of wood.

Billiard, (*bil'yurd,*) *a.* Relating or pertaining to the game of billiards; as, a *billiard*-table.

Billiards (*bil'yardz*), *n. pl.* [Fr. *billard*, from *bille;* Lat. *pilum*, a ball.] (*Games.*) A game played on a rectangular table, bordered by elastic cushions, with ivory balls, which, being struck with the end of a mace or stick, called a *cue* (Fr. *queue*), are caused to strike each other. The standard size of table in America today is 5 by 10 feet, though more commonly the size used is 9 by 4 feet 6 inches. In England the table is 12 by 6 feet and has six pocket-holes, at the corners and sides, to receive the balls. Pockets are no longer used here, except in playing pool, a special form of the game. Billiards was known in the Middle ages, and began in an outdoor game having some resemblance to the game of croquet. It was afterward brought indoors and a table used, the balls being at first two, then three and four in the original American game, in which a table with pockets was used, though these are now discarded. The development of the cue kept pace with that of the table, the flat end of the wooden stick becoming rounded, then covered with leather, and the practice of chalking introduced. The introduction of the third ball (a red one) took place about 1775. It was called *caram* by the French; when brought to England it was named *cannon*. In America the word *carom* was adopted. The various terms applied to this phase of the game mean all one thing, viz., striking both balls with the cue ball. In the three-ball game, as now alone played by experts in this country, the game is played with two white and one red ball, while the table has three spots on a line down the center, known as the white spot, red spot and centre spot, the last only used when a ball, forced off the table, finds both other spots occupied. When the game is begun, the red and one white ball are placed on their respective spots, the other white remaining in hand. The player of the first stroke may take any position within a six-inch radius of the spot at the head of the table. He must strike the red ball first before a count can be made. A carom consists in hitting both object balls with the cue ball in a fair manner, each carom counting one for the player. In the four-ball game it is much more easy to make points, the larger number of balls offering better opportunities for successful caroms, while where pocketing is a feature of the game the chances for success are still higher. In the American game it is the custom to count one point for a single carom and two for a double. There are many rules connected with the game, which may be omitted here. A cushion carom, in the three-ball game, is effected by the cue ball striking one or more cushions before making a carom, or by its first making a carom, then striking one or more of the cushions, and finally striking either of the object balls. It is varied into the two-cushion and the three-cushion carom, whose names indicate their characters. Great runs at billiards by experts have become common. As many as 2,400 points have been made in the old game, by pocketing the spot ball without a carom and counting three points for each pocket. Then a carom was required, and finally the pockets were discarded. Great runs, however, were still made, by dint of nursing the balls near the cushion, to prevent which mode of play the balk-line was introduced. An 8-inch balk-line was first employed, which has now been increased to a 14-inch. The balk lines are drawn lengthwise and crosswise the table, forming spaces within which only three strokes are permitted without driving at least one ball out. Of noted American players Michael Phelan, the "father of American billiards," stands first. After him came in succession Maurice Daly, Dion, Shaefer, Slosson, Wallace, Sexton, Carter and Ives, the champion of to-day. England and France have had similarly their famous players.

Bill'ing, *n.* Act of joining bills, or caressing.

—*a.* Caressing by joining bills.

Bil'lingsgate, *n.* [From a market of this name in the city of London, famous for fine fish and foul language.] Ribaldry; foul language; blackguardism.

"There stript, fair rhetoric languish'd on the ground,
And shameful *billingsgate* her robes adorn." — *Pope.*

Bil'ling's Grove, in *Illinois*, a P. O. of Livingston co.

Bil'lingsly, in *Arkansas*, a P. O. of Washington co.

Bil'lings-port, in *New Jersey*, a village of Gloucester co., on the Delaware, 12 m. from Camden.

Bil'lingsville, in *Indiana*, a post-village of Union co., 70 m. E.S.E. of Indianapolis.

Billion, (*bil'yun.*) [Fr., contracted from Lat. *bis*, double, and *million*.] In numeration, a term used to denote a thousand millions, or 1,000,000,000, according to the French method used on the continent of Europe and in the United States. The English use the same word to denote a million of millions, expressed by the figures 1,000,000,000,000.

Billiton, (*beel'e-ton,*) an island of the E. Archipelago, between Sumatra and Borneo. Lat. 3° 13′ S., Lon. 108° 7′ E. The Dutch maintain a garrison here, and some cruisers on the surrounding seas, to check the piracy to which the natives are prone. *Pop.* about 8,000.

Bill'man, *n.* One who uses a bill or billhook. Applied in former times to soldiers armed with bills.

Bil'lom, a town of France, dep. Puy de Dôme, 14 m. E.S.E. of Clermont; *pop.* 5,166.

Billon, (*bē'lon,*) *n.* [Fr.] (*Coinage.*) An alloy of copper with gold or silver, in which the copper predominates, and which is used in some countries for the smaller denominations of money, thus avoiding the extreme weight and bulkiness of coin formed entirely of copper.

Billot, (*bil'lō,*) *n.* [Fr.; Port. *bilho.*] Same as Bullion, *q. v.*

Billow, (*bil'lo.*) *n.* [O. Ger. *belgan*, to swell, to rage; *Dan. bölge*; Swed. *bolja;* allied to *bilge* or *bulge*.] A great wave of the sea swelling, heaving, and raging.

"To die is landing on some distant shore,
Where *billows* never break, nor tempests roar."— *Garth.*

—*v. i.* To swell; to rise and roll as a wave or surge.

"The *billowing* snow, and violence of the show'r." — *Prior.*

Bil'low-beat'en, *a.* Lashed, or tossed about by billows.

Billowy, (*bil'lo-e,*) *a.* Full of billows, swelling or swelled into large waves.

"And whitening down the mossy-tinctur'd stream,
Descends the *billowy* foam." — *Thomson.*

Bills, *n. pl.* (*Shipbuilding.*) The ends of a compass or knee-timbers.

Bil'ly, *n.* A cant term for a watchman's staff.

Bil'ly, a parish of Ireland, co. Antrim.

Bil'lyboy, *n.* (*Naut.*) A name given in some parts of Great Britain to a fishing-boat, somewhat resembling a lugger.

Bilo'bate, Bi'lobed, *a.* [Lat. *bis*, and Gr. *lobos*, a lobe.] (*Bot.*) Divided into two lobes, or obtuse processes.

Biloc'ular, *a.* [Fr. *biloculaire;* Lat. *bis*, and *loculus*, a shell.] (*Bot.*) Having two cells.

Bilox'i, in *Mississippi*, a city and bathing resort of Harrison co., on a bay of the same name, about 90 m. E.N.E. of New Orleans. *Pop.* (1890) 3,234.

Bil'sa, a town of Hindostan, prov. Malwa, belonging to Scindia, on the E. side of the Betwa, 32 m. N.E. of Bhopaul.

Bil'sen, a town of Belgium, prov. Limburg, on the Demer, 7 m. W. of Maestricht; *pop.* 4,276.

Bils'ton, a market-town of England, co. of Stafford, 11 m. N.W. of Birmingham, and 107 N.W. of London. On account of the numerous iron-smelting furnaces and collieries round about, which give it a sombre appearance, *B.* is often called the capital of the "Black Country." *Manf.* Besides iron-smelting, the manufacture of japanned and enamelled goods is most extensively carried on. *Pop.* 27,251.

Bimac'ulate, Bimac'ulated, *a.* [Lat. *bis*, and *macula*, a spot.] Having two spots.

Bima'na, *n.* [Fr. *bimane;* Lat. *bis*, and *manus*, a hand.] (*Zoöl.*) The term applied by Cuvier to the first or highest order of mammiferous animals. It contains only one genus, and one species — Man, the sole created being that can be termed truly *bimanous* and *biped*. The whole body of man is adapted for the vertical position: he walks erect, and thus preserves the entire use of his hands for the arts, &c., while his organs of sense are more favorably situated for observation and the great mental purposes assigned to them by the Great Author of Nature. — See Mammalia, Man.

Bimane', Biman'ous, *a.* (*Zoöl.*) Two-handed, as mankind.

Bimar'ginate, *a.* (*Conch.*) Having two margins, as certain shells.

Bime'dial, *a.* [Lat. *bis*, and *medius*, middle.] (*Geom.*) When two lines, commensurable only in power, (for example, the diagonal and side of a square,) are joined together, the sum is irrational with respect to either of the two lines, and is called a *bimedial*.

Bimem'bral, *a.* [Lat. *bis*, and *membrum*, a member.] (*Gram.*) Possessing two members, as a sentence.

Bimen'sal, Bimes'trial, Bimonth'ly, *a.* [Lat. *bis*, and *mensis*, a month.] Two-monthly; occurring once in two months.

Bim'ini, a small group of islands hemmed in by reefs, E. of Cape Florida, in the Bahamas.

Bimus'cular, *a.* [Lat. *bis*, and *muscular*.] (*Comp. Anat.*) Having two attaching muscles, and two muscular impressions, as a bivalve mollusk.

Bin, *n.* [A. S. *bin*, a manger, a crib; Frisian, *bin*.] A receptacle for corn; a wooden box or chest, used as a repository for grain or other commodities; as, a corn-*bin*.

"As when, from rooting in a *bin*,
All powder'd o'er from tail to chin."—*Swift.*

Bin, an old spelling of Been.

Bi'nab, a town of Persia, 55 m. from Tabriz.

Binabo'la, or Twelve Pins, a group of mountains in Ireland, co. Galway, 5 m. N.E. of Ballinahinch. They are 12 in number, and form a succession of isolated peaks, the highest of which attains an altitude of 2,400 feet above sea-level.

Binarse'niate, *n.* (*Chem.*) A salt having two equivalents of arsenic acid to one of the base.

Bi'nary, *a.* [Lat. *binus*, from *bis*, two.] Compounded of two; twofold; double.

(*Math.*) *B. Arithmetic*, a species of arithmetic, proposed by Leibnitz, and founded on the shortest and simplest progression; viz., that which terminates with the second cipher. In the binary notation, therefore, only two characters are required, 1 and 0, the zero having the power of multiplying the number it follows by *two*, as in the common notation it multiplies by *ten*. The number *one* is represented by 1; *two*, by 10; *three*, by 11; *four*, by 100; *five*, by 101; *six*, by 110; *seven*, by 111; *eight*, by 1,000; *nine*, by 1,001; *ten*, by 1,010, &c. This method of notation, though it may be applied with advantage in the investigation of some properties of numbers, would be inconvenient for common purposes, on account of the great number of characters required, even when the numbers to be expressed are small.

B. Logarithms, a system of logarithms devised by Euler for facilitating musical calculations, in which 1 is the logarithm of 2, instead of 10, as in the common log., and the modulus 1.442695 instead of .43429448.

B. Scale. See *B.* Arithmetic.

(*Astron.*) A *B. star* is a double star whose members revolve about their common centre of gravity.

(*Mus.*) A *B. measure* is that in which there are two even beats in a bar, usually called *common time*.

(*Chem.*) *B. Compound.* See Chemical Nomenclature.

B. Theory. See Salts.

Bi'nary, *n.* The constitution of two compounds.

Bi'nate, *a.* [Lat. *bis*, and *natus*, born.] (*Bot.*) Growing in pairs; when bodies of the same nature spring from the same point, as often happens in the segments of leaves.

Binche, (*beensh,*) a town of Belgium, prov. Hainault, on the Haine, 9 m. E.S.E. of Mons; *pop.* 5,882.

Bind, *v. a.* (*imp.* bound; *pp.* bound, formerly bounden.) [A. S. *bindan;* O. Ger. *bindan;* allied to *bunch*, *bundle*, and *bend*.] To tie or fasten, to confine, or gird together; as, to *bind* prisoners together; to *bind* a cord of wood, &c. Sometimes followed by *up;* as, to *bind up* a wound.

—Generally, to confine, gird, restrain, or hold in subjection by physical power of any kind; as, frost *binds* the earth. "Who hath *bound* the waters in a garment." *Prov.*

—To render costive; to make constipated; to hinder or restrain from customary action; as, to be *bound* in one's bowels.

"Parts that purge, and parts that *bind* the body."—*Bacon.*

—To form a border round; as, to *bind* the edge of a garment.

—To sew, fasten, or hold together; to invest with a covering; as, to *bind* a book.

"Was ever book, containing such vile matter,
So fairly *bound*?"—*Shaks.*

—To oblige, constrain, or hold by authority, power, predilection, attachment, promise, or any other moral tie. Used in a figurative sense; as, to be *bound* by ties of affection.

"So the loud torrent, and the whirlwind's roar,
But *bind* him to his native mountains more."—*Goldsmith.*

—To compel to serve by express obligation, or legal compact; as, to *bind* an apprentice.

"Though I am *bound* by every act of duty,
I am not *bound* to all that slaves are free to."—*Shaks.*

To bind over. To oblige one by bond, and under penalty to appear at a court of law, to make answer to an alleged charge.

"Sir Roger was staggered with the reports concerning this woman, and would have her *bound over* to the county sessions."—*Addison.*

To bind to. To contract with any body or thing; as, to *bind* a boy *to* a master.

"Now I am cabin'd, crabb'd, confin'd, *bound* in
To saucy doubts and fears."—*Shaks.*

To bind up in. To be absorbed in; to cause to be entirely engrossed with; as, they are *bound up in* each other.

Bind, *v. i.* To be bound; to grow stiff and hard; to contract in parts; as, "It is a *binding* land."—*Mortimer.*

—To be restrained from motion or natural action; as, to be *bound* in port.

—To be obligatory.

"The promises and bargains for truck, between a Swiss and an Indian, in the woods of America, are *binding* to them, though they are perfectly in a state of nature in reference to one another."—*Locke.*

Bind, *n.* That which binds or is bound.

(*Bot.*) A stalk of hops which is bound to a pole by winding round it.

(*Geol.*) A technical name given in some parts of England to the shales alternating with the coal in the coal measures. — See SHALE.

(*Mus.*) A ligature or tie for the purpose of grouping notes together.

Bind'er, *n.* He who binds; especially one whose trade is to bind books.

—Anything which binds; as a rope, ligature, wrapper, fillet, bandage, &c.

"A double cloth, . . . I cut from each end into the middle, into three *binders*."—*Wiseman.*

(*Arch.*) The name generally given to a beam intended to tie or bind together any building. It is applied commonly to the principal piece of timber in a double floor, in which it performs the part of a girder to carry the intermediate parts of the bearing of the ceiling and of the floor joists. They are sometimes called *binding joists.*

(*Mining.*) One who undertakes to keep a mine open.

Bind'ery, *n.* A place where books are bound.

Bind'ing, *p. a.* Making fast with a band; obliging; obligatory, &c.

"And *binding* nature fast as fate,
Left free the human will."—*Pope.*

—*n.* Anything that binds; a bandage; the cover, sewing, &c. of a book; the hemmed edge of a garment, &c.

(*Fencing.*) A method of securing or crossing an adversary's sword with a pressure, accompanied with a spring of the wrist.

—*pl.* (*Naut.*) The iron wrought round the dead-eyes of a ship.

Bind'ingly, *adv.* So as to oblige.

Bindrabund', a town of Hindostan, prov. Agra, on the Jumna, 35 m. N.N.W. of Agra. The place is famous

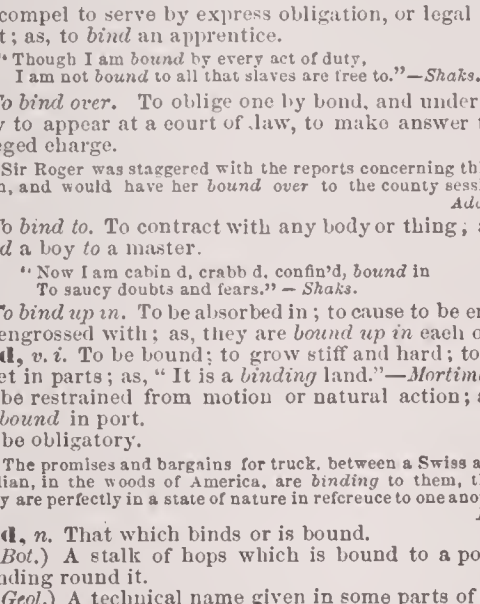


Fig. 358.— PAGODAS AT BINDRABUND.

in the history of Krishna, to whom many temples are dedicated. The principal pagoda is one of the most elaborate and massive works of Brahminical architecture. There are also numerous sacred pools, where pilgrims perform ablution.

Binding out. (*Law.*) A term applied to the contract of apprenticeship. The contract must be by deed, to which the infant, as well as the parent or guardian, must be a party, or the infant will not be bound.

Binding over. (*Law.*) The act by which a magistrate or court holds to bail a party accused of a crime or misdemeanor.

Bind'weed, *n.* (*Bot.*) See CONVOLVULUS.

Bine, *n.* [From *bind.*] (*Bot.*) The climbing stem of a plant; as, the wood*bine.*

Biner'vate, *a.* [Lat. *bis,* and *nervus,* a nerve.] (*Bot.*) Two-nerved.

(*Zoöl.*) A term used to denote the wing of an insect when supported by only two nerves.

Bing, *n.* [Dan. and Swed. *binge;* Icel. *bingr.*] (*Manf.*) A heap of alum thrown together in order to drain.

Bing'en, a town of Germany, in the grand-duchy of Hesse Darmstadt, at the confluence of the Nahe with the Rhine, 14 m. W. of Mentz (Fig. 2259). Near it is the *Binger Loch,* a dangerous rapid in the Rhine. *Pop.* 6,622.

Bing'ham, in *Maine,* a post-township of Somerset co., on the Kennebec River, about 70 m. N. of the city of Augusta.

Bing'ham, in *Michigan,* a township of Clinton co., about 22 m. E. of Lyons.

—A township of Huron county, 110 miles north of Detroit.

Bing'ham, in *Ohio,* a post-office of Monroe co.

Bing'ham, in *Pennsylvania,* a post-township of Potter county, 18 m. N.E. of Coudersport, on the Genesee River.

Bing'hamton, in *California,* a P.O. of Solano co.

Bing'hamton, in *Illinois,* a village of Lee co., 100 m. W. of Chicago.

Bing'hamton, in *New York,* a township and flourishing city, cap. of Broome co., situated at the junction of the Susquehanna and Cheuango rivers, 225 m. from New York city, and 80 from Syracuse. It is a handsome and prosperous place, doing an extensive trade in cigars, grain and lumber. *Pop.* in 1890, 35,000.

Bing'hamton, in *Wisconsin,* a P.O. of Outagamie co.

Bing'hamstown, or SALEEN, a small seaport of Ireland, co. Mayo, on Blacksod Bay, 3 m. S.S.W. of Belmullet.

Bing'ley, a town of England, in Yorkshire (West Riding), 178 m. N.W. by N. of London, and 32 W. by S. of York.

Binkley's Bridge, in *Pennsylvania,* a post-office of Lancaster co.

Binnacle, (*bin'na-kl,*) (sometimes called BITTACLE,) *n.* [A supposed corruption of *binocle,* q. v.; Fr. *habitacle,* from L. Lat. *habitaculum,* a place for the steersman and pilot.] (*Naut.*) The case or stand on board a vessel in which the steering compass is placed. It is fixed in front of the tiller or wheel. At night the compass is illuminated by a lamp placed over it.

Binocle, (*bin'o-kl,*) *n.* [Lat. *binus,* double, and *oculus,* the eye.] (*Optics.*) A dioptric telescope for viewing objects with both eyes at once.

Binoc'ular, *a.* [Fr. *binoculaire.*] Having two eyes.

"Most animals are *binocular,* spiders for the most part octonocular, and some senocular."—*Derham.*

—Relating or belonging to both eyes; as, *binocular* sight.

—Adapted for use by both eyes at one time, as a *binocular* telescope.

Binocular Perspective, *n.* See PERSPECTIVE.

Binoc'ulate, *a.* Possessing two eyes.

Bino'mial, *n.* [Lat. *bis,* and Gr. *nomos,* law.] (*Algebra.*) A quantity composed of two terms connected together by the signs + or —; thus, $a+b$ and $c-5$ are binomial quantities.

—*a.* Consisting of, or relating to, two terms; as, a *binomial* root.

Bino'mial Equation, *n.* (*Math.*) In algebra, an equation which consists of two terms, and is, therefore, reducible to the form $x^n=A$, or $x^n-A=0$. It has, of course, n roots, all of which are unequal. If a be any one of them, then, putting $x=ay$, the equation is reduced to $y^n-1=0$; so that the n roots in equation may be found by multiplying any one of them by the several n^{th} *roots of unity.*

Bino'mial Theorem, *n.* (*Math.*) In algebra, a formula discovered by Newton, for expressing any power of a binomial quantity. It is usually written thus:

$$(1+x)^n=1+nx+\frac{n\,(n-1)}{1.\ 2.}x^2+\frac{n\,(n-1)\,(n-2)}{1.\ 2.\ 3.}x^3+,\ \&c.$$

from which four terms the law of the whole series will be sufficiently apparent. The method of obtaining the formula, and of proving its validity for all values of n, will be found in any good algebra. When n is a positive integer, the series is finite, and consists of $n+1$ terms; in all other cases it is infinite, but convergent whenever x is numerically less than 1, no matter what n may be. It would be useless to attempt to describe the applications of this formula in mathematics; it is beyond question the most important one of elementary algebra.

Binom'inal, Binom'inous, *a.* [Lat. *bis,* double, and *nomen,* name.] Having two names; double-named.

Binor'mal, *n.* [Lat. *bis,* and *norma,* a rule.] (*Geom.*) A term employed by Saint-Venant (*Jour. de l'Ecole Polytechnique,* cap. 30) to denote the line through a point of a non-plane curve which is perpendicular to two consecutive elements. It lies of course in the normal plane, and is perpendicular to the osculating-plane. The locus of binormals to a given curve is a skew surface, the generators of which are cut orthogonally by the curve.

Binot, (*bē'no'.*) [Fr. *binoter.*] (*Agric.*) A kind of plough having a double mould-board.

Binot'onous, *a.* [Lat. *bis,* and *nota,* a note.] Having two notes.

Bi'nous, *a.* [Lat. *bini,* two by two, from *binus.*] (*Bot.*) Binary; double; in a pair, as leaves.

Binox'ide, BINOX'YD, *n.* [Lat. *bis,* and Eng. *oxide.*] (*Chem.*) A neutral combination of two equivalents of oxygen and one equivalent of some other body, as *binoxide* of hydrogen, formerly called *deutoxide.*

Bins, *n. pl.* [See BIN.] Open subdivisions in a cellar for the reception of bottled wine; as, bring me a bottle out of the best *bin.*

Bintang, (*bēen'tang,*) an island of the Dutch East Indies, about 40 m. S.E. of Singapore. Lat. 1° 5′ N., Lon. 104° 29′ E.; *area,* 600 sq. m.; *prod.* gum, pepper, and rice; *pop.* about 13,000.

Binu'clear, *a.* [Lat. *bis,* and *nucleus,* kernel.] Possessing two nuclei or kernels.

Biobio, (*bee'o-bee'o,*) the largest river of Chili, running W.N.W. from the Andes to Concepcion, on the Pacific, where its mouth is 2 m. wide. It is navigable for boats from the sea to the mountains. Length, 200 m.

Biocellate, (*bi-os'se-late,*) *a.* [Lat. *bis,* and *ocellus,* an eyelet.] (*Zoöl.*) A term applied to an insect's wing when marked with two eye-like spots.

Biodynam'ics, *n.* [Gr. *bios,* life, and *dynamis,* force.] (*Med.*) The doctrine of the vital activity or forces.

Biogen'esis, *n.* [Gr. *bios,* life, and *genesis,* birth.] (*Zoöl.*) A term used to define the science which speculates upon the mode by which new species have been introduced on this planet.

Biographer, (*bi-og'ra-fer.*) *n.* [See BIOGRAPHY.] A writer of biography, or of other people's lives.

Biograph'ic, Biograph'ical, *a.* Pertaining, or relating, to biography.

Biograph'ically, *adv.* In the manner of a biography.

Biog'raphize, *v. a.* To write a history of any one's life.

Biog'raphy, *n.* [Gr. *bios,* life, and *graphō,* to write, to delineate.] A delineation or history of the life and character of a particular person.—Biographical writings generally.—*B.,* in the progress of literature, appears to be nearly coeval with history itself. It has been ingeniously described as "history teaching by example;" and this mode of instruction was, perhaps, peculiarly appropriate to early and simple times, in which the relative importance of individual men to the society in which they lived was greater than it can ordinarily be in periods of more advanced civilization. It is to a comparatively late age that we owe all the more interesting works of this description, some of which are among the most popular relics of the classical ages:—the *Lives of Illustrious Men,* by Plutarch and Cornelius Nepos; the *Lives of the Cæsars,* by Suetonius; and the *Lives of the Philosophers,* by Diogenes Laertius. *B.* may be said in strictness to differ from history not merely in the extent of the subject, but also, and perhaps more characteristically, in the mode in which that subject is treated. It is the object of history to make us acquainted with the influence, which the actions, the characters, and the thoughts of individual men have produced on the course of events affecting society in general: conversely, it appears to be the province of the biographer to detail the effects which have been produced by external occurrences and circumstances on the character and conduct of individuals. Modern biography dates from about the 17th century, and has since developed itself to such an extent that it would be an interminable task to attempt to enumerate them. Among the best individual biographies in the English language must be mentioned Boswell's *Life of Johnson,* G. H. Lewes's *Life of Gœthe,* and Washington Irving's *Life of Columbus.* Of collective biography we have, in French, the *Biographie Universelle,* 52 vols., (1811–1828,) and continued by supplements; and the *Nouvelle Biographie Universelle,* begun in 1853. In English we have the *Dictionary of National Biography,* begun in 1885, and still under process of publication, about 50 vols. having been issued. Collections of American biography include the *National Cyclopedia of American Biography* and *Appleton's Cyclopedia of American Biography.* A work of great value in this connection is *Allibone's Dictionary of Authors.*

Biolog'ical, *a.* Pertaining to biology.

Biology, (*bī-ol'o-je*) *n.* [Gr. *bios,* life, and *logos,* discourse, treatise.] The science of life; a discourse of, or concerning, life; physiology, treating of life in general.—See PHYSIOLOGY.

Biolyt'ic, *a.* [Gr. *bios,* life, and *luein,* to destroy.] That which relates to the destruction of life; as, a *biolytic* agent.

Biot, JEAN BAPTISTE, (*be'o,*) a very eminent French mathematician and chemist, b. at Paris, 1774. After a brilliant course of study, he was called to the chair of Mathematics at the Central School of Beauvais, whence he removed, in 1800, to the College of France, to hold the professorship of Natural Philosophy. He was chosen by the Board of Longitudes to make observations along the English arc of the meridian, and for that purpose visited England in 1817. It was during that visit that Humboldt, Arago, and *B.* met at Greenwich Observatory. *B.* had previously assisted in measuring the arc of the meridian extended through Spain. He was a member of the French Academy of Sciences, of the Institute, and a foreign member of the Royal Societies of London and Edinburgh, and of many other scientific societies. He is especially celebrated as the discoverer of the circular

polarization of light. Besides numerous memoirs contributed to the Academy and to scientific journals, *B.* wrote *Traité Elémentaire d'Astronomie Physique; Traité de Physique Experimentale et Mathématique; Recueil d'Observations géodésiques*, &c., &c. D. 1862.

Biotina, Biotine, (*bī-o-tē'na.*) [Named from M. Biot, *q. v.*] (*Min.*) A volcanic product, found on Mount Vesuvius, chiefly compounded of silica, alumina, and lime.

Bipal'mate, *a.* [Lat. *bis*, and *palmate*, q. v.] (*Bot.*) Having a palmate arrangement on secondary petioles which are palmately arranged on the primary petiole.

Bipari'etal, *a.* [Lat. *biparietalis.*] (*Anat.*) An epithet for the diameter of the cranium from one parietal fossa to the other.

Bi'parous, *a.* [Lat. *bis*, and *pario*, to bring forth.] Bringing forth two at a birth.

Bipar'tible, Bipar'tile, *a.* [Lat. *bis*, and *partibilis.*] That which is susceptible of division into two parts.

Bipar'tient, *a.* [Lat. *bis*, twice, and *partire*, to divide.] Dividing into two parts.

Bi'partite, *a.* [Lat. *bis*, and *partitus*, divided, from *partio*, to divide.] (*Bot.*) Having two correspondent parts.

(*Law.*) Of two parts; — a term used in conveyancing; as, this indenture is *bipartite* between A, of the one part, and B, of the other part.

Bipartition, (*bi-part-tish'un,*) *n.* The act of making two correspondent parts.

Bipec'tinate, *a.* [Lat. *bis*, and *pecten*, a comb.] (*Bot.*) When a part has two margins toothed like a comb.

Bi'ped, *n.* [Lat. *bipes — bis*, and *pes, pedis*, a foot.] An animal having two feet; man. — See BIMANA.

Bip'edal, Biped, *a.* [Fr. *bipedal.*] Having two feet, or being of the length of two feet.

"Became a helpless, naked, *biped* beast." — *Byron.*

Bipelta'ta, *n.* [Lat. *bis*, and *pelta*, a buckler.] (*Zoöl.*) A name given to those Crustacea which have the carapace divided into two shields, the anterior of which is very large, more or less oval, composing the head; and the second, corresponding with the thorax, is transverse and angulated in the outline, and bears the foot-jaws and the ordinary feet.

Bipel'tate, *a.* Defended by a double shield.

Bipen'nate, Bipen'nated, *a.* [Lat. *bis*, twice, and *pennate*, q. v.] Having two wings.

Bipes, (*bi'pees.*) *n.* [Lat. *bis*, twice, and *pes*, a foot.] (*Zoöl.*) A genus of reptiles in which the hind-feet alone are visible, there being externally a total absence of the anterior extremities, though the rudiments of these members are perceptible under the skin. This genus affords an example of one of those beautiful gradations by which nature glides from one type of form into another, being intermediate between the *Saurians* (lizards), and the *Ophidians* (serpents).

Bipet'alous, *a.* [Lat. *bis*, and *petalous.*] (*Bot.*) Having two petals or flower-leaves.

Bipin'nate, Bipin'nated, *a.* [Lat. *bis*, and *pinnate.*] (*Bot.*) Twice pinnate; as in *Fumaria officinalis.*

Bipinnat'ifid, *a.* [Lat. *bis*, and *pinnatifid*, q. v.] (*Bot.*) Doubly or twice pinnatifid.

Bi'plicate, *a.* [Lat. *bis*, and *plicare*, to fold.] (*Bot.*) Twice folded together.

Bipli'city, *n.* [See SUPRA.] Reduplication; state of being twofold. (R.)

Bipo'lar, *a.* [Lat. *bis*, and *polar*, q. v.] Doubly polar; having two poles.

Bipolar'ity, *n.* Double polarity.

Bi'pont, Bipon'tine, *a.* (*Bibliog.*) Pertaining to books published at Deux Ponts, (anc. *Bipontium.*)

Bipunct'ual, *a.* [Lat. *bis*, and *punctual.*] Two-pointed.

Bipu'pillate, *a.* [Lat. *bis*, and *pupilla*, the pupil of the eye.] (*Zoöl.*) A term applied when an eye-like spot on the wing of a butterfly has two dots or pupils within it of a different color.

Biquadrate, (*bi-kwod'rāt.*) [Lat. *bis*, and *quadratus*, squared.] The same as BIQUADRATIC.

Biquadrat'ic, *n.* (*Alg.*) The power immediately succeeding the cube; that is the square of the square, or fourth power; as, 16 is the *B.* or *B.* power of 2; for 2×2 is 4, and 4×4 is equal to 16.

—*a.* Belonging to the fourth or biquadratic power. — *B. Root of a number* is the square root of its square root; thus the biquadratic root of 81 is 3; for the square root of 81 is 9; and the square root of 9 is 3. — *Biquadratic Equation*, an equation where the unknown quantity of one of the terms has four dimensions. Any biquadratic equation may be generated by the multiplication of four simple equations; or by that of two quadratic equations.

(*Geom.*) *B. Parabola.* A curve line of the third order, having two infinite legs tending the same way.

Biquin'tile, *n.* [Lat. *bis*, and *quintile*, q. v.] (*Astron.*) An aspect of the planets when they are distant from each other by twice the fifth part of a great circle, or 144°.

Bir, or **Beer,** (*bir,*) (anc. *Birtha,*) a town of Asiatic Turkey, on the Euphrates, 75 m. N.E. of Aleppo, and 38 W.S.W. of Orfa; Lat. 36° 59′ N., Lon. 38° 7′ 15″ E. *B.* is the point at which travellers and caravans between Aleppo, on the one side, and Orfa, Diarbekr, &c., on the other, cross the Euphrates. It is also the nearest point on the Euphrates to Iskanderoon, and has latterly become celebrated from its being the point at which Col. Chesney has proposed to begin and terminate the navigation of the Euphrates. — See EUPHRATES.

Bira'diate, Bira'diated, *a.* [Lat. *bis*, and *radius*, a ray.] When a part has two rays.

Birch, *n.* [A. S. *birce*; Ger. *birke*; O. Ger. *bircha*; Dan. *birke.*] (*Bot.*) See BETULA.

Birch, Birch'en, *a.* [A. S. *beorcen.*] Made of birch; consisting of birch.

"His beaver'd brow a *birchen* garland bears." — *Pope.*

Bir'chardville, in *Pennsylvania*, a post-office of Susquehanna co.

Birch Cooly, in *Minnesota*, a village of Renville county.

Birch River, in *W. Virginia*, a post-office of Nicholas co., 284 m. W. by N. of Richmond.

Birch Run, in *Michigan*, a post-village of Saginaw co., 15 m. N. by W. of Flint.

—A post-township of Saginaw co., about 15 m. S.E. of Saginaw.

Birch'ville, in *Michigan*, a township of St. Clair co., on Lake Huron.

Birch'wood, in *Tennessee*, a post-office of James county.

Birch'-wine, *n.* Wine made from the sap of the birch; formerly held in great repute.

Bird, *n.* [A. S.] (*Zoöl.*) The class "birds" is one of the best defined and most distinct, whether viewed with reference to the exterior or interior. Birds are oviparous vertebrate animals, with a double and complete circulation; to which may be added, that the respiration is aërien and double; which means, that, instead of being confined to the lungs, as in mammals, the air penetrates throughout the body, and even into the interior of the bones; their blood is hot, as in mammals. Finally, they are covered with feathers, and their pectoral extremities have the form and character of wings. The symmetry and elegance discoverable in the outward appearance of *B.*, although highly pleasing to the sight, are yet of much greater importance when considered with respect to their peculiar habits and modes of living, to which they are eminently subservient. Every part of their frame is formed for lightness and buoyancy; their bodies are covered with a soft and delicate plumage, so disposed as to protect them from the intense cold of the atmosphere through which they pass; their wings are made of the lightest materials, and yet the force with which they strike the air is so great as to impel their bodies forward with astonishing rapidity, while the tail serves the purpose of a rudder to direct them to the different objects of their pursuit. The internal structure of *B.* is no less wisely adapted to the same purposes; all the bones are light and thin, and all the muscles, except those which are appropriated to the purpose of moving the wings, are extremely delicate and light; the lungs are placed close to the backbone and ribs; the air entering into them by a communication from the wind-pipe, passes through, and is conveyed into a number of membranous cells which lie upon the sides of the pericardium, and communicate with those of the sternum. In some *B.* these cells are continued down the wings, and extended even to the pinions, thigh-bones, and other parts of the body, which can be filled and distended with air at the pleasure of the animal. The skeleton is composed of nearly the same elements as in mammals, but the form and disposition of many

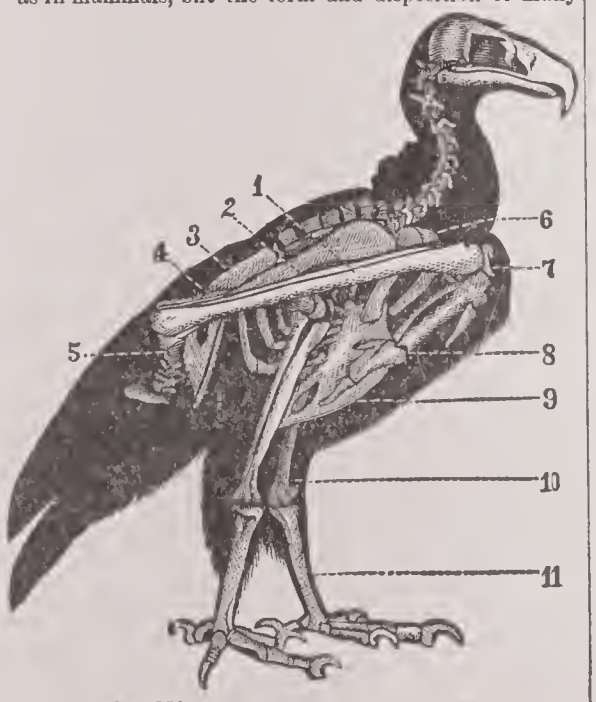


Fig. 359. — SKELETON OF THE VULTURE.

1. Scapula.	5. Vertebra of the tail.	9. Sternum.
2. Femur.	6. Corocoid bone.	10. Tibia.
3. Sacrum.	7. Carpus.	11. Tarsus.
4. Pelvis.	8. Humerus.	

of the bones are different. The pectoral muscles, which give motion to their wings, are amazingly strong, while those of their thighs are weak and slender. By means of these, a *B.* can move its wings with a degree of strength which is almost incredible; the flap of a swan's wing would break the leg of a man; and a similar blow from an eagle has been known to cause instant death. Such, consequently, is the force of the wing, and such its lightness, as to be inimitable by human art. The eyes of *B.* are admirably adapted to vision, by a particular expansion of their optic nerves, which renders the impression of external objects more vivid and distinct. From this peculiar conformation, it appears that the faculty of sight in *B.* is infinitely superior to that of other animals, and, indeed, is indispensably necessary to their support and security. Were the eye less perfect, the *B.*, from the rapidity of its motion, would probably strike against almost every object in its way, as well as be totally incapable of discerning its proper food when soaring in its own element. In mental capacity, *B.* fully equal quadrupeds, and in some respects surpass them. Parrots, starlings, &c., retain in memory many words and phrases which they have been taught, and many singing-birds whole melodies. Their powers of memory seem also to be evinced by the fact that birds of passage, after an absence of six months, or even a longer time, and after travelling thousands of miles, return to their former home: the swallow to her beam, the finch to the tree where last year she reared her young, or where she herself was hatched. The difference between such *B.* as love to dwell in uninhabited places, secure from persecution, and such as are found in the neighborhood of man, surrounded by dangers, is a proof that their prudence, cunning, and docility can be awakened and improved. The voice is a peculiar gift of Nature, by which the greater part of *B.* are distinguished from all the rest of the animal world. The wind-pipe of *B.* is composed of entire rings of cartilage, with an exception in the case of the ostrich. At its bifurcation is a glottis supplied with appropriate muscles, called the lower or inferior larynx. It is here that the voice of birds is formed; the vast body of air contained in the air-cells contributes to the force, and the wind-pipe, by its form and movements, to the modification, of the voice. The superior larynx is very simple and unimportant. The gift of song is given to the male birds only, and their notes are mostly an expression of love. They sing only when they are cheerful; in sadness, during rough weather, and in bodily disorders, they are silent. To no other animal have such various tones been granted for giving utterance to different feelings: hunger, fear, the dread of imminent danger, desire for society, or longing for his mate, love, melancholy, &c., are expressed by a variety of notes, which make a language intelligible not only to *B.* of the same species, but often to the other tribes. — *B.* may be distinguished, like quadrupeds, into two kinds or classes — *granivorous* and *carnivorous;* like quadrupeds, too, there are some that hold a middle nature, and partake of both. Granivorous *B.* are furnished with larger intestines, and proportionally longer, than those of the carnivorous kind. Their food, which consists of grain of various sorts, is conveyed whole and entire into the first stomach or craw, where it undergoes a partial dilution by a liquor secreted from the glands and spread over its surface; it is then received into another species of stomach, where it is further diluted; after which it is transmitted into the gizzard or true stomach, consisting of two very strong muscles, covered externally with a tendinous substance, and lined with a thick membrane of prodigious power and strength; in this place the food is completely triturated and rendered fit for the operation of the gastric juices. Carnivorous *B.* are distinguished by those endowments and powers with which they are furnished by Nature for the purpose of procuring their food; they are provided with wings of great length, the muscles which move them being proportionally large and strong, whereby they are enabled to keep long upon the wing in search of their prey; they are armed with strong, hooked bills, and sharp and formidable claws; they have also large heads, short necks, strong and brawny thighs, and a sight so acute and piercing, as to enable them to view their prey from the greatest heights in the air, upon which they dart with inconceivable swiftness and undeviating aim. The analogy between the structure of rapacious birds and carnivorous quadrupeds is obvious; both of them are provided with weapons which indicate destruction and rapine; their manners are fierce and unsocial; and they seldom live together in flocks, like the inoffensive granivorous tribes. When not on the wing, rapacious birds retire to the tops of sequestered rocks, or to the depths of extensive forests, where they conceal themselves in sullen and gloomy solitude. —Every form which the most lively fancy could create, and every hue that the imagination could conceive, are to be found in the feathers of birds. Two changes occur in the feathers, — one in the spring and another in the autumn. In the former case the change occurs just before the breeding-time, and the *B.* gains a number of new feathers without losing the old ones. In the latter, or moulting season, the old feathers fall off and new ones appear. The feathers of the wings are larger and stronger than those on other parts of the body. They are called wing-feathers, quill-feathers, or quills. At the base of each quill are small feathers called wing-coverts. The tail-feathers are also provided with coverts above and below. Many *B.* have very ornamental plumage in their tails; and the feathers often take other remarkable forms in different parts of the body; such as shoulder-tufts, ruffs, crests, &c. When spring approaches, wild birds begin to pair and to make arrangements for their young. The notes of the male bird at this time are very loud; and the marriage contract then entered into is for the season faithfully adhered to. In case one of the pair dies, its mate does not survive it long. The reproduction of the species among *B.* is carried on by means of eggs, which pass from the body of the female and are afterwards hatched. The warmth necessary for incubation is usually derived from the body of the *B.*, which sits upon the eggs. This duty is generally performed by the female; but in some cases it is undertaken by the male. Many sea-fowl make no nests, but deposit their eggs on the bare rock, or in rough holes scratched out of the earth or sand. The

BIRDS.

1 BLUE-AND-RED MACAW.
2 INCOMPARABLE BIRD OF PARADISE.
3 GOLDEN BIRD OF PARADISE.
4 RESPLENDENT TROGON.
5 KING BIRD OF PARADISE.
6 FIRE WEAVER.
7 PARADISE FLYCATCHER.
8 BROAD-SHAFTED WHIDAH-BIRD.
9 MARSH HAWK.
10 BALD EAGLE.
11 BARRED OWL.
12 GOLDEN PHEASANT.

1

2

3

4

5

6

7

8

9

10

11

12

ostrich allows her eggs to be hatched by the heat of the sun in warm climates; but she sits and broods over them when the temperature is colder. *B.* generally brood once in the year, but some brood twice; and the number of eggs they lay varies from one to twenty. The cuckoo and a small number of other *B.* lay their eggs in the nests of other birds, in order to be hatched by them; and several birds are able to run about and find food as soon as they leave the nest, while others remain in the nest for days and weeks before they can venture out. During this period the parent birds find food for them. At the breeding-season, birds are often gregarious, and sometimes live together in one large nest. Birds'-nests are constructed with such delicate and exquisite art and ingenuity, as to call forth the admiration of every observer. Birds of the same species, wherever they may be found, build their nests with the same kind of materials and in the same manner. The situations they select, the materials they use, and the form in which they build, are wonderfully adapted to the particular nature and necessities of the bird. They are generally lined with moss, wool, fine hair, or down and have an exterior composed of straws, twigs or roots, and dry grass, mixed with clay. Birds that build early in the spring, such as the blackbird and thrush, line their nests with loam, in order to keep out the cold air. The common sparrow, who builds four or five nests in the year, is not particular as to the situation he chooses. Sometimes he locates himself in ivy, sometimes in trees and hedges, and often under the eaves of houses. Some birds carefully conceal their nests, and some leave them open and apparent; some, like the Jay, build them so loosely that the eggs can be seen through the twigs: and others very compactly, such as the golden-crested Wren, which constructs its nest with small pieces of moss and spiders' web interweaved. It is nearly an inch in thickness, and is lined with a profusion of soft downy feathers. A very curious nest is that of the Tailor-bird, (*Sylvia sutoria.*) It is for the most part composed of two leaves, one of them being dead; the latter is fixed by the ingenious bird to the living leaf as it hangs from the tree, by sewing both together, like a pouch or purse; this is open at the top, the cavity being filled with fine down; it is

Fig. 360. — NEST OF THE TAILOR-BIRD.

suspended from the branch, so as almost to secure it from the attacks of reptiles and monkeys. While hatching, all birds, as a general rule, resort to those places where their particular food is plentiful, and where there is an abundance of the proper material with which to construct their nests. Some water-fowls pluck the down from their own breasts, in order to line their dwellings; but they usually build in out-of-the-way places, since their food is not that which is gathered by ordinary birds. While hatching, the female bird is remarkably patient. She is usually plump when she begins to sit; but before the eggs are hatched she is almost reduced to a skeleton. Neither hunger nor danger will make her leave her post of duty; but if, after being absent, the male and female birds perceive that their nest has been meddled with, they will often leave, and build in a securer place. After the young are fledged and flown, the nest is generally deserted. Many small birds live upon worms, caterpillars, &c.; and it has been remarked, "that a single pair of sparrows, during the time they are feeding their young, will destroy about 4,000 caterpillars weekly; they likewise feed their young with buttorflies and other winged insects, each of which, if not destroyed in this manner, would be productive of many thousands of caterpillars." The sparrow is usually believed to be the gardener's enemy; but this would seem to show the reverse. While moulting or changing their feathers, many birds turn sickly, and often die. Every country and climate have birds, which are peculiar to them; but many migrate to distant lands when the season becomes too severe for them. Near the equator the birds are remarkable for their brilliant and varied plumage; but their voices are usually harsh and discordant. In the frigid zone, where fish are plentiful, they are mostly aquatic, and their plumage consists of soft, warm, downy feathers. In all countries, birds live longer, comparatively, than either men or quadrupeds in the same place. Many kinds of birds are important in an economical sense. A large profit is derived from the rearing of domestic fowls: and the flesh and eggs of most birds can be eaten. The flesh of fish-eating birds and birds of prey is considered unpleasant. Feathers are employed in many useful and ornamental ways, and the dung of birds is useful for manure. — The longevity of birds is regarded as about ten times as great as the period which they require to come to maturity or full growth. Domestic fowls live to the age of twenty years; parrots, thirty years; geese, fifty: while swans, ravens, and eagles are said to live a century. — The class of *B.* comprises ten to twelve thousand species, and their classification is difficult by reason of the great uniformity of their structure. Their distinguishing characters, as being in relation with their régime, have been taken chiefly from the conformation of the bill and legs. Cuvier divided them into six orders, — namely, *Rapacious B.*, *Passerines*, *Climbers*, *Gallinaceous B.*, *Waders*, and *Palmipedes*. We follow generally, in this work, the writings of Baird, Audubon, and Wilson, who divide the class *B.* into 7 orders: *Raptores* or *Ravenous*, (corresponding to the ord. *Accipitres* or Linnæus,) *Scansores* or *Climbers*, *Insessores* or *Perchers*, *Rasores* or *Scratchers*, *Cursores* or *Runners*, *Gralatores* or *Waders*. — See BILL, WING, EGG, HATCHING, MIGRATORY BIRDS, &c.

Bird, *v. i.* To catch or snare birds.

"I do invite you to-morrow morning to my house, to breakfast; after, we'll a *birding* together." — *Shaks.*

Bird'-bolt, *n.* An arrow, broad at the end, used for shooting birds.

"To be generous . . . . is to take those things for *bird-bolts* that you deem common bullets." — *Shaks.*

Bird'-cage, *n.* A box or cage of wire strengthened with wood, wherein to keep birds. They are also made of wicker-work and other materials, and vary much in size, style, &c.

Bird'-call, *n.* A pipe for imitating the notes of birds.

Bird'-catcher, *n.* A fowler; one whose employment it is to catch or decoy birds.

"A poor lark entered into a miserable expostulation with a *bird-catcher*, that had taken her in his net." — *D'Estrange.*

Bird'-catching, *n.* [*bird* and *catch.*] The art of decoying, snaring, and taking wild birds. See NET, and TRAP.

Bird-catching Spider, *n.* (*Zoöl.*) See MYGALE.

Bird'-cherry, *n.* [*bird* and *cherry.*] (*Bot.*) See CERASUS.

Bird'er, *n.* A bird-catcher.

Bird'-eye, *a.* That is seen from above, as by a bird. — *Worcester.* — See BIRD'S EYE.

Bird'-eyed, *a.* Keen- or quick-sighted.

Bird'-fancier, *n.* One whose hobby or pleasure it is to collect and rear curious and valuable birds.

—One who vends birds in cages; one who sells birds.

Bird Hill, in *Maryland*, a post-office of Carroll co.

Bird'ing-piece, *n.* A fowling-piece; a gun to shoot birds with. (o.)

Bird'-like, *a.* Resembling a bird.

Bird'-lime, *n.* A glutinous substance, extracted from the inner bark of the holly, and used for catching birds. The bark is bruised, boiled with water till very soft, and then placed in pits to ferment. After two or three weeks, a curious viscid mass is found in the place of the soft bark; this is boiled with a fresh quantity of water, and evaporated to a proper consistence. *B.* may also be prepared from the berries of the mistletoe, from the young shoots of the elder, and from the cellular portions of other plants. When used, it is spread on twigs or wire-netting, and the wild birds are often drawn to the sticky perches by the treacherous singing of a decoy-bird, placed in a cage near to them.

Bird'-limed, *a.* Smeared or prepared with bird-lime.

Bird'man, *n.* A bird-catcher; a fowler.

Bird-of-Par'adise, *n.* (*Zoöl.*) See PARADISEIDÆ.

Bird'-organ, *n.* A small hand-organ used in teaching birds to sing.

Bird'-pepper, *n.* (*Bot.*) See CAPSICUM.

Birds'borough, in *Pennsylvania*, a thriving manuf. town of Berks co., on Schuylkill river and 3 lines of R.R., 9 m. S.E. of Reading. *Pop.* (1898) 2,540.

Bird's'-eye, *n.* (*Bot.*) See PRIMULA.

Bird's'-eye, *a.* Seen from above, as if by a flying bird.

Bird's-eye View. (*Fine Arts.*) A term used to denote a view arranged according to the laws of perspective, in which the point of sight, or situation of the eye, is placed at a considerable height above the object viewed and delineated. In architectural representations it is used chiefly for the purpose of representing the disposition of the different courts or quadrangles, or roofs of a building. It is a useful method of representing battles, as also of conveying a general notion of a small district of a country. — See PERSPECTIVE.

Bird's Eye, in *Indiana*, a post-office of Dubois co.

Bird's-eye Maple, *n.* A name given to the wood of the sugar-maple, *Acer saccharinum*, on account of its knotty spots that have some resemblance to birds' eyes.

Bird's-eye Ridge, in *Missouri*, a P. O. of Sullivan co.

Bird's-foot, *n.* (*Bot.*) See ORNITHOPUS.

Bird's-foot Trefoil, *n.* (*Bot.*) See LOTUS.

Bird's Mouth, *n.* (*Arch.*) An interior angle or notch, cut across the grain at the extremity of a piece of timber for its reception on the edge of another piece; as a rafter, for instance, upon a pole plate. — *Bird's mouth* signifies also the interior angle of a polygon, its external angle being called a *bull's nose.*

Bird's'-nest, *n.* The nest made by a bird, in which it lays eggs, and rears its young. — See BIRD.

(*Bot.*) See MONOTROPA.

(*Cookery.*) A species of nests built by swallows, peculiar to the East Indian islands, and much esteemed in China and other parts of the world. These nests resemble in form those of other swallows; they are formed of a viscid substance, and in external appearance as well as consistence are not unlike fibrate ill-coucocted isinglass. Esculent nests are principally found in Java, in caverns usually situated on the sea-coast. Nothing satisfactory is known as to the substance of which these nests are composed. They are used for soup.

Bird's Point, in *Missouri*, an elevation of ground near Birdsville, and opposite to the town of Cairo, on which strong works were constructed in 1861, for the defence of the town.

Bird's Run, in *Ohio*, a post-office of Guernsey co.

Birds'ton, in *Texas*, a post-office of Navarro co.

Bird's-tongue, *n.* (*Bot.*) See ORNITHOGLOSSUM.

Birds'ville, in *Georgia*, a village of Burke co., 70 m. E.S.E. of Milledgeville.

Birds'ville, in *Kentucky*, a post-office of Livingston co.

Birds'ville, in *Missouri*, a post-village of Mississippi co., on the Mississippi river, near its confluence with the Ohio, 1 m. S.W. of Cairo.

Birds'ville, in *Texas*, a post-village, the former cap. of Tarrant co., on the West Fork of Trinity river, 250 m. N. by E. of Austin City. It is situated in a fine, fertile country.

Bird'-witted, *a.* Flighty; inattentive.

Bird Woods, in *Kentucky*, a post-office of Campbell co.

Birectan'gular, *a.* [Lat. *bis*, and *rectangular*, q. v.] Containing two right angles.

Bi'reme, *n.* [Lat. *biremis*, from *bis*, and *remus*, oar.] An ancient vessel or galley with two banks or tiers of oars.

Bi'ren, ERNEST JOHN, DUKE OF COURLAND, a Lithuanian of mean family, was B. 1690, and repaired in 1714 to St. Petersburg. Anna, duchess-dowager of Courland, made him her favorite, and when she became Empress of Russia, intrusted to him the administration of the kingdom. (See ANNA.) On the death of the empress he assumed the regency, by virtue of her will; but, in 1740, a conspiracy was formed against him by Marshal Munich, and he was condemned to death, which sentence was changed to banishment. Peter III. recalled him, and Catherine II. restored him to his former dignity. In 1763, *B.* re-entered Mitau; and, profiting by the lessons of misfortune he had experienced, governed for the remainder of his life with mildness and justice. D. 1772.

Birgander, *n.* (*Zoöl.*) See SHELDRAKE.

Bir'gus, *n.* (*Zoöl.*) A genus of long-tailed crustaceous animals, of which the Purse-crab, *B. latro*, is the largest. It is a native of Amboyna and other neighboring islands.

Birhomboid'al, *a.* [Lat. *bis*, and *rhomboidal*, q. v.] (*Geom.*) Having a surface of 12 rhombic faces, which, being taken 6 and 6, and prolonged till they intercept each other, would form two different rhombs.

Birk'en, *a.* Birchen; belonging to the birch. (R.)

Birkenfeld, (*bir'ken-felt,*) a small principality of Germany, belonging to Oldenburg, but detached from it on the W. of the Rhine, and enclosed by Rhenish Prussia and Meissenheim; *area*, 143 sq. m.; *pop.* 31,816. — Its capital has the same name, with a pop. of about 3,000.

Bir'kenhead, a fine seaport of England, in the county of Chester, on the Mersey, opposite to Liverpool, of which city it may almost be deemed a component part. It is 15 m. E. of Chester, and 199 N.W. of London. *B.* is a prosperous place, possessing magnificent docks covering an area of 160 acres of water space, and erected at a cost of $15,000,000. It is also famous for its great iron ship-building establishments and engineering works. About 1820, *B.* was but a mere rural hamlet, with a few hundred inhabitants.

Birk's City, in *Kentucky*, a post-office of Daviess co.

Bir'law, *n.* [Ger. *bauer*, a countryman, and *law.*] (*Law.*) A law made by husbandmen respecting rural affairs.

Birman Empire. See BURMAH.

Bir'ming, or BERMING, in *Missouri*, a village of Buchanan co., 45 m. N. by W. of Independence.

Bir'mingham, an important town and borough of England, co. of Warwick, 17 m. N.W. of Warwick, 69 S.S.E. of Manchester, and 100 N.W. of London. It is for the most part a well-built and ordered town, but the smoke of its countless factories has begrimed its buildings, and it presents but a dingy appearance at first sight. Among the public edifices may be mentioned the Town Hall, modelled on the temple of Jupiter Stator at Rome, and capable of holding 4,000 persons; the market hall; barracks, and several fine churches. *B.* is richly endowed with schools, literary institutions, and libraries. *B.* is the metropolis of the hardware trade; here are manufactured cannon, fire-arms, shot, plated brass and enamelled goods, and cutlery; brouze wares, lamps, buttons, and metallic wares; steel pens, (500,000,000 annually), papier-maché goods, jewelry, toys, trinkets, and, in short, almost every conceivable article that can be fashioned out of metals.

Bir'mingham, in *Ala.*, a flourishing city and R. R. centre of Jefferson co. Great beds of iron ore, coal, limestone and fire-clay are found in the neighborhood. Here are the machine-shops of the South and North Alabama R. R., rolling mills, steel and iron works, and a number of elegant public buildings, including a $60,000 courthouse. *Pop.*, 1880, 3,100; 1890, 26,180. — In *Iowa*, a post-village of Van Buren co., 12 m. N. of Keosauqua. — In *Kentucky*, a township and village of Marshall co. — In *Michigan*, a flourishing post-village in Bloomfield township, Oakland co., 18 m. N.W. of Detroit. — In *Missouri*, a village of Cape Girardeau co., on the Mississippi, 14 m. N.E. of Jackson; a village of Perry co.

Bir'mingham, in *New Jersey*, a post-village of Burlington co., 4 m. E. of Mount Holly, on Rancocus Creek.
—A village of Mercer co., 5 m. N.N.W. of Trentou.
Birmingham, in *New York*, a thriviug village of Au Sable township, Cliutou co., ou Au Sable River, about 100 m. N. of Albany.
Birmingham, in *Ohio*, a post-village of Erie co., on Vermillion River, 115 m. N. by E. of Columbns.
—A village of Mahoning co., 12 m. W.S.W. of Canfield.
Birmingham, in *Pennsylvania*, a township of Chester co.
—A towuship of Delaware co.
—A former borough of Alleghany co., on the Monongahela river, 2 m. S. of Pittsburgh, of which it is now a part. Glass and iron-ware are largely manufactured here.
—A flourishiug post-borough of Huntingdon co., ou Little Juniata River, 105 m. W.N.W. of Harrisburg, and possessing large iron-works.
Bir'nam, a hill of Scotland, 1,580 feet high, 12 m. E. from Perth, and 12 m. W.N.W. of Dunsinane Hill. It is immortalized by Shakspeare iu his tragedy of *Macbeth.*

"Macbeth shall never vanquish'd be, until
Great Birnam wood to high Dunsinane hill
Shall come against him."

Biron, Armand de Gontaut, Baron de, (*be-rawng'*,) Marshal of France, b. about 1524. He served as page to the Queen of Navarre, and was early admitted to the service of the King of Fraunce. He took a prominent part in the civil wars of Hugueuot and Catholic, and served at the battles of Dreux, St. Denis, and Moncontour. He negotiated the peace of St. Germain, aud narrowly escaped at the massacre of St. Bartholomew. He recovered Guienne aud Languedoc from the Protestants, served in the Netherlands against the Duke of Parma, and was one of the first to recognize Henry IV. as king. He distiuguished himself at the battle of Arques, the first siege of Paris, aud the battle of Ivry, aud was killed at the siege of Epernay in 1592.
Biron, Charles de Gontaut, Duc de, son of the preceding, b. 1562, was admiral and marshal of France, and is noted for the friendship which Henry IV. entertaiued for him, and for his treason towards that monarch. He made his first essays in war under his father, and covered himself with glory at the battles of Arques and Ivry, and at the sieges of Paris and Rouen. The king loaded him with houors, saved his life at the fight of Foutaine Française, and sent him ambassador to Englaud. Notwithstanding, however, all these favors, Biron, swollen with pride, ambition, aud avarice, entered into a conspiracy with Spain and Savoy against his sovereigu; and the plot being revealed by Lafin, who had been its instigator, he was beheaded. Henry endeavored to make him avow his crime, with the view of pardoning him, but was unsuccessful in his maguanimous attempt. *B.* was beheaded, 1602.
Bi'ron, Duke of Courland. See Biren.
Biros'trate, Biros'trated, *a.* [Lat. *bis*, and *rostrate*, q. v.] Having a double beak, or something resembling a beak.
Birou'sa, *n.* (*Min.*) The Persian name of the turquoise stone.
Birr, *v. i.* To make a whirring noise, as of wheels in motion.
Birr, in Ireland, a town, cap. of King's co., 34 m. from Limerick; sometimes called *Parsons Town; pop.* 6,128.
Birt, *n.* [O. Eng. *byrte.*] A species of turbot.
Birth, *n.* [A. S. *byrd*, *beorth*, from *beran*, to bear.] A beariug, or a being born; act of coming into life; as, his wife gave *birth* to a daughter.

"But thou art fair, and at thy *birth*, dear boy,
Nature and fortune joiued to make thee great." — *Shaks.*

—Extraction; lineage; rank by descent; as, he is a man of noble *birth.* — Natural state, or condition of life iuto which a persou is born.

"High in his chariot then Halesus came,
A foe by *birth* to Troy's unhappy name."—*Dryden.*

—Act of bringing forth; as, she had twins at a *birth.*

"And at her next *birth*, much like thee,
Through pangs fled to felicity."—*Milton.*

—That which is born, or produced, whether animal or vegetable.

"The people fear me; for they do observe
Unfather'd heirs, aud loathly *births* of nature." — *Shaks.*

—Origin; commencemeut; beginning; as, the *birth* of a State.
Birth, *n.* (*Naut.*) See Berth.
Birth'day, *n.* The day ou which a person is born; day of origin or beginning.

"Orient light,
Exhaling first from darkness, they beheld
Birthday of heaven and earth."—*Milton.*

—Anniversary of one's birth.

"Your country dames,
Whose clothes returning *birthday* claims."—*Prior.*

Birth'ing, *n.* (*Naut.*) The working a topside, bulkheads, &c.
Birth'less, *a.* Without birth.
Birth'mark, *n.* Any peculiar mark, spot, or blemish, found on the body at time of birth.
Birth'night, *n.* The night in which a person is born.

"Th' angelic song in Bethlehem field,
On thy *birthnight*, that sung the Saviour born."—*Milton.*

—The night annually kept in memory of a person's birth.

"A youth more glitt'ring than a *birthnight* beau."—*Pope.*

Birth'place, *n.* The place where a person is born; as, Stratford-on-Avon is the *birthplace* of Shakspeare.

"My *birthplace* hate I, and my love 's upon
This enemy's town."—*Shaks.*

Birth'right, *n.* [*birth* and *right.*] Any right or privilege to which a person is entitled by birth; the right of the first-born. — See Inheritance: Primogeniture.
Birth'root, *n.* (*Bot.*) See Trillium.
Birth'-sin, *n.* The original sin.
Birth'-song, *n.* A song sung at a person's birth.
Birth'-strangled, *a.* Strangled or suffocated in process of birth.

"Finger of *birth-strangled* babe,
Ditch-deliver'd by a drab." —*Shaks.*

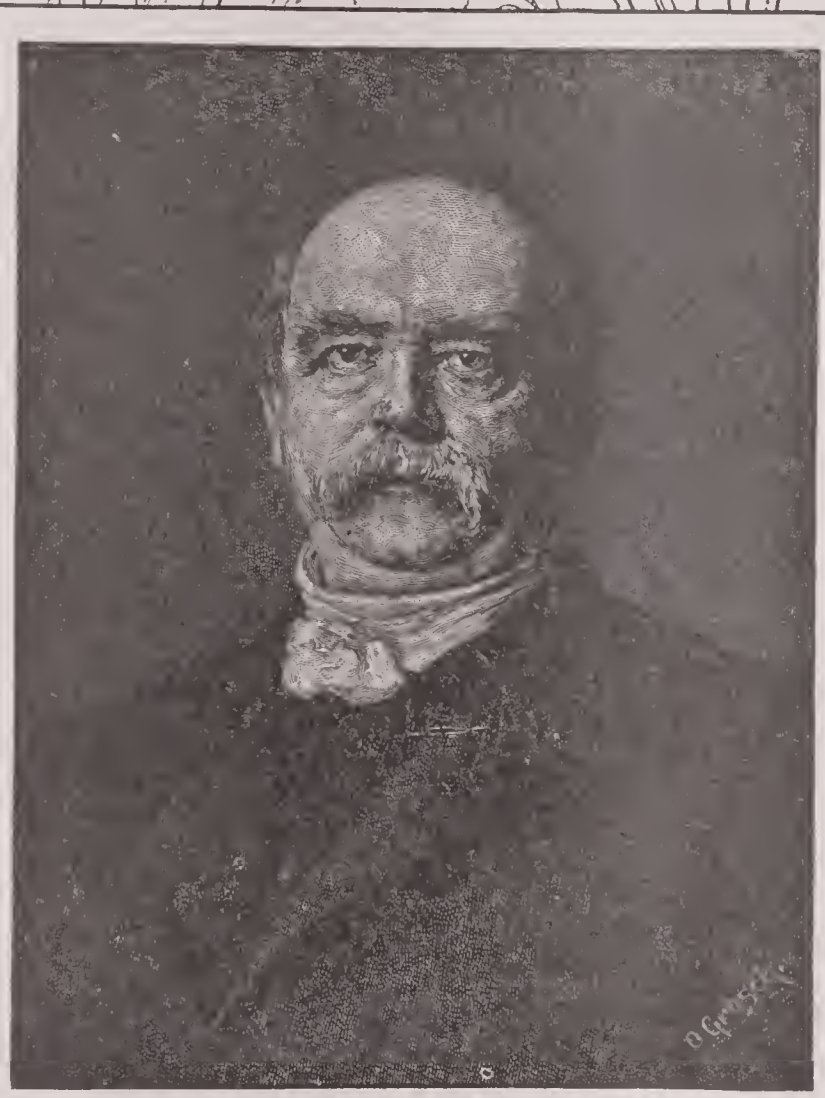
Birth'wort, *n.* (*Bot.*) See Aristolochia.
Bis. [Lat., twice, double.] It is the root of the prefix *bi* or *bin.*
(*Music.*) A word placed over passages which have dots postfixed to one bar, and prefixed to a subsequeut bar, signifying that the passage between the dots is to be played twice over.
Bi'sa, Bi'za, *n.* A weight; a coiu.
Bisac'cia, a town of S. Italy, prov. Avellino, 12 m. N.E. of St. Angelo de Lombardi. It is supposed to occupy the site of the ancient *Romulea*, meutioued by Livy, (*lib.* x. *cap.* 7.) *Pop.* 7,194.
Bisan'nual, *a.* (*Bot.*) The same as Biennial.
Biscay, (*bis'kai,*) a mountainous province in the N. of Spain, comprising one of the three divisions of the Basque Provinces, having ou the N. the Atlantic; E. Guipuzcoa; S. Alava and Old Castile, aud on the W. the latter proviuce. The city and territory of Orduua, which are insulated by Alava and Old Castile, belong to it. Principal town, Bilbaõ. *Pop.* 176,636. — See Basque Provinces.
Biscay, Bay of, the name given to that part of the Atlantic Oceau which lies betweeu the island of Ushant in Fraunce and Cape Ortegal in Spain, having the Spanish province of Biscay to the south. It washes the whole west coast of France and the north coast of Spain. It receives the waters of the Adour, Charente, Gironde, and Loire, and contains the islands Belleisle, which is used as a convict station, Ré, and Oleron on the coast of France. *Depth.* Varyiug from 20 fathoms on the W. of France, to 200 on the N. of Spaiu.
Biscay'an, *n.* A native of Biscay, Spain.
—*a.* Belongiug, or relating, to Biscay.
Bisceglia, (*be-sail'yah,*) a seaport of S. Italy, prov. Bari, ou the Adriatic, 12 m. E.S.E. of Barletta. It is a place of but little trade. *Pop.* 21,686.
Bisch'willer, a town of Prussia, prov. Alsace-Lorraine, on the Moder, 15 m. N. of Strasburg. *Manf.* Coarse cloths, pottery, tiles, madder, &c. *Pop.* 9,658.
Biscotin, (*bis'ko-teen,*) *n.* [Fr.] A kind of confection made with flour, sugar, eggs, marmalade, &c.
Biscuit, (*bis'kit,*) *n.* [Fr., from Lat. *bis*, twice, and *cuit*, from *cuiro*, to bake; Lat. *coquo*, *coctus.*] A kind of hard, dry, unfermented bread made into cakes, and used on board ships. — See Navy Bread.
—A kind of small, baked cake, made of flour, sugar, almonds, eggs, &c.
(*Sculpture.*) A species of porcclain, of which groups and figures in miuiature are formed, which are twice passed through the furnace or oven. It is executed without glaze upon it.
(*Pottery.*) A term applied to earthenware and porcelain, after it has been hardened in the fire, and before it receives the glaze; in this state it is permeable to water.
Biscu'tate, *a.* [Lat. *bis*, aud *scutum*, a shield.] (*Bot.*) Reseubling two bucklers placed side by side.
Bise, (*beez,*) *n.* [Fr.] A cold north wind.
Biseet', *v. a.* [Lat. *bis*, and *seco*, *sectus*, to cut.] To cut or divide into two equal parts.
(*Geom.*) To divide equally iuto two parts.
Bisee'tion, *n.* [Fr. *bissection.*] Act of bisecting; division of any line or quantity into two equal parts.
Bisee'trix, *n.* [From *bisect.*] In bi-axial polarization, the line bisecting the angle between the two axes of polarization.
Biseg'ment, *n.* [Lat. *bis*, and *segment*, *q. v.*] One of the parts of a bisected line.
Bise'rial, Bise'riate, *a.* (*Bot.*) That is arranged in two rows; bifarious.
Biser'rate, *a.* [Lat. *bis*, and *serrate*, *q. v.*] (*Bot.*) Doubly serrate; *i. e.*, when the teeth of a leaf, &c. are themselves serrate.
Bise'tose, Bise'tous, *a.* [Lat. *bis*, and *seta*, a bristle.] (*Zoöl.*) When an auimal or part is furuished with two bristle-like appendages.
Bisex'ous, *a.* [Lat. *bis*, and *sexus*, sex.] Consisting of two sexes.
Bisex'ual, *a.* (*Bot.*) A term applied to flowers which contaiu both stameus and pistil withiu the same envelope. Same as *Hermaphrodite*, *q. v.*
Bish'op, *n.* [Gr. *episkopos*; Lat. *episcopus*: A. S. *biscop*; Ger. *bischof*; Sp. *obispo*; Fr. *evêque.*] (*Eccl. Hist.*) The name of that superior order of pastors or ministers in the Christian church who exercise superintendency over the ordinary priests or pastors within a certain district called their *see* or *diocese*, and to whom also belougs the performance of those higher duties of Christian pastors, as ordination, consecration (or dedication to religious purposes) of persons or places, and excommunication. The word *episcopus* literally signifies an inspector or superintendent; and the etymological sense expresses even now much of the actual sense of the word. The peculiar character of the *B.*'s office might be expressed in one word — superintendency. The *B.* is the overseer, overlooker, superinteudent in the Christian Church, and an exalted station is allotted to him corresponding to the important duties which belong to his office. It was not, however, a term which was invented purposely to describe the new offices which Christianity introduced into the social system. The term existed before, both among the Greeks and Latins, to designate certain civil officers to whom belonged some species of superintendency. It has long been a great question in the Christian Church, what kind of superintendency it was that originally belonged to the *B.* This question, as to whether it was originally a superiuteudeucy of pastors or of people, may be briefly stated thus: — Those who maintain that it was a superintendency of pastors challenge for bishops that they are an order of ministers in the Christian Church distinct from the order of presbyters, and standiug in the same high relation to them that the apostles did to the ordinary ministers in the Church; that, in short, they are the successors and representatives of the apostles, and receive at their consecration certain spiritual graces by devolution and transmission from them, which belong not to the common presbyters. This is the view taken of the original institution and character of the *B.* in the Catholic Church, in the English Protestant Church, and we believe in all churches which are framed on an episcopal constitution. Episcopacy is thus regarded as of divine institution, inasmuch as it is the appointment of Jesus Christ and the apostles, acting in affairs of the Church under a divine direction. There are, on the other hand, many persons who contend that the superintendency of the *B.* was originally in no respect different from the superintendency exercised by presbyters as pastors of particular churches. They maintain that, if the question is referred to Scripture, we there find that bishop and presbyter are used indifferently to indicate the same persons or class of persons: and that there is no trace in the Scriptures of two distinct orders of pastors; and that, if the reference is made to Christian antiquity, we find no trace of such a distinction till about 200 years after the time of the apostles. The mode of appointment to bishoprics varies in the different churches. In early times the *B.* was generally elected by his clergy and laity. After the establishment of Christianity, the Eastern emperors assumed the right of nominating to some of the principal sees, and exercised great influence over the elections generally. In the W. of Europe the kings of the barbarians, after the conversion of their subjects, arrogated to themselves similar authority, which was jealously counteracted by the See of Rome. In the Middle Ages the Pope assumed in most cases the absolute nomination, which claim has been given up in later times in many Catholic countries, where the king or clergy recommend, and the Pope only ratifies the appointment. Figure 361, taken from a manuscript of the

Fig. 361. — A BISHOP PREACHING.
(From a manuscript of the 14th century.)

14th century, represents a number of ladies, unceremoniously seated ou the ground, and apparently in the open air, listening to the admonition of a *B.* It is a curious illustration of the almost unchanged costume of the Catholic *B.*, and also of costumes and customs of the time.
—A beverago composed of hot or cold burgundy, claret, or other red wiue, poured upon ripe bitter oranges, and then adding sugar and spices according to taste. It is drunk either hot or cold, and its quality depends entirely upon the excellence of the wine employed. In order to make bishop properly, the oranges ought to be well selected, and the white part between the peel and the pulp rejected. It is called *cardinal* when made with white wine; and *pope*, when made with tokay. Its present name was bestowed upon it in the 17th century; but it was known under other names in Germany, during the Middle Ages. It was imported into Germany from France.
—An article of female attire, worn to give protuberance to the dress behind the waist; a bustle; a tournure.
Bish'op, *v. a.* To confirm; to admit solemnly into the Church

"They are profane, imperfect, oh! too bad,
Except confirmed and *bishoped* by thee."—*Donne.*

(*Farriery.*) To practise means to give an old horse a good appearance; to rejuvenate a worn-out horse.
Bish'op, Sir Henry Rowley, an English musical composer, b. in London, 1780. During a course of nearly 20 years, he produced upwards of 70 operas, ballets, and musical entertainments. Many of his songs and glees are among the most beautiful effusions of English melody. His best works are: *Guy Mannering; The Slave; The Virgin of the Sun*; *Miller and his Men*; and *Maid Marian.* D. 1855. His widow, *Anna, Lady Bishop*, a celebrated singer, afterwards married Mr. Schulz, of New York.



Prince von Bismarck

1815-1898

Bish'op Hill, in *Illinois*, a post-office of Henry co.
Bishop-like, *a.* Resembling, or belonging to, a bishop.
Bish'opric, *n.* Jurisdiction or charge of a bishop.—A diocese; a district over which episcopal authority extends.
Bishop's Auck'land, a market-town of England, co. Durham, 10 m. W.S.W. of Durham, on the Wear. Here is the magnificent castle or episcopal palace of the bishops of Durham. *Pop.* 7,128.
Bishop's Cap, *n.* (*Bot.*) See MITELLA.
Bishop's Head, in *Maryland*, a P. O. of Dorchester co.
Bish'op's Store, in *Missouri*, a P. O. of Dent co.
Bishop's Stort'ford, a town of England, co. Hertford, 26 m. N.N.E. of London. It is a flourishing and well-built place. Malting is the principal trade. *Pop.* 5,140.
Bish'opsville, in *Maryland*, a P. O. of Worcester co.
Bish'opville, in *Ohio*, a post-village of Morgan co.
Bish'opville, in *S. Carolina*, a post-office of Sumter district.
Bishop Wear'mouth, in England. See SUNDERLAND.
Bish'op-weed, *n.* (*Bot.*) See DISCOPLEURA.
Bisk, *n.* (*Cookery.*) See BISQUE.
(*Games.*) In tennis, a stroke which is allowed to the weaker party to equalize the play.
Bis'marck-Schœnhausen, KARL OTTO, PRINCE VON, Prime Minister of Prussia, and one of the ablest statesmen in Europe, B. at Brandenburg, 1st April, 1813, studied at Göttingen, Berlin, and Greifswalde; entered the Prussian army, and was afterwards a lieutenant in the Landwehr. He became a member of the Diet of the prov. of Saxony in 1846, and of the United Diet, 1847, where he made himself remarkable by the boldness of his speeches. On one occasion he argued that all great cities should be swept from the face of the earth, because they were the centres of democracy and constitutionalism. Nor did the events of 1848 modify his opinions; but, on the contrary, he even censured and denounced the king for affiliating with the national party and following the tri-colored flag. The German parliament, assembled at Frankfort, unfurled the black, red, and gold ensign, and sent a deputation to Berlin with the offer of the imperial dignity to Frederick William IV. *B.* opposed this movement, because it recognized the sovereignty of the people. He declared that democratic, representative ideas, and the principles upon which the Prussian monarchy rests, were mutually exclusive, and could never be made to amalgamate; the former deriving their authority from the will of the people,—which is only a euphemism for the club-laws of the barricades,—while the latter are of divine installation. They can never be reconciled by parliamentary debates; sooner or later, indeed, the God of battles must decide between them by a throw of the iron dice. He then added that "the crown offered by the Frankfort Assembly may be very brilliant, but the gold of which it is to be formed must be first obtained by putting the Prussian crown into the melting-pot, and I have no confidence that, when mingled with the alloy of constitutionalism, the re-casting will succeed." In 1851, *B.* entered the diplomatic service, and was intrusted with the legation at Frankfort. Regarding Austria as the antagonist of Prussia, he was sent, in 1852, to Vienna, where he proved a constant adversary to Count Rechberg. In 1858, a pamphlet, entitled *La Prusse et La Question Italienne*, appeared, the authorship of which was generally attributed to *B.* In this publication reference was made to the antagonism existing between Austria and Prussia, and a triple alliance between France, Russia, and Prussia was advocated. In March, 1859, *B.* was sent as ambassador to St. Petersburg, which post he held until 1862, and having conciliated the Czar, was decorated with the order of St. Alexander Newski. In May, 1862, he was appointed ambassador to Paris, where he received the Grand Cross of the Legion of Honor from Napoleon III., and on 22d Sept., in the same year, he was made Minister of the King's House and of Foreign Affairs. The

Fig. 362.—PRINCE BISMARCK.

budget having been rejected by the Deputies, but adopted by the Upper Chamber, *B.*, in the name of the king, dissolved the former after a series of angry altercations. The newspapers which protested against this despotic act were proceeded against with great severity, as were numerous public officials, magistrates, and others, who openly expressed views hostile to the government. In Jan., 1863, *B.* protested against an address which the Deputies presented to the king, in which he was accused of having violated the constitution. Shortly afterward the affairs of Poland caused fresh difficulties. The Chamber of Deputies, by a majority of five to one, censured the ministry for having concluded (Feb. 8) a secret treaty with Russia. After the close of the aggressive war waged by Prussia and Austria against Denmark, (1864,) and in which Austria had reluctantly taken part, *B.* thought that the time had arrived for carrying out his long-cherished project of making Prussia the real head of Germany. His preparations for another aggressive war were completed, and, aided by an alliance with Italy, in a campaign of a few weeks' duration, Austria and her Hanoverian and Saxon allies were defeated; (see SADOWA.) It is probable that dread of a still more formidable alliance induced *B.* to stop short in his career of victory as the Emperor Napoleon, in his speech to the French Chambers, declared that he had arrested the conqueror at the gates of Vienna. A preliminary treaty of peace with Austria was concluded at Nikolsburg, in August 1866, and as Austria consented to retire from the German Confederation, the terms of a general pacification were arranged. *B.* was created a count, Sept. 16, 1865, an honor soon followed by that of the Chancellorship of the North German Bund and the Presidency of the Federal Council. In 1870 *B.* accepted the challenge rashly offered by Napoleon III., and engaged the whole of Germany in a successful war against France, after the termination of which, 1871, he was created a prince by his sovereign, whom the issue of the war had made Emperor of Germany, and continued at the helm of state under Frederick III., and his son, Emperor William II., until 1890, when divergencies of opinion between the veteran statesman and the young Kaiser led to his retirement. This was followed by a period of estrangement, the more painful as *B.*'s unparalleled claims to the universal gratitude of Prussia eclipsed all other collateral considerations. A serious illness of *B.* in 1893, however, brought about a welcome *rapprochement* which soon culminated in an open reconciliation. Died July 30, 1898.
Bismil'lah, *interj.* [Ar., "In the name of God."] An adjuration to the Almighty in common use among Mohammedans. It is written at the beginning of all their books, &c.

"They look'd upon the Muscovite flotilla,
And only shouted, "Allah!" and "*Bismillah!*" — *Byron.*

Bis'muth, *n.* [Fr. *bismuth*; N. Lat. *bismuthum*; O. Ger. *wissmuth*—*weiss*, white, and *muth*, mettle.] (*Chem.*) A metal (symbol Bi) readily distinguished by its peculiar reddish lustre and its highly crystalline structure, which is very perceptible upon a freshly broken surface; large cubical crystals of *B.* are easily obtained by melting a few ounces in a crucible, allowing it to cool till a crust has formed upon the surface, and pouring out the portion which has not yet solidified, when the crystals are found lining the interior of the crucible; atomic weight 213; sp. grav. 9·8. It is hard, brittle, and but slightly malleable. It fuses at 507°, and is obtained in fine cubical crystals by slow cooling. The peculiar property it possesses of expanding as it cools, renders its alloys of great use to the type-founder and die-sinker. It also increases the fusibility of other metals with which it is united. The remarkable alloy known as *fusible metal* contains one equivalent of *B.*, one of lead, and two of tin; fuses below 212°, and, by a certain admixture of cadmium, can be melted at a still lower temperature. It is also occasionally employed in cupellation, and some of its compounds are used as pigments, the hydrated oxychloride being used as a cosmetic under the name of *pearl-white*. *B.* occurs in nature principally in the metallic form in the clay-slate and gneiss formations, its principal source being Schneeberg, in Saxony. *B.* is extracted from the ore by heating it in inclined cast-iron tubes with cups attached. The tubes are brought to a white heat, and the *B.* flows into the cups, which are at the lowest part of the incline. *B.* forms two oxides,—the teroxide, BiO_3, and an acid oxide, BiO_5, or bismuthic acid. *Teroxide of B.* may be obtained by heating the nitrate to low redness; it is a yellow insoluble powder. The *hydrated teroxide*, which is white, may be obtained from a salt of *B.* by precipitation with ammonia.—*Bismuthic acid*, or peroxide of bismuth, is formed when hydrated teroxide of bismuth is digested with a concentrated solution of potash, through which chlorine is passed. A red solution of bismuthate of potash is formed, and a red precipitate falls to the bottom, which, on being well washed and digested in cold nitric acid, leaves behind a red powder, which is the hydrated acid.—*Nitrate of B.* is prepared by dissolving the metal in dilute nitric acid with the aid of heat, which gives rise to four-sided prisms, which are decomposed by water into an acid nitrate, which remains in solution; and a basic nitrate, the *trisnitrate of B.*, falls as a precipitate. It is used as a pigment, and also as a cosmetic. This salt was formerly called *magistery of B.* The other compounds of *B* are too unimportant to be described. *B.* occurs in nature associated with cobalt, silver, tin, and arsenic; also as an oxide, in *B.-ochre;* as a sulphide, in *Bismuthine* or *B. glance;* as an arsenide, or carbonate, and a silicate, in *B.-blende*, and *Bismutite*.
(*Med.*) Metallic *B.* has no effect on the system, and the subnitrate of *B.* itself, from its almost insoluble nature, exercises but a limited action on the body. Since 1868, a soluble *citrate of B.* and *ammonia* has been obtained, of which much good is said, but we abstain from giving any opinion upon its therapeutic action or curative merits. Its *form.* is $BiO_3,NH_3,C_{12}H_5O_{11} + 5HO = BiC_{12}NH_{14}O_{20} = 473$.—As an external application, the white oxide was at one time very largely used either as a dusting-powder, or combined with white ointment to dry up ill-conditioned sores, and as an application to cutaneous diseases. In a large dose it acts as an irritant poison; and as it not unfrequently contains arsenic, its use is by no means free from danger. It enters largely into the preparation known as *Pearl Powder*, used so extensively by ladies both on and off the stage; and very serious consequences often arise from its constant employment as a cosmetic, as is shown by paralysis of the mouth or eyelids, and other serious effects resulting from its use.
Bis'muthal, *a.* Consisting or containing bismuth.
Bis'muthic Acid. (*Chem.*) See BISMUTH.
Bis'muthine, and **Bis'mutite,** *n.* (*Min.*) See BISMUTH.
Bi'son, *n.* [Lat., said to be derived from *Bistonia* in Thrace.] (*Zoöt.*) See BUFFALO.
Bispi'nose, Bispi'nous, *a.* [Lat. *bis*, and *spina*, a spine.] (*Zoöt.*) Applied to an animal which has two spines.
Bisque, (*bisk,*) *n.* [Fr.] (*Stat.*) A kind of unglazed white porcelain used for statuettes.
(*Cookery.*) A soup made of several descriptions of meat boiled together.
Bissac, *n.* [Fr.] (*Mil.*) A double sac or wallet.
Bissagos, (*bees-sa'goes,*) a group of small volcanic islands on the W. coast of Africa, opposite the embouchure of the Rio Grande, between 10° and 12° N. Lat., and 15½° and 16½° W. Lon. The largest is about 15 m. long, and some of them are uninhabited.
Bis'sell's, in *Ohio*, a post-office of Geauga co.
Bissextile, (*bis-seks'til,*) *n.* [Fr., from Lat. *bissextilus*—*bis*, and *sextus*, sixth, from *sex*, six.] (*Calendar.*) The name given to the year which contains 366 days. The calendar used both in European and American countries is that of the Romans, as reformed by Julius Cæsar. In the calendar of Cæsar the length of the year was fixed at 365¼ days; and in order that the year shall always begin with the beginning of the day, it was directed that every 4 years should contain 366 days, the other years having each 365. The additional day, which thus occurred every 4 years, was given to February, the shortest month, and was inserted in the calendar between the 24th and 25th days. In the peculiar Roman method of reckoning the days of the months backward from the 1st of the preceding month, it would have been very inconvenient to interrupt the order of numeration; accordingly, the 24th, which was called *Sexto Calendas Martii*, was reckoned twice, and the supernumerary day called *bis Sexto Calendas*. Hence the term *bissextile*. In English, *leap-year* has the same signification. In the Julian calendar, every year was *B.*; but this supposes the year to be 365¼ days, which errs in excess by 11 minutes 10·35 seconds. Accordingly, in the course of a few centuries, the error would amount to days, and cause the commencement of the year to change its place with respect to the seasons. So, when the calendar was reformed by Pope Gregory XIII., the equinox had fallen from the 25th to the 11th of March. The Gregorian rule of intercalation is as follows: every year of which the number is divisible by 4 is a leap-year, excepting the centesimal year, which are only leap-years when divisible by 4 after suppressing the two zeros. Thus 1600 was a leap-year; but 1700, 1800, and 1900 are common years. This regularity, though it would for a long time preserve the commencement of the year at the same time, is not yet quite correct. It supposes the length of the year to be 365 days, 5 h. 48 min. 12 seconds, which is too great by 22·38 seconds; an error which amounts to a day in 3,866 years.—See CALENDAR.
—*a.* Relating, or belonging, to a leap-year.
Bistip'uled, *a.* [Lat. *bis*, and *stipuled*, q. v.] Having two stipules.
Bistort, *n.* [Lat. *bis*, and *torqueo*, *tortus*, to twist.] (*Bot.*) See POLYGONUM.
Bisto'ury, (*bis'tu-ri,*) *n.* [Fr. *bistouri*, from *Pistoria*, now *Pistoja*, a city in Tuscany where it was first manufactured.] (*Surg.*) A small curved knife for making incisions.
Bis'tre, (*bis'ter,*) *n.* [Fr. *bistre*, from *bis*, fem. *bise*, brown.] (*Painting.*) A brown pigment extracted by watery solution from the soot of wood-fires, when it retains a strong pyroligneous scent. It is of a wax-like texture, and of a citrine-brown color, perfectly durable. It was much used as a water-color, particularly by the Old Masters, in tinting drawings and shading sketches, previously to Indian Ink coming into use for such purposes. In oil it dries with the greatest difficulty.
Bisturres, *n. pl.* (*Fort.*) Small towers placed at intervals in the walls of a fortress, forming a barbican.
Bisul'cate, Bisul'cous, *a.* [Lat. *bisulcus*, two-furrowed.] (*Zoöl.*) A term applied to cloven-footed mammalia, *i. e.*, resting upon two hoofed digits.
Bisulcous, (*bi-sul'kus,*) *a.* [Lat. *bisulcus*—*bis*, and *sulcus*, a furrow, trench.] Cloven-footed, as swine or oxen.
Bisul'phate, *n.* [Lat. *bis*, and *sulphate*, q. v.] (*Chem.*) A sulphate having two equivalents of sulphuric acid to one of the base.
Bisztritz, (*bees-treetz,*) a fortified town of Austria, in Transylvania, on a river of the same name; Lat. 47° 5′ 46″ N.; Lon. 24° 32′ 18″ E. *Pop.* 7,481.
Bit, *n.* [A. S. *bita*, *bæte*, *bitol*, allied to *bitan*, to bite.] That which curbs, bites, or holds fast. Specifically, the iron part of a bridle which is inserted in a horse's mouth, and which the animal bites or champs, and to which and its appurtenances the guiding reins are fastened.
—A bite; a mouthful or morsel; a small piece; as, a *bit* of bread.

"John was the darling; he had all the good *bits*."—*Arbuthnot.*

—A general name for the metal part of several tools used for boring, and made so as to fit at the upper end in the handle of a socket; they are used for boring large holes in hard wood, and in all cases where accuracy is required. The bit of a key is the part fitted to the shank in which the wards are cut; this is called a blank until the wards are so cut. The term is also applied to the hammer used by masons for rough picking, or dressing granite.

(*Com.*) A small silver Spanish coin, more usually called *real*. Its value is about 10 cents. — The term is also commonly used in the Southern States, chiefly in Louisiana, to express the 8th part of a dollar.

Bit, *v. a.* (*imp.* and *pp.* BITTED.) [A. S. *bitol*, a bridle.] To put a bridle upon a horse; to place the bit in its mouth.

Bit, *imp.* and *pp.* of BITE, *q. v.*

Bitch, *n.* [Fr. *biche;* A. S. *bicca, bicce, bice;* Ger. *betze*, probably from Slav. *bitzn*, to run, to be in heat.] The female of the canine kind, as the dog, the wolf, the fox, &c. (Sometimes called *slut.*)

"And at his feet a *bitch* wolf suck did yield
To two young babes." — *Spenser.*

—A name of reproach for a woman.

"John had not run a madding so long, had it not been for an extravagant *bitch* of a wife." — *Arbuthnot.*

Bitche, a town and fortress of France, dep. Moselle, at the foot of the Vosges, 15 m. E.S.E. of Sarguemines. The fortress or citadel stands on an almost inaccessible rock rising from the middle of the town. The interior of the rock is vaulted and casemated; the fort mounts 80 pieces of cannon, may be garrisoned by 1,000 men, is well supplied with water. It surrendered to the Germans in 1871, and annexed to the German Empire.

Bite, *v. a.* (*imp.* BIT; *pp.* BITTEN.) [A. S. *bitan.*] To break, squeeze, scrunch, bruise, crush, pierce, gripe, or seize with the teeth.

"With angry teeth he *bites* him to the bone,
And this dog smarts for what that dog has done." — *Fielding.*

—To cause to smart; to hurt or injure in an actual or a figurative sense; as, this mustard *bites* my tongue.

"I have endur'd the *biting* winter's blast,
And the severer heats of parching summer." — *Rowe.*

—To wound by reproach or sarcasm; to taunt.

"Each poet with a different talent writes;
One praises, one instructs, another *bites.*" — *Lord Roscommon.*

—To cheat; to trick; to defraud. (Colloquial and vulgar.)

"The knight had wit,
So kept the diamond, and the rogue was *bit.*" — *Pope.*

—To hold fast; to take firm hold of; as, the anchor *bites.*

—To corrode; as, in etching, to bite into metallic plates by the application of an acid. — *To bite the thumb at a person.* Anciently a mark of contempt and defiance; a tacit challenge to a quarrel; as, "Do you *bite your thumb at* us?" *Shaks.* — *To bite the dust* or *the ground.* To fall to the ground in a dying state; to sink in the agonies of death.

"He falls; his arms upon the body found,
And with his bloody teeth he *bites the ground.*" — *Dryden.*

—*v. i.* To seize, hold fast, or wound with the teeth.

—To cause pain; to hurt; to wound; to inflict bodily injury upon.

"I've seen the day, with my good *biting* faulchion
I would have made them skip." — *Shaks.*

Bite, *n.* Act of biting or seizing with the teeth; as, the *bite* of a fish.

"Does he think he can . . . arm himself against the *bites* of the never-dying worm?" — *South.*

—The wound made by the act of biting; as, the *bite* of a mosquito. — A morsel or mouthful; as much as can be taken at once by biting; as, neither *bite* nor sup. — The hold which the short end of a lever has upon the thing to be lifted. — A cheat, fraud, trick.

"For take it in its proper light,
'Tis just what coxcombs call a *bite.*" — *Swift.*

—A sharper, trickster, deceiver; one who cheats.

(*Printing.*) That part of an impression which is imperfectly printed, in consequence of the frisket not being sufficiently cut away.

Bit'er, *n.* Anybody who, or anything which, bites.

"Great harkers are no *biters.*" — *Camden.*

—One who cheats, tricks, or defrauds; as, the *biter* bitten.

"A *biter* is one . . . who thinks you a fool, because you do not think him a knave." — *Spectator.*

Biter'nate, *a.* (*Bot.*) Applied to a ternate leaf when its leaflets become themselves ternate, as in *Fumaria lutea.*

Bitet'to, a town of S. Italy, prov. Terra di Bari, in a fertile plain on the Adriatic, 10 m. S.W. of Bari; *pop.* 6,473.

Bithynia, (*bi-thin'e-a,*) an ancient division of Asia Minor, was separated from Europe by the Propontis (Sea of Marmora) and the Thracian Bosphorus (Strait of Constantinople), and was bounded N. by the Euxine, and S. by Galatia, Phrygia, and Mysia. It extended E. as far as Paphlagonia. It contained the famous Greek colonies of Chalcedon, Heraclea, &c.; and at later periods, the flourishing towns of Nicomedia, Nicæa, and Prusa. The inhabitants of *B.* were supposed to be of Thracian origin. The country was subdued, 560 B. C., by Crœsus of Lydia, and, five years later, fell under the Persian dominion. But about 440 or 430 B. C., it became an independent kingdom under a dynasty of native princes, who made Nicomedia their capital. The last prince, Nicomedes III., made the Romans his heirs, 74 B. C., and *B.* became a province of the Empire. In 1298, Ottomans broke into the country, and in 1327, the Emir Orchan conquered Nicomedia, and established the Ottoman power in *B.*

Bit'ing, *n.* The act of biting or wounding.

Bit'ing, *a.* Sharp; severe; caustic; as, a *biting* affliction.

Bit'ing-in, *n.* See ETCHING.

Bit'ingly, *adv.* In a jeering, caustic, or sarcastic manner.

Bit'less, *a.* Without bit or bridle.

Bit'-mouth, *n.* The bit, or that part of a bridle which is put in a horse's mouth.

Bitou'to, a town of S. Italy, prov. Terra di Bari, 10 m. W.S.W. of Bari. This is a fine town, and its environs produce an excellent wine called *sagarillo*, in which an extensive trade is carried on. *Pop.* 26,643.

Bitt, or BIT, (*bit.*) [Fr. *bittes.*] (*Naut.*) One of the strong but short pieces of timber projecting vertically from the deck of a vessel, in the fore-part, close to either side, and strongly secured to the beams on which the deck-planks are laid. They are placed in pairs, and are principally used for fastening the cable when the ship is at anchor or moored alongside a quay. There are many kinds of bitts used for different purposes in ship-building, and distinguished by various names.

—*v. a.* (*Naut.*) To put round the bits, as a cable; to bit.

Bit'ten, *part.* from BITE, *q. v.*

Bit'ter, *a.* [A. S. *biter*, from *bitan*, to bite; Ger. *bitter*, from *beïtzen;* L. Sax. *biten.*] Acrid, or sharp and biting to the tongue or taste; having a hot, pungent, acrid taste, like wormwood; as, *bitter* as aloes.

"The food that now to him is as luscious as locusts, shall be to him shortly as *bitter* as coloquintida." — *Shaks.*

—Piercing; painful; inclement; as, *bitter* cold weather.

"The fowl the borders fly,
And shun the *bitter* blast, and wheel about the sky." — *Dryden.*

—Calamitous; poignant; susceptible of inflicting pain or distress; as, a *bitter* remembrance.

"Of all the griefs that harass the distrest,
Sure the most *bitter* is a scornful jest." — *Johnson.*

—Sharp; cruel; severe; harsh; stern; as, a *bitter* rebuke.

"Go with me,
And, in the breath of *bitter* words, let's smother
My damned son." — *Shaks.*

—Distressing; mournful: afflicting.

"Even to-day is my complaint *bitter.*" — *Job* xxiii. 2.

Bit'ter, *n.* Any substance that is *bitter.* — See BITTERS.

"Still from the fount of Joy's delicious springs
Some *bitter* o'er the flowers its bubbling venom flings." — *Byron.*

Bit'ter, or **Bit'ter-end,** *n.* (*Naut.*) A turn of a cable round the bitts, when a vessel lies at anchor. When a ship is stopped by the cable, she is said to be *brought up by a bitter.* — See BITTS.

Bit'ter-apple, Bit'ter-cucumber, Bit'ter-gourd, *n.* (*Bot.*) A plant of the genus *Citrullus*, called *colocynthis, colocynth, coloquintida.* The fruit is of the gourd kind, having a shell enclosing a bitter pulp, which is a very drastic purgative. It is brought from the Levant.

Bit'ter-eress, *n.* (*Bot.*) See CARDAMINE.

Bit'ter-end, *n.* (*Naut.*) See BITTER.

Bit'terfeld, a flourishing town of N. Germany, in Saxony, 16 m. S. of Dessau. It was founded by a colony of Flemings, whose descendants hold their property in common, and are governed by peculiar laws. *Manf.* Earthenware and cloth.

Bit'tering, *n.* A bitter ingredient used in beer.

Bit'terish, *a.* Somewhat bitter; as, a *bitterish* taste.

Bit'terishness, *n.* State or quality of being slightly bitter.

Bit'terly, *adv.* In a bitter manner; sharply; cruelly; severely.

"*Bitterly* hast thou paid, and still art paying,
That rigid score." — *Milton.*

Bit'tern, *n.* [Du. *butoor;* Lat. *botaurus, bos-taurus.*] (*Zoöl.*) The popular name of the birds composing the gen. *Botaurus*, fam. *Ardeidæ.* The common *B.* (*Botaurus stellaris*) of Europe and Africa, to which closely resembles the Stake-driver (*B. lentiginosus*) of North America, is

Fig. 363. BITTERN, OR STAKE-DRIVER, (*Botaurus lentiginosus.*)

smaller than the heron, and has long legs and neck, stalks among reeds and sedges, feeding on fish, and emitting a singular noise, wild and dreary, called its booming. It seldom appears by day, but stalks from its sedgy nest at the stillness of night, to feed on the fish of the meres. It was formerly held in great esteem for its meat, but chiefly for hawking, as it yielded better and more exciting sport than the heron, its long, lance-like bill transfixing its antagonist with remarkable ease, though the great point at which it aims is the eye. The stake-driver is 26 to 27 inches long, the wing 11 inches; the color is brownish-yellow, finely varied with dark brown and brownish-red; and there is a broad, black stripe on each side of the neck. It seldom flies till you are close upon it, and then it moves off very sluggishly.

(*Chem.*) A name used in salt-works for what is known as the mother-water,—the supernatant liquor, after the first precipitate has been thrown down. Salt-water having been boiled, and the salt in it precipitated, the residue is the article known as *B.* From this liquor, which is a solution of an impure sulphate of magnesia, epsom salts and bromine are procured.

Bit'terness, *n.* Quality of being bitter. — A bitter taste; as, an unpleasant sourness and *bitterness.* — Malice: hatred; implacability; sharpness of temper; sorrow, vexation; affliction.

Bitter Root River, in *Montana Territory*, rising in the Rocky Mountains, and after a N. course, entering Clark's River.

Bit'ters, *n. pl.* The common name for an infusion of bitter herbs, which is consumed in large quantities as a stomachic, generally mixed with ardent spirits. The plant usually selected for the preparation of *B.* is the garden *Angelica*, (see ARCHANGELICA,) the roots and seeds being used; gentian, quassia, aloes, wild cherry, &c., are more commonly used in the United States.

Bit'ter-salt, *n.* The EPSOM SALT, *q. v.*

Bit'ter-spar, *n.* (*Min.*) The crystallized variety of dolomite or magnesian limestone; so called because it resembles calcareous spar, and contains magnesia, the salts of which are bitter.

Bit'ter-sweet, *n.* (*Bot.*) See SOLANUM.

Bit'ter-veteh, *n.* (*Bot.*) See OROBUS.

Bit'ter-wort, *n.* (*Bot.*) See GENTIANA.

Bit'ter-weed, *n.* (*Bot.*) A name of *Ambrosia artemisiæ-folia.* See AMBROSIA.

Bit'ter-wood, *n.* (*Bot.*) See XYLOPIA.

Bittor, Bittour, *n.* (*Zoöl.*) Same as BITTERN, *q. v.*

Bitts, *n. pl.* (*Naut.*) See BITT.

Bitumed', *a.* Smeared or impregnated with bitumen.

Bitu'men, BITUME, *n.* [Fr. *bitume;* Lat. *bitumen.*] A mineral pitch, supposed to be formed in the earth by the decomposition of animal and vegetable substances. It has a strong pungent smell, and is found in all parts of the world, and is of different consistencies. In its most fluid state it constitutes *naphtha;* when of the consistence of oil or treacle, it constitutes *petroleum*, or Barbadoes tar; when still harder, like cobbler's wax, or even tougher, it is called *elastic bitumen;* and when still further indurated, *maltha* or *mineral caoutchouc;* and in its last stage of desiccation, it is known as *asphaltum.* The ancients employed heated bitumen in the construction of their buildings. In the Bible it is called slime.

Bitu'minate, *v. a.* To impregnate with bitumen.

Bituminif'erous, *a.* Producing bitumen.

Bituminiza'tion, *n.* The process of forming bitumen.

Bitu'minize, *v. a.* To form into, or impregnate with, bitumen.

Bitu'minous, *a.* [Fr. *bitumineux;* Lat. *bituminosus.*] Having the qualities of, or containing, bitumen.

Bitu'minous Coal, *n.* (*Min.*) A term commonly applied to coals which burn with a smoky flame, and occupy a place between Lignite on the one hand, and Anthracite on the other.

Bitu'minous Shale, *n.* (*Min.*) In many coal-fields in various parts of the world there are numerous bands of tough clayey matter of a gray, brown, or black color, sometimes passing into coal, and resembling bad coal in appearance. They have more or less of a slaty fracture, are often repeated, like other beds of clay, in a vast thickness of strata, and occupy a definite position with regard to coal. They are found generally, but not always, near true coal of all ages. The *posidonia schists* of the lias, and the *paper-coal*, so called, of the tertiary period, near Bonn, are varieties. Although some of these shales yield much gas on exposure to destructive distillation, they are even more valuable as affording oils and paraffine, when distilled at a dull red heat. The percentage of oil obtained from bituminous shales varies exceedingly, but less than 5 per cent. can hardly be remunerative. Some of these, which afford as much as 30 per cent., are extremely valuable, such as the so-called *Boghead coal* or *Torbane mineral* of Scotland. Shales approach coal in their appearance, and are used for burning. — See GAS, PARAFFINE, &c.

Bitu'minous Wood, *n.* See LIGNITE.

Biuret, (*bī'u-ret,*) *n.* [Lat. *bis*, and *urea*, a chemical principle of urine.] (*Chem.*) A compound prepared by exposing urea to a temperature of 300°. It has the exact composition of bicyanate of ammonia, and bears the same relation to that substance that urea does to cyanate of ammonia.

Bivalve, (*bī'valv,*) *n.* [Lat. *bis*, and *valva*, valve.] (*Zoöl.*) A name given in conchology to a class of shells composed of two pieces or parts, which, by means of a proper connection by hinges, open and shut, and perform all other functions necessary to the economy or modes of life of the animals enclosed in them. The mollusca inhabiting them are chiefly distinguished from the other classes by the absence of a visible head or neck, and the consequent deprivation of the organs of

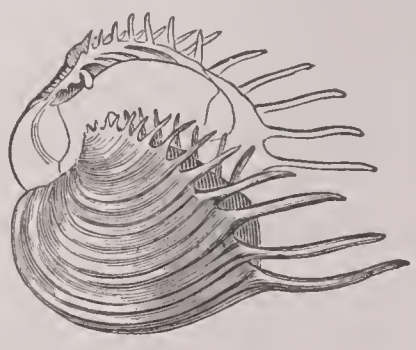


Fig. 364.—BIVALVE-SHELL, (*Cytherea dione.*) (West Indies.)

sight and hearing: they possess a mouth, but it is a mere opening in the body, without jaws or teeth. The branchiæ are large, placed on each side, between the body and the mantle. The lobes of the mantle are fringed round the edge with numerous filaments, which are very sensitive, and in constant activity. None of the genera are terrestrial, their construction not affording them sufficient powers of locomotion for finding their food on land, and confining them to the water, whether salt or fresh, or to the sands on the coasts. As illustrations, we may mention the oyster, the mussel, and the beautiful *Cytherea dione* (Fig. 364).—The *B.* are distributed into the orders *Lamellibranchiata* and *Brachiopoda*, q. v.

(*Bot.*) A pericarp in which the seed-case opens or splits into two parts or valves.

Bi'valve, Bi'valved, Bival'vous, Bival'vular, *a.* Having two shells or valves which open and shut, as the oyster; or open at maturity, as the seed-vessels of certain plants.

Bivault'ed, *a.* [Lat. *bis*, twice, and *vaulted*.] Having two vaults or arches.

Biven'tral, *a.* [Lat. *bis*, and *venter*, a belly.] Having two bellies.

Biv'ingsville, in *S. Carolina*, a post-office of Spartansburg district.

Bi'vious, *a.* [Lat. *bivius*—*bis*, and *via*, a way.] Having or leading two ways; as, a *bivious* theorem.

Bivouac, (*biv'oo-ak,*) *n.* [Fr. *bivouac* or *bivac;* from Ger. *bewachen*—*bei*, near, and *wache*, a guard.] (*Mil.*) A term employed to denote the system by which soldiers on a march, or in expectation of an engagement, remain all night in the open air, in contradistinction to the systems of encampment and cantonment.

—*v. n.* To watch, or to be on guard, as a whole army; to encamp during the night, without tent or covering.

Biweek'ly, *a.* Occurring once in every two weeks.

Bixa, *n.* (*Bot.*) A genus of plants, order BIXACEÆ, *q. v.*

Bixa'ceæ, Flacourtiaceæ, (*bix-ai'se-e,*) an order of plants, alliance *Violales*.—DIAG. Scattered apetalous or polypetalous flowers, hypogynous petals and stamens, and dotless or round-dotted leaves. They are shrubs or small trees, with alternate leaves, usually entire and leathery, and very often dotted. The flowers are polypetalous or apetalous, the stamens being hypogynous, and equal in number to the petals, or some multiple of them. The fruit is one-celled, dehiscent or indehiscent, having a thin pulp in its centre. The seeds are numerous, usually enveloped in a covering formed by the withered pulp. The plants of this order are almost all confined to the hottest parts of the East and West Indies and Africa. There are 34 genera and about 90 species. Many are feebly bitter and astringent, and have been used as stomachics. The bark of *Aphloia* is said to be emetic. The fruits of *Oncoba* and of some species of *Flacourtia* are edible and wholesome. The most important plant of the order is *Bixa orellana* (Fig. 365), a small tree, native of W. Indies, which produces the dye called ANNOTTO, *q. v.* The reddish pulp covering the seeds is the source of this coloring-matter.

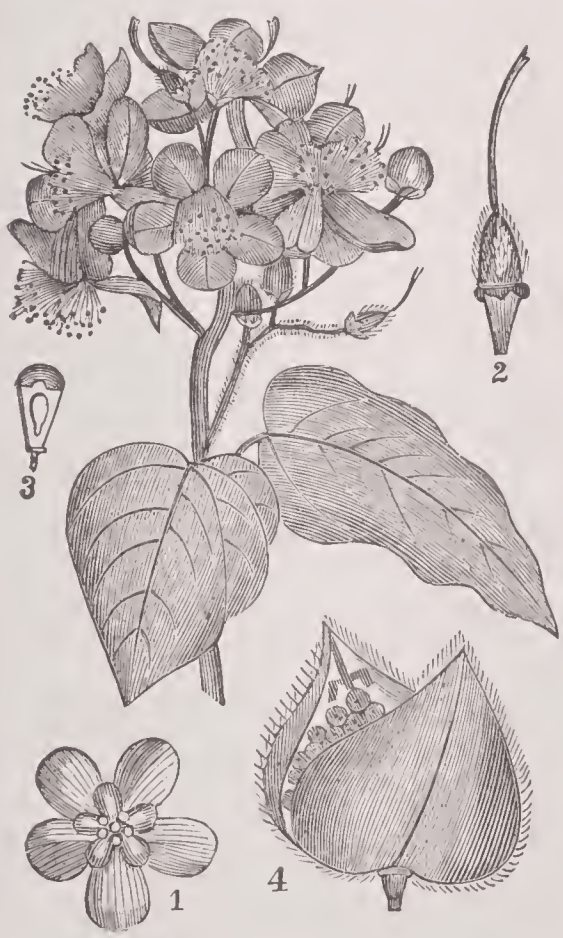


Fig. 365.—BIXA ORELLANA.
1. Flower seen from beneath.
2. Ovary with style and stigma.
3. A seed cut vertically, showing the embryo.
4. A ripe fruit.

Bix'in, BIXINE, *n.* (*Chem.*) The coloring principle of ANNOTTO, *q. v.*

Bizarre, (*be-zär',*) *a.* [Fr., from Lat. *bis*, twice, and *varius* different.] Odd; fantastical; whimsical; extravagant; capricious; extraordinary.—A person is said to be *bizarre* when his character, tastes, or opinions are incessantly changing and differing from those of other men, and who is characterized by attempting always to say and do what is singular.—*B.* is also applied to something that is extraordinary or singular.

Bizarre', *n.* (*Com.*) The term *B.* is applied by florists to a carnation with a white ground, marked with two or more colors.

Bizerta, (*be-zer'ta,*) the most northern town of Africa, a fortified seaport, 38 m. N.W. of Tunis; Lat. 37° 16′ 36″ N.; Lon. 9° 49′ 15″ E. *Pop.* 10,000.

Blab, *v. a.* (*imp.* BLABBED; *pp.* BLABBING, BLABBED.) [Ger. *plappern;* Du. *babbelen*, to prattle, to blab.] To tell what ought to be kept secret.

"The gaudy, *blabbing*, and remorseful day
Is crept into the bosom of the sea."—*Shaks.*

—*v. n.* To tattle; to tell tales.

"When my tongue *blabs*, then let mine eyes not see."—*Shaks.*

—*n.* A telltale; a thoughtless babbler; a treacherous betrayer of secrets.

"Who will
Open himself to a *blab*, or blabber?"—*Bacon.*

Blab'ber, *n.* A tattler; a telltale.

Blab'ber-lipped, *a.* Having thick lips.—See BLOBBER-LIPPED.

Black, *a.* [A. S. *blac;* Sw. *black*, *bleak*.] Of the color of night; of the darkest color.

"The heaven was *black* with clouds and wind."—1 *Kings.*

—Cloudy of countenance; sullen; frowning.

"She hath abated me of half my train;
Look'd *black* upon me."—*Shaks.*

—Horrible; wicked; atrocious.

"Either my country never must be freed,
Or I consenting to so *black* a deed."—*Dryden.*

—Dismal; mournful.

"A dire induction am I witness to;
And will to France, hoping the consequence
Will prove as bitter, *black*, and tragical."—*Shaks.*

—Obscure; mysterious; as, the *black* art.

Black and blue. The color of a bruise; a stripe.

Black, *n.* The total absorption of all the rays of light constitutes black. Among the mediæval illuminators, black signified evil, error, and woe; and the figures in their paintings are represented in black drapery when any of these subjects are portrayed. Thus, in the picture of the Temptation, Christ is represented in black robes. In heraldry, black, or sable, is symbolical of wisdom or prudence. From very ancient times, black has been worn as the emblem of mourning. In some of the Oriental countries, black is looked upon as a badge of servitude or low birth. The principal black pigments used in the arts are generally composed of carbon. They are vegetable blue-black, ivory-black, cork-black, and lamp-black.—See COLORS; LIGHT.

Blackamoor, (*blak'a-mör,*) *n.* A man of dark complexion; a negro.

Black'-art, *n.* The magical art.—See MAGIC.

Black'-ash, *n.* (*Chem.*) Impure soda, contaminated with sulphide of calcium, charcoal, and other impurities, formed in the manufacture of soda from sea-salt. By lixiviation, filtration, and evaporation, the ordinary soda of commerce is produced.—See SODA.

Black Ash, in *Pennsylvania*, a P. O. of Crawford co.

Black Ball, *n.* A composition for blacking shoes, &c. A ball used for negative vote, in balloting.

Black'-ball, *v. a.* To cast a negative vote in balloting.

Black Bayou', in *Louisiana*, a stream of Terrebonne par., connecting through Atchafalaya Bayon with the Gulf of Mexico.

Black'berry, *n.* [A. S. *blacberian.*] (*Bot.*) See RUBUS.

Black'berry, in *Illinois*, a township of Kane county.

Black'berrying, *n.* The act of picking blackberries.

Black'berry Ridge, in *Michigan*, a post-office of Oceana co.

Black'berry Station, in *Illinois*, a post-office of Kane co.

Black'-billed, *a.* That has a black bill.

Black'bird, *n.* (*Zoöl.*) The *Turdus merula*, family *Icteridæ;* a well-known song-bird, about 10 inches long, whose deep-toned warblings are not to be mistaken for those of any other inhabitant of the groves. The plumage of the male bird is altogether black, but that of the female is rather of a brown or dark russet color; the bill, inside of the mouth, and edges of the eyelids, are yellow, as are also the soles of the feet. The *B.* is a solitary bird, frequenting woods and thickets. They feed on berries, fruit, insects, and worms; but never fly in flocks like thrushes. They pair early, and are among the first who render the groves vocal; the note of the *B.*, indeed, during the spring and summer, when heard at a distance, is rich and enlivening; but when the bird is confined in the cage, its song is too loud and deafening. They build in bushes or low trees, and lay 4 or 5 eggs, of a bluish-green color, marked irregularly with dusky spots. The young birds are easily tamed, and may be taught to whistle a variety of tunes. They are restless and timorous, easily alarmed, and difficult of access.

Fig. 366. BLACKBIRD, (*Turdus merula.*)

—The bird above described is the blackbird of *Linnæus*, but, in America, this name is also given to other birds having the same habits, as the *Agelaius phœniceus* (red-winged Blackbird), and the *Xanthocephalus icterocephalus* (yellow-headed Blackbird.)—See CROW.

Black Bird, in *Delaware*, a P. O. of New Castle co.

Black'bird, in *Missouri*, a village of Putnam co.—In *Nebraska*, a hamlet of Holt co.; also a village of Thurston co., the seat of the Omaha Indian Agency.

Black'-birding, *n.* The kidnapping of negroes or Polynesians (nicknamed *black-birds*) for slaves.

Black'board, *n.* A board used in schools for drawing lines, and various purposes of instruction.

Black'-boding, *a.* Betokening evil.

Black'-bonnet, *n.* (*Zool.*) A name of the bird Reed-Bunting.—See PLECTROPHANES. *q. v.*

Black'-book, *n.* The name given in various countries and in different times to books in which, for political purposes, were recorded the secrets of families.—A book kept at a university, containing a register of crimes and misdemeanors.—Any book treating of necromancy.—*Black Book of the Exchequer.* The *Liber Niger Scaccarii*, or *Liber Niger Parvus*, probably compiled in the reign of Henry III., and now preserved among the records of the English Exchequer. It gives a description of the Court of England as it stood in the reign of Henry II.; the rank, wages, powers, &c. of the different officers of the court, the revenues of the crown, &c. It was printed by Hearne, Oxford, 1728.—*Black Book of the Admiralty.* A book compiled in the reign of Edward III., containing the laws of Oleron at large; a view of the crimes and offences cognizable in the Admiralty, &c. It has always been deemed of the highest authority in matters concerning Admiralty matters.

Black Brook, in *New York*, a post-township of Clinton co., 20 m. S.W. of Plattsburg, and drained by the Saranac River.

Black'-browed, *a.* Having black eyebrows; gloomy.

Black'burn, a borough of England, co. Lancaster, on a branch of the Ribble, 183 m. N.W. by W. of London, 31 N.E. of Liverpool, and 22 N.N.W. of Manchester. *B.* is one of the great manufacturing centres of England which have had an extraordinary development in the course of half a century. It is a prosperous and active, but irregularly built town. *Manf.* Cotton goods, averaging $20,000,000 in annual value.

Black'burn, in *Oklahoma*, a village of Pawnee co. *Pop.* (1897) abt. 100.

Black'-cap, *n.* (*Zoöl.*) The *Sylvia atricapilla*, a small song-bird, of the *Sylvicolidæ* or Warbler family, whose notes are so sweet and full that it has obtained the name of the mock-nightingale. The crown of the head in the male is black; back and wings, olive-gray; throat, breast, and belly, more or less silvery white; legs, bluish, and claws black. It is a native of Europe, where orchards and gardens are its favorite haunts.

Black-cap Titmouse, *n.* (*Zoöl.*) See TITMOUSE.

Black'-cattle, *n.* Cattle of the bovine genus, as bulls, oxen, and cows; so named when reared for slaughter, in distinction from dairy-cattle.

Black'-chalk, *n.* (*Geol.*) A kind of black clay, containing a large quantity of carbon, found in England, France, Portugal, Spain, and Italy. The finer sorts are made into artists' crayons, and used for drawing on paper.

Black'-coal, *n.* (*Geol.*) One of the three species into which coal was divided by Jameson. It comprises Slate coal, Cannel coal, Folcated coal, &c.

Black'-coat, *n.* A name sometimes familiarly given to a clergyman, in the same way that *red-coat* is to an English soldier.

Black'-cock, *n.* (*Zoöl.*) See GROUSE.

Black Copper, *n.* (*Min.*) An earthy oxide of copper, resulting from the decomposition of other ores.—See MELACONITE.

Black Currant, *n.* (*Bot.*) See RIBES.

Black Creek, in *N. Carolina*, a stream of Johnson co., flowing into the Neuse a little below Smithfield.

—A post-office of Wayne co.

Black Creek, in *New York*, a small stream of Allegheny co., flowing N.E. into the Genesee River, about 5 m. N. by W. of Angelica.

—A post-village of the above co., 275 m. W. by S. of Albany.

Black Creek, in *Mississippi*, rises in Marion co., and, after a S.E. course, empties into the Pascagoula River.

Black Creek, in *Ohio*, a flourishing township of Mercer co.

—a village of Holmes co.

Black Creek, in *Pennsylvania*, a village of Luzerne county.

Black Creek, in *S. Carolina*, a stream taking a S.E. course through Darlington dist., and joining the Great Pedee River in Marlborough district.

Black Creek, in *Wisconsin*, a township of Outagamie co., 12 m. N. of Appleton.

Black Death, *n.* (*Hist.*) A pestilence which desolated the world in the 14th century, so called from the black spots which at one of its stages appeared upon the bodies of the sufferers. It is said to have broken out in China. After having traversed Asia, it appeared in Europe in 1347, where it prevailed with more or less severity until 1350. The loss of human life was great, no less than 25,000,000 persons having perished in Europe alone. The terrors it excited gave rise to several sects, who wandered about, lashing themselves, singing penitential psalms, and declaring that the day of judgment was at hand. (See FLAGELLANTS.) In some places the calamity was attributed to the Jews, who were, in consequence, persecuted with great severity.

Black Draught, *n.* (*Med.*) The common aperient mixture kept in the shops, and called by this name, is a mere infusion of senna with ginger, in which Epsom salts are dissolved. Each practitioner has a formula of

his own for making this preparation. The *B. D.*, either alone, bnt, better still, as an adjunct to a blue or compound colocynth pill, proves a safe, efficacious, and reliable pnrgative for an adult male; and one ounce, or two table-spoonfuls, an effective dose for a female, *when* it is advisable to give females Epsom salts; while to children it is always a doubtful, if not improper, medicine.

Black Drop, *n.* (*Med.*) A preparation of opium, once in great favor; also known under the name of *Lancaster*, or *Quaker's Black Drops*. It is supposed to be a concentrated tincture of opium or landannm.

Black Dye, *n.* (*Chem.*) In dyeing blacks or browns, the stuffs are steeped first in a bath containing some form of tannin, such as infusion of galls, sumach, or catechu, and afterwards in a solution of a salt of irou; different shades being produced by the addition of indigo, of sulphate of copper, &c.

Black Earth, *n.* Monld; earth of a black color.—*Woodward.*

Black Earth, in *Wisconsin*, a post-village and township of Dane co., 19 m. W. by N. of Madison.

Black Earth River, in *Wisconsin*, rising in Dane co., and falling into the Wisconsin in Iowa co.

Blacken, (*blak'n,*) *v. a.* [A. S. *blœcan.*] To make black; to darken.

"While the long fun'rals *blacken* all the way."—*Pope.*

—To soil; to sully; to defame.

"The morals *blacken'd*, when the writings 'scape,
The libell'd person and the pictur'd shape."—*Pope.*

—*v. n.* To grow black or dark.

"Air *blacken'd*, roll'd the thunder, groaned the ground." *Dryden.*

Black'ener, *n.* One who blackens.

Black'ey, *n.* One of dark complexion; a negro.

Black'-faced, *a.* Having a black face.

Black'feet Indians, *n. pl.* A powerful and warlike tribe located between the Missouri River and the Rocky Mountains.

Black'fish, *n.* (*Zoöl.*) See LABRUS.

Black'fish, in *Arkansas*, a small river of Crittenden co., flowing into St. Francis River.

Black'-flux, *n.* (*Chem.*) A mixture of carbonate of potash and charcoal, much used in the laboratory as a reducing or deodorizing agent. It is prepared by heating tartrate of potash (cream of tartar) in a covered vessel, until a charred mass remains.

Black'foot City, in *Montana*, a post-office of Deer Lodge co.

Black'ford, in *Indiana*, an E.N.E. co. *Area*, 180 sq. m. It is watered by the Salamonie river. *Surface*, diversified; *soil*, fertile. *Cap.* Hartford. *Pop.* (1890), 10,500.

Black'ford, in *Kentucky*, a post-office of Webster co.

Black Forest, (Ger. *Schwarzwald,*) a range of mountains in Germany; Lat. bet. 47° 30′ and 49° 30′ N.; Lon. 7° 40′ and 9° E. They are covered from base to crown with vast dense woods, rising in the grand-duchy of Baden, like a woody rampart between the valleys formed by the Neckar and the Rhine. They attain in several parts an elevation of 4,000 feet above the sea; and the Foldberg, 4,675 feet, is the highest mountaiu in W. Germany. No part of Germany is more associated with goblin storles, or supernatnral horrors, than the Black Forest and its neighborhood.

Black Fork, in *Ohio*, Richland co., flowing into the Mohican River.

Black Fork, in *W. Virginia*, a P.O. of Tucker co.

Black Friars, *n. pl.* See DOMINICAN FRIARS.

Black'gang Chine, in the Isle of Wight, one of the most highly picturesque parts of the *Undercliff*, *q. v.*, bnt chiefly interesting for its geological formation. The cascade (fig. 367) falls in a perpendicnlar colnmn from

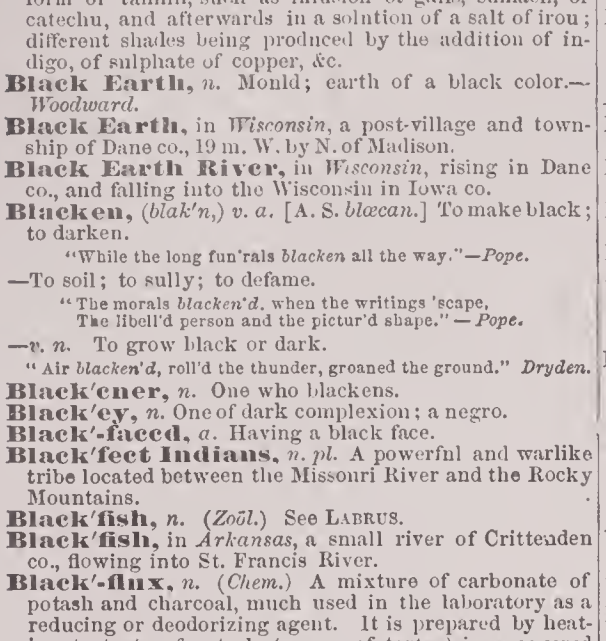


Fig. 367.—BLACKGANG CHINE, FROM THE SEA-SHORE.

a ledge 70 feet high, down the midst of a deep chasm formed in dark ferruginous clays and sands, and surmounted by broken cliffs 400 feet high, and towering above all is the majestic escarpment of St. Catherine's Hill, rising to an altitude of 800 to 900 feet. The bands of greenish-gray sand, and sandstone, which alternate with ferrnginous clays in this division of the greensand system, appear very promiscuous, owing to the wearing away of the soft and friable intermediato beds.

Black'guard, *n.* [*Black* and *guard.*] A name originally given to the scullions and coal-carriers in great houses and palaces. In the journeys of the families to which they belonged, they nsually rode in the carts with the pots and kettles; and people in derision gave them the name of *B.* The term is now usnally applied to a coarse, mean, vilc, scnrrilons fellow.

—*a.* Scurrilons; low; vile.

—*v. a.* To revile in scurrilons language.

Black'-gum, *n.* (*Bot.*) See NYSSA.

Black'-haired, *a.* Having black hair.

Black Hall, in *Georgia*, a dist. of De Kalb co.

Black Hammer, in *Minnesota*, a township of Houston co.

Black Hawk, in *Iowa*, a co. in the N.E. central part of the State. *Area*, 576 sq. m. Cedar River divides it into nearly equal parts. *Surface.* Mostly prairie. *Cap.* Waterloo.

—A township of the above co.

Black Hawk, in *Mississippi*, a post-village of Carroll co., 80 m. N. of Jackson.

Black Hawk, in *Missouri*, a village of Clark co., on the Des Moines River.

Black Hawk, in *Pennsylvania*, a post-village of Beaver co.

Black Hawk, in *Wisconsin*, a post-office of Sauk co.

Black Hawk Creek, in *Iowa*, flows into the Red Cedar River in Black Hawk co.

Black Hawk Mills, in *Indiana*, a village of Posey co.

Black Hawk, in *Colorado*, once one of the principal mining towns of the State, located on the Union Pacific Railroad. Very extensive smelting works were located here.

Black Hawk Point, in *Louisiana*, a village of Concordia par.

Black Head, a cape of Ireland, co. Antrim; Lat. 54° 46′ N., Lon. 5° 42′ W.

—Another in co. Clare, on the S. side of Galway Bay; Lat. 53° 9′ N., Lon. 9° 16′ W.

Black'-hearted, *a.* Having a black or malignant heart; full of rancor.

Black'heath, in *England*, an elevated, moory tract of country, 5 m. S. E. of London. It lies in the co. of Kent, and is stndded with the mansions and conntry-boxes of wealthy Londoners. Here, in 1497, the Cornish rebels, under Lord Audley, were defeated with great slaughter by Henry VII.

Black Hills, in *South Dakota* and *Wyoming*, a range of mountains rising near the Missouri River, in about 47° N. Lat., and 103° W. Lon., and extending to about 43° N. Lat., where it diverges to the W. and becomes lost among the spnrs of the Rocky Mountains. Harney's Peak, one of the highest summits, is 7,440 feet above sea-level. They are so called from the black, scrubby character of their timber, and have proved to be rich in mineral wealth, especially in gold. See SECTION II.

Black Hole, *n.* The name given in England to the place of confinement in which soldiers undergo short terms of imprisonment for minor offences against military discipline, and hence applied to the old village *lock-up* or *cage*, the cells of a police-station, or any place in which persons are temporarily lodged in durance.

Black'ing, *n.* A paste or liquid for blacking shoes. The manufactnre of this familiar article is of comparatively recent date. The Romans, however, appear to have had a composition similar to that known at the present day as *dubbing*. *B.* consists principally of bone-black, sugar or treacle, sperm oil, oil of vitriol, and strong vinegar.

Black'inton, in *Massachusetts*, a post-office of Berkshire co.

Black Iron, *n.* (*Metall.*) Malleable iron, in contradistinction to that which is tinued, called *white iron*.

Black'ish, *a.* Somewhat black.

Black'-Jack, *n.* (*Mining.*) A name usually given by Cornish miners to blende or sulphide of zinc. In some localities the occurrence of this ore is looked npon as a favorable indication, and there is a common saying that *Black Jack rides a good horse;* in other districts, on the contrary, Black Jack is said to *cut out the ore*.

(*Bot.*) The barren oak, *Quercus nigra*.

—A vulgar term for a drinking-cnp of tin-ware japanned over, formerly much nsed in England.

—A weapon consisting generally of a flexible handle carrying a ball of lead at one end.

—*v. a.* To strike with such a weapon.

Black Jack, in *Arkansas*, a post-office of Scott co.

Black Jack, in *Kansas*, a post-township of Douglas co., 17 m. S.S.E. of Lawrence.

Black Jack, in *Ohio*, a post-office of Hocking co.

Black Jack Grove, in *Texas*, a post-village of Hopkins co.

Black, JOSEPH, a distinguished chemist of Scottish parentage, though B. in France, 1728. He was the discoverer of latent heat. D. at Edinburgh, 1799.

Black Lake, in *Louisiana*, Natchitoches parish, empties its waters through Saline Bayon.

Black Lake Bayou, in *Louisiana*, Claiborne par., empties into Black Lake, in Natchitoches parish.

Black'-lead, *n.* (*Min.*) A name commonly applied to plnmbago or graphite, in consequence of the mark it leaves when drawn across paper, like that produced by lead. It is, however, nearly pure carbon, and contains no lead.—See GRAPHITE, PLUMBAGO, CARBON, PENCILS.

Black'leg, *n.* A notorious gambler and cheat.

—A disease among calves and sheep. It is a sort of jelly which settles in the legs, and sometimes in the neck.

Black'-letter, *n.* (*Printing.*) A name given to the old English or modern Gothic letter. What are called Roman letters were employed in the writings of western Europe from the 5th to about the close of the 12th century, when the Gothic characters came to be adopted. When printing was first introduced, the object was to imitate writing; and the first printed books were disposed of as manuscripts, the imitation being so perfect that it required great discrimination to distinguish the printed from the written. Books, printed before the year 1500, are generally in the black-letter characters, when, in most European countries, they came to be superseded by the Roman. The old Gothic is still in general use in Germany, but now many books are printed there also in Roman characters. Books in the old black-letter are highly prized by antiquaries and bibliomaniacs, as being the earliest.

—*a.* Written or printed in black-letter, and styled *Black-letter* books.

Black'leysville, in *Ohio*, a post-village of Wayne co., 8 m. S.W. of Wooster.

Black Lick, in *Ohio*, a post-office of Franklin co.

Black Lick, in *Pennsylvania*, a post-township of Indiana co., 12 m. S. by W. of Indiana.

—A township of Cambria co.

Black Lick Creek, in *Pennsylvania*, joins the Conemaugh River, in Indiana co.

Black Lick Station, in *Pennsylvania*, a post-office of Indiana co.

Black'-list, *n.* (*Com.*) A name popularly given in England, and the U. States, to printed lists privately circulated among subscribers, giving lists of insolvents and bankrupts, protested bills, judgments for debt, and other matters affecting the credit of firms and individuals, and intended for the guidance of merchants, and others, in trade.

Black Log Mountain, in *Pennsylvania*, stretches from the Juniata River S.W., and divides Mifflin co. from Jnniata co.

Black'ly, *adv.* Darkly.—Atrociously.

Black'-mail, *n.* [*Black*, denoting the illegality of the tribute, or the low coin in which it was paid, and A.S. *mal;* Goth. *maala;* Ger. *mahl*, tribute; Gael. *mal*, rent. N. Fr. *mael*, &c.] (*Hist.*) A tax, in kind or money, that was levied by the borderers of England and Scotland, under the pretence of affording protection from robbers, with whom those demanding the tribute were generally allied. These illegal exactions were carried to such an extent that they became the snbject of legislatiou jnst before the union in 1707. The practice was, in spite of every effort for its suppression, continued in Scotland until the rebellion of 1745.

—Money extorted from persons under the threat of exposure of an alleged offence; hush-money.

—*v.* To extort by the methods of blackmail.

Black'man, in *Michigan*, a township of Jackson county.

Black'man's Mills, in *N. Carolina*, a post-office of Sampson co.

Black'-martin, *n.* (*Zoöl.*) See SWIFT.

Black Mingo, in *South Carolina*, a village of Williamsburgh county.

Black Monday, *n.* Easter Monday, so called from the severity of the weather once on that day. Stow, under the year 1360, says, "And here is to be noted that the 14th day of April (6, new calendar) and the morrow after Easter-day, King Edward, with his host, lay before the city of Paris, which day was full dark of mist and hail, and so bitter cold that many men died on their horse-backs with the cold; wherefore, unto this day it hath been called the Black Monday." Lancelot, in the *Merchant of Venice*, remarks, "Then it was not for nothing that my nose fell a-bleeding on Black-Monday last."—In England, this name is also giveu by school-boys to the first Monday after the holidays.

Black'-monks, *n. pl.* The BENEDICTINES, *q. v.*

Black Mountain, in *N. Carolina*, a range extending abont 20 m., and connecting with the Blue Monntains by an outlying ridge. Its highest elevation is Mitchell's Peak, 6,732 feet above the sea, being the most elevated land E. of the Mississippi.

Black'-mouthed, *a.* Using foul or scurrilous language.

Black'ness, *n.* Quality of being black; black color.—Darkness.—Enormity in wickedness.

Black Oak, in *Texas*, a post-office of Hopkins co.

Black Oak, in *Iowa*, a flourishing township of Mahaska co.

Black Oak Point, in *Missouri*, a vill. of Hickory co.

Black Oak Ridge, in *Indiana*, a vill. of Daviess co.

Black Ochre, *n.* (*Min.*) A variety of plnmbago combined with iron and alluvial clay.

Black Prince. See EDWARD, PRINCE OF WALES.

Black'-pudding, *n.* A kind of sausage, common in Scotland, where it is called also *black-pot*. It is made of hog's blood, suet, groats, &c.

Black Quarter, *n.* (*Farriery.*) See QUARTER-EVIL.

Black River, in *Arkansas*, a township of Independence co.

—A township of Lawrence co.

Black River, in *Louisiana*. See WASHITA.

Black River, or DELUDE, in *Michigan*, rising in Sanilac co., and after a S. course of 80 m., entering St. Clair River at Port Huron.

Black River, or NORTH BLACK RIVER, in *Michigan*, rising in the W. part of the State, and enters Lake Michigan on the boundary line between Alleghany and Ottawa counties.

Black River, or SOUTH BLACK RIVER, in *Michigan*, a small stream entering Lake Michigan in Van Buren co.

Black River, in *Missouri*, rising in Johnson co., which after flowing N.E. falls into Lamine River, in Cooper co.

Black River, or BIG BLACK RIVER, in *Missouri* and

Arkansas, the largest tributary of White River, rises in the S.E. part of Missouri, and after a flow of nearly 400 m. enters White River in Arkansas, about 40 m. from Batesville.

Black River, in *Missouri*, falling into the N. Fork of Platte River, about 150 m. below Fort Laramie.

Black River, in *New Jersey*. See LAMINGTON RIVER.

Black River, in *New York*, a stream rising in Herkimer co., and flowing N.W. and W. till it enters Lake Ontario, after a course of 125 m.

—A post-office of Jefferson co.

Black River, in *Ohio*, rises in the N. part of Ashland co., and empties into Lake Erie.

Black River, in *Ohio*, a thriving post-village and township of Lorain co., on Lake Erie, at the mouth of Black River, 124 m. N.N.E. of Columbus.

Black River, in *South Carolina*, rising in Sumter district, and taking a course S.E., falls into the Pedee River a little above Georgetown.

Black River, in *Vermont*, a stream of Windsor co., flowing into the Connecticut at a little distance from Springfield.

—A small river or creek of Orleans co., falling into Lake Memphremagog.

Black River, in *Washington*, a P. O. of King co.

Black River, in *Wisconsin*, rising in Marathon co., and after a S.W. course, emptying into the Mississippi.

Black'-rod, *n.* See USHER OF THE BLACK-ROD.

Black River Chapel, in *N. Carolina*, a village of New Hanover co

Black River Falls, in *Wisconsin*, a thriving city, cap. of Jackson co., on Black river, 45 m. N. N. E. of La Crosse. *Pop.* (1890) 2,761; (1897) abt. 3,400.

Black'rock, a town and sea-bathing resort of Ireland, co. Dublin, 4 m. S.E. of Dublin City, and on the S. side of Dublin Bay; *pop.* 2,609.

Black'rock, a village of Ireland, co. Louth, at the head of a bay of the same name, about 3 m. S.E. of Dundalk; *pop.* 559.

Black'rock, a village of Ireland, co. Cork, on the Lee, 3 m. E. of Cork; *pop.* about 500.

Black Rock, in *Connecticut*, a P. O. of Fairfield co.

Black Rock, in *Maryland*, a P. O. of Baltimore co.

Black Rock, in *New York*, a thriving post-town of Erie co., at the opening of Niagara River, 2 m. from Buffalo, with which it is now incorporated.

Black Rock, in *W. Virginia*, a P. O. of Grant co.

Black'rust, *n.* A disease of wheat, in which a black, moist matter is deposited in the fissure of the grain.—See WHEAT.

Blacks, *n. pl.* The name given to a kind of ink used in copper-plate printing, prepared from the charred husks of the grape, and residue of the wine-press.

Blacks and Whites, in *Virginia*, a post-office of Nottoway co.

Blacks'burgh, in *Virginia*, a post-village of Montgomery co., 200 m. W. by S. of Richmond.

Black's Corners, in *Michigan*, a P. O. of Lapeer co.

Black Sea, (the EUXINE, or *Pontos Euxienos* of the Greeks, and *Pontus Euxinus* of the Romans; Turk. *Caca Denisi;* Russ. *Czorno More,*) a large internal sea lying between the S.W. provinces of Russia in Europe and Asia Minor: extending from 40° 50′ to 46° 45′ N. Lat., and from 27° 30′ to 41° 50′ E. Lon. It is bounded on the N. and N.W. by the Russian provinces of Taurida, Kherson, and Bessarabia; on the N.N.E. by the Caucasian countries,—Circassia, Mingrelia, and Imeritia; on the S.E. and S. by Armenia and Asia Minor; and on the W. by the Turkish governments of Roumelia and Bulgaria. Its extreme length from E. to W. is upwards of 700 m.; its greatest width, on the 31st meridian, 380 m. Its surface is estimated at about 160,000 sq. m.; and its coast-line, including its sinuosities, considerably exceeds 2,000 m. The *B. S.* is connected with the Sea of Azof by the Strait of Yenikalé (anc. *Bosphorus Cimmerius*), and with the Sea of Marmora by the Channel of Constantinople (anc. *Bosphorus Thracius*). With these exceptions, it is wholly isolated. It is also much more compact in form than most other large bodies of water, having few large limbs, unless, indeed, the Sea of Azof and that of Marmora may be reckoned as gulfs. The straits of the *B. S.* are very remarkable, that of Yenikalé being not more than 2 m. across, and that of Constantinople less than 1½. The depth of water of this sea is very variable, deepening from 4 to 160 fathoms. There are no tides in this close sea, but the currents are very marked, powerful, and regular. The prevailing wind blows from the N.E. The *B. S.* teems with fish, although few fisheries exist on its shores. It receives the waters of more than 40 rivers, among which are the Dannbe, the Dniester, the Dnieper, the Bug, the Don, and the Kuban. Notwithstanding the horror entertained by the Greeks, or rather the Greek poets, of this sea, its shores are famous in their true and fabulous history. Colchis, the Temple of the Sun, and scene of the Argonautic expedition, were on its E. coast; the Cimmerian land of everlasting darkness was originally fixed upon its N. shore; and in more historical times, the Lydian, Persian, and Byzantine powers, and the exploits of Mithridates, illustrated its S. and S.W. borders. At an early period many Greek colonies were planted on its shores. Its commerce was also reckoned of first-rate importance. Athens drew from it her principal supplies of corn and naval stores; and it furnished the favorite slaves for the markets of Greece and Rome. From the time of Constantine till the 15th century, it formed the centre of the Roman world, and during this period, a part at least of the Indian trade was carried on through it. The Venetians and Genoese were the conductors of this traffic. Soon after the fall of Constantinople, in 1453, all but Turkish vessels were excluded from the Euxine; and it was not till after the treaty of Kainardji, in 1774, that the Russian eagle was displayed on its waters. Ever since that time there has been a powerful Russian fleet stationed in the *B. S.* But after the war between Turkey and Russia, in 1854–6, when the former power was assisted by France and England, the Czar bound himself, by the treaty of peace concluded in the last-mentioned year, to limit his fleet of war on this sea to six "steam-vessels, measuring 150 metres at their water-line, and four other light sailing-vessels, not above 200 tons each." In 1871, a conference of the contracting powers held in London, put an end to a restriction so obnoxious to Russia.

Black'shear, in *Georgia*, a post-village, cap. of Pierce co., 86 m. S.W. of Savannah.

Black's Mills, in *New Jersey*, a post-office of Monmouth co.

Black'smith, *n.* A smith who works in iron, as distinguished from one who works in gold, silver, copper, tin, &c.

Black'-snake, *n.* (*Zoöl.*) See COLUBER.

Black'sod Bay, an extensive bay on the N.W. coast of Ireland, co. Mayo; Lat. 54° 5′ N.; Lon. 10° W.

Black Spring, in *Georgia*, a village of Baldwin co., 158 m. N.W. of Savannah.

Black'stairs, a mountain-chain of Ireland, partly dividing the counties Carlow and Wexford. Its highest summit is Mount Leinster, 2,610 feet above sea-level.

Black Stock, in *S. Carolina*, a post-village of Chester district.

Black'stone, SIR WILLIAM, author of the well-known *Commentaries on the Laws of England*, was B. in London, 1723 After gaining great distinction as lecturer on law at Oxford, he was raised to the bench, and sat as judge in the Court of Common Pleas from 1770 till his death. D. 1780.

Black'stone, in *Massachusetts*, a flourishing post-township of Worcester co., on the Blackstone River, 35 m. S.W. of Boston. It possesses a considerable trade in cotton cloths.

Black'stone River, in *Massachusetts*, rising in Worcester co., and flowing S.E. till it empties into Providence River.

Black'strap, *n.* A drink prepared with spirituous liquors and molasses. Hence, the English sailors give the name *B.* to the common wines of S. Europe that are strong and sweet.

Blacks'ville, in *W. Virginia*, a post-village of Monongalia co., 20 m. N.W. of Morgantown.

Black Swamp, in *Ohio*, a village of Sandusky co.

Black's Well, in *Mississippi*, a village of Choctaw co.

Black'tail, *n.* (*Zoöl.*) See PERCH.

Black'thorn, *n.* (*Bot.*) See PRUNUS.

Black'-throated, *a.* That has a black throat.

Black'-tin, *n.* A name applied by miners to tin ore ready for the smelter. — See TIN.

Black'-toed, *a.* Having black toes.

Black'-tressed, *a.* Having black tresses.

Black'ville, in *S. Carolina*, a post-village of Barnwell dist., 90 m. W.N.W. of Charleston.

Black'-visaged, *a.* Having a dark visage or countenance.

Black'-vomit, *n.* (*Med.*) A name given to a discharge of dark-colored bile from the stomach in certain diseases of the liver and biliary organs, and not unfrequently to the dark grumous blood emitted from the stomach in the disease known as *hæmatemesis*, or vomiting of blood; in both cases, however, it is only a symptom more properly appertaining to YELLOW FEVER, *q. v.*

Black'wall, (*blăck-wawl,*) a suburb of London, on the E. side of the Thames, 4 m. E. of St. Paul's. *Pop.* 30,507. Here are the East and West India docks, and shipbuilding-yards. This suburb is connected with London by a railway, raised above the streets to almost a level with the roofs of the houses, on a brick viaduct. It is noted for its whitebait, a small and delicate fish, caught off here in the Thames.

Black Wal'nut, in *Illinois*, a village of Ogle co.

Black Wal'nut, in *Virginia*, a post-village of Halifax co., 138 m. S. W. of Richmond.

Black War'rior River, in *Alabama*, formed by the junction of the Mulberry and Locust forks in Walker co., and taking a S. course, empties into the Tombigbee, above Demopolis. Steamboats can pass to 150 m. from its mouth. It is sometimes called by its Indian name *Tuscaloosa*.

Black'wash, *n.* Anything that blackens; specially applied to a lotion composed of calomel and lime-water.

Black'water, a township of Ireland, co. Armagh, and 5 m. N.W. of Armagh city.

Black'water, a township of Ireland, co. Wexford, and 9 m. N.E. of the town of Wexford.

Black'water, a river of Ireland, co. Cork, rises abt. 16 m. N.E. of Killarney, co. Kerry, and after taking a S. and S.E. course of about 100 m., empties into the sea at Yonghal. Its chief branches are the Funcheon, Awbeg, and Bride.

Black'water, a river of Ireland, counties of Tyrone and Armagh, falling into the S.W. part of Lough Neagh. *B.* is the name of several other rivers in Ireland, of minor importance.

Black Water, in *Kentucky*, a township of Morgan county.

Black'water Creek, in *Alabama*, Walker co., empties into Mulberry fork of Black Warrior River.

Black'water River, in *New Hampshire*, Merrimack co., falling into the Contocook River, 8 m. N.W. of Concord.

Black'water River, in *Virginia*, S. part of the State, rises at the base of the Blue Ridge, and takes an E. course through Franklin co. into Staunton River.

Black'water River, in *Virginia*, S.E. part of the State, rising in Prince George co., and flowing S.E. into Nottoway River, near the frontier of Virginia and N. Carolina.

Black'watertown, a village of Ireland, co. Armagh, 2 m. S.S.W. of Moy; *pop.* 420.

Blackwell, ELIZABETH, M.D., was born in England, 1821, but educated in the U. States, where her father died, 1838, leaving his widow and numerous family dependent upon the exertions of the elder daughters. Experience having convinced her of the necessity of a more extended sphere of employment for women, she endeavored, as a teacher of music, at Charleston, from 1844 to 1847, to accumulate the funds necessary to enable her to qualify herself for the practice of medicine, as physician to women and children, hoping thus to open the medical career to her sex. For this purpose, she employed in preliminary medical reading, under the direction of Dr. Dickson, every moment not occupied by teaching. In 1847 she went through a private course of dissection and midwifery, under Drs. Allen and Warrington, of Philadelphia, while applying for admission to the various medical colleges. Refused admission by 12 of these, she was admitted, in 1847, to the Medical College of the University of Geneva, N.Y., where she followed the course of medical study, and received, in 1849, the first medical degree ever conferred upon a woman. Having completed her medical studies in the hospitals of Philadelphia, Paris, and London, she established herself in New York in 1851, as physician for women and children, and published, in 1853, a work entitled *The Laws of Life, considered in reference to the Physical Education of Girls.* She established a dispensary for indigent women and children, and opened, in 1857, a hospital for women, over which she presides. Her younger sister, Dr. Emily *B.*, also adopted the medical profession; and having completed her studies in the hospitals of New York, Edinburgh, Paris, and London, is associated with her sister in the management of the hospital, and in a large private practice, confined exclusively to the treatment of women and children.

Black'well, in *Oklahoma*, a village of Kay co.

Black'well's, in *New Jersey*, a village of Somerset co., on Millstone River, 7 m. S. of Somerville.

Black'well's Island, an island in East River, New York harbor, on which is seated the penitentiary of that city.

Black'wolf, in *Wisconsin*, a post-village of Winnebago co., 73 m. N.N.E. of Madison.

Black'wood, SIR HENRY, a British admiral, B. 1770. Having entered the naval service at the age of 11 years, he was present at the action off the Dogger Bank; and on the commencement of hostilities with the French, in 1793, he became first lieutenant of the *Invincible* man-of-war, in which capacity he acted with such distinguished bravery, that he was promoted to the rank of commander, 1774. In 1798, when captain of the *Brilliant*, of 28 guns, he gallantly maintained a combat, off the island of Teneriffe, with two French frigates each of which was nearly double his own force, and beat them off. At Trafalgar he was captain of the *Euryalus*, and witnessed the death of his friend and heroic commander, Nelson, whose last words to him were, "God bless you, Blackwood — I shall never see you more." In 1806 he was appointed to the command of the *Ajax*, of 80 guns, and joined Lord Collingwood's fleet on the anniversary of the battle of Trafalgar. During the night of the 14th of February, 1807, the *Ajax* was found to be on fire, and in a short time went down with half her crew; Sir Henry, like many others, being saved with the greatest difficulty. After this he commanded the *Warspite*, and was present at the blockades of Brest and Rochefort. In 1814, the Duke of Clarence made him captain of the fleet, and he was appointed to bring over the allied sovereigns from France to England, on which occasion he was created a baronet, and promoted to the rank of rear-admiral. In 1819, Sir Henry was appointed commander-in-chief of the naval forces in the East Indies, from which station he speedily returned; and in 1827, the lord-high-admiral raised him to the command at Chatham. D. 1832.

Black'woodtown, in *New Jersey*, a flourishing post-village of Camden co., on Big Timber Creek, 12 m. S.S.E. of Camden.

Black'-work, *n.* Iron wrought by blacksmiths.

Blad'der, *n.* [A. S. *blædr, bladra, bleddra;* Icel. *bladra*, a bubble, a blister; O. Ger. *blâtara*, from *blasan*. to blow.] (*Anat.*) The *B.*, or *vesicula urinaria*, so called to distinguish it from the gall-bladder, is a musculo-membranous bag or pouch, which serves as a temporary reservoir for the urine; it communicates with the kidneys by means of the ureters, and opens externally by means of the urethra.—The urinary apparatus is confined to the red-blooded classes of animals, all of which have kidneys, while some orders and genera have no urinary *B.* In quadrupeds, the *B.* is of a pyriform shape, and is completely surrounded by the peritonæum or serous lining of the abdomen; and it may be taken as a general rule, that it is smaller, stronger, and more muscular in carnivorous than in graminivorous animals; in the latter it is almost membranous, and in some of them is particularly large.—In the whole class of birds there is no urinary *B.*, and the ureters open into the cloaca, a musculo-membranous bag, which takes the place of the rectum, *B.*, and uterus, and serves as a reservoir for the solid excrements, the urine, and eggs. The urine in these animals dilutes the faeces and forms the carbonate of lime, which constitutes the basis of the shell. The urinary *B.* exists in several genera and species of fishes. In the human subject, the *B.* is placed in the pelvis, or basin, immediately behind the symphysis pubis and before the rectum, or terminal portion of the in-

testines, in the male; but it is separated from it in the female by the uterus and vagina. Its form and relations vary according to the age of the individual. In infancy it is of a pyriform shape, and is contained almost entirely in the abdomen, thus resembling its permanent condition in quadrupeds. At this period it may be considered as consisting of three portions, the narrow tapering part, or *neck*, the upper rounded portion, or *fundus* (sometimes called *summit*), and the intermediate portion, or *body;* but as the pelvis expands, the *B.* gradually subsides into it and undergoes a remarkable change of form. Thus, in the adult its figure is that of a short oval, compressed at the fore and back part; its lower surface subsides on the rectum, and expanding forms what is termed by anatomists the *bas fond* of the *B.* This change of form is dependent not only upon the enlargement of the cavity in which the *B.* is contained, but also upon the weight of the fluid which it habitually sustains, and thus in advanced age it is more deeply sunk in the pelvis than in the middle periods of life. In the female its transverse diameter is greater than in the male, in consequence of the antero-posterior diameter of the pelvis being encroached upon by the uterus. Its capacity varies in the different periods of life; and, as a general rule, it may be said to increase in proportion as the individual advances in years, and to be greater in females than in males. Its capacity is modified in different individuals by their habits and the natural exercise of its functions. It is more particularly changed by disease; thus, from the effects of long-continued irritation, it may be reduced to such a state that it will not contain more than a few drops of urine; and on the contrary when, from any cause, its contents cannot be duly evacuated, it may be distended so as to contain many quarts of urine, and occupy a large proportion of the abdomen. Its ordinary capacity may be estimated at 1½ pints.—The direction of the *B.* is oblique, being inclined somewhat forward and upward. It is retained in its position by two lateral ligaments, one on each side, and an anterior ligament; the lateral ligaments are prolongations of the *fascia iliaca*, which, passing down into the pelvis, assumes the name of *fascia pelvica*, and becomes identified with the prostate gland and side of the *B.*; the anterior ligament is double, and it is formed by the *fascia transversalis*, which passing down behind the symphysis pubis, is reflected upon the upper surface of the prostate gland; from the point of reflection two strong fasciculi of fibres pass to the anterior surface of the *B.* These ligaments are sometimes called the proper ligaments of the *B.*, to distinguish them from certain folds of the peritonæum sometimes called ligaments. The *B.* is composed of three (by some anatomists regarded as four) coats—the serous or *peritoneal* coat, the *muscular*, the *areolar*, and the internal *mucous* or lining membrane; and is divided by anatomists into four parts—the *base*, the most posterior part, which rests against the rectum; the *body*, the centre of the organ; the *fundus*, the upper portion of the *B.*; and the *neck*, the continuation of the latter, and the constricted portion which is connected with the urethra. In a work like this, intended for general readers, it is quite unnecessary to be more minute in the anatomy of this organ. The principal diseases and accidents to which it is subject will be examined under URINARY ORGANS (DISEASES OF THE).—See also LITHOTRITY, LITHOTOMY, WORMS, &c.

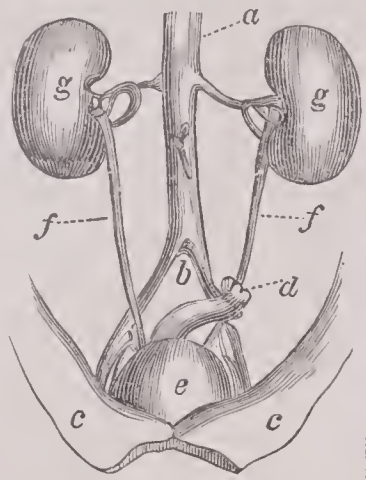


Fig. 368.

The Ureters, running from the Kidneys to the Bladder. — *a* Aorta. *b* Bifurcation. *c* Abdominal muscles turned down. *d* The Rectum cut and tied. *e* Bladder. *ff* Ureters. *gg* Kidneys.

—Any thing resembling the animal bladder; as the *air-bladder*, q. v.;—or a pustule, or vesicle, filled as the *B.* with a watery liquor.

—Figuratively, any thing inflated, empty, or unsounded.

"To swim with *bladders* of philosophy."—*Rochester.*

(*Bot.*) A pericarp or seed-vessel which appears as if inflated.

—*v. a.* To fill with wind; to puff up.—To put up in bladders.

Blad'dered, *a.* Swelled like a bladder.

Blad'der-nut, Bladder-tree, *n.* (*Bot.*) See STAPHILEA.

Blad'der-sen'na, *n.* (*Bot.*) See COLUTEA.

Blad'der-wort, *n.* (*Bot.*) See UTRICULARIA.

Blad'dery, *a.* Resembling a bladder.

(*Bot.*) Thin and inflated, like a bladder.

Blade, *n.* [A. S. *blæd*, *bled*, a leaf, a shoot, a branch, fruit; Dan. *blad;* O. Ger. *blat;* probably allied to Gr. *platys*, broad.] The cutting part of an instrument, distinct from the handle; as the *blade* of a sword, a knife, a scythe, an axe, a chisel, a square &c. The blade of a saw is more frequently called the *plate*.—Damascus was famous for the manufacture of sword-blades, which are even now, in consequence of their celebrity, of great value.

(*Bot.*) The expanded portion of a leaf. It is the part which is usually the most developed, and which is popularly known as the leaf. The terms *lamina* and *limb* are also applied to this part.—See LEAF.

(*Naut.*) The flat part of an oar.

—A brisk, gay, dashing fellow;—so styled in contempt.

—*v. a.* To furnish with a blade.

Blade'-bone, *n.* The shoulder-bone, or *Scapula*, q. v.

Blad'ed, *p. a.* Having a blade or blades; furnished with a blade or spic; as, a *bladed* grass.

Bla'den, in *N. Carolina*, a S.E. county. *Area*, 800 sq. m. It is drained by Cape Fear River, and bounded on the N.E. by South River. *Surface*, diversified, with lakes here and there. *Soil*, sandy. *Prod.*, tar and turpentine. *Cap.* Elizabeth.

Bla'denboro, in *N. Ca.*, a P.O. of Bladen co

Bla'den Creek, in *Georgia*, a P.O. of Stewart co.

Bla'densburg, in *Maryland*, a township and post-village of Prince George co., on the E. arm of the Potomac, 6 m. N.E. of Washington. *Pop.* of the township 3,006. Here, in August 24, 1814, a battle was fought between the Americans commanded by Gen. Winder, and the English under Gen. Ross. The Americans, being too few to oppose Ross, were obliged to retreat.

Bla'densburg, in *Ohio*, a post-village of Knox co., 43 m. N.E. of Columbus.

Bla'don's Landing, in *Alabama*, a village of Choctaw co., on the Tombigbee River, 4 m. from Coffeeville.

Bla'don's Springs, in *Alabama*, a post-village and watering-place of Choctaw co.

Blain, (*blān,*) *n.* [A. S. *blegen;* perhaps from *blawan*; O. Ger. *blâhan*, to blow; Du. *blein;* Icel. *blina*, a boil.] An inflation or tumor of the skin; a pustule; a blister.

(*Farriery.*) An inflammation or eruption on the root of the tongue of animals, which causes the windpipe to swell and stop the breath.

Blain, in *Pennsylvania*, a post-village of Perry co., about 40 m. W. by N. of Harrisburg.

Blain, a town of France, dep. Loire Inférieure, on the Isae, 22 m. N.N.W. of Nantes. Calvinism was early introduced here, a synod having been held in 1565. *Pop.* 7,450.

Blaine, in *Oklahoma*, a W. central co., watered by the N. fork of the Canadian river. *Cap.* Watonga. *Pop.* (1897) abt. 6,800.

Blains'ville, in *Indiana*, a post-village of Posey co., 13 m. N. W. of Evansville.

Blain'ville, HENRI MARIE DUCROTAY DE, a distinguished French anatomist and zoölogist, B. at Arques, 1777. After leading a desultory life till 1805, his career was then decided by his interest in Cuvier's lectures, and he applied himself to the study of medicine. He assisted Cuvier both in his experiments and lectures, was chosen Professor of Zoölogy and Physiology in 1812, and in 1832 succeeded his master as Professor of Comparative Anatomy at the Jardin des Plantes. He visited England in 1816, was a member of the Academy of Sciences of Paris, of the Royal and Geological Societies of London, and of many other scientific bodies. He contributed largely to scientific journals, and wrote a large number of separate works, among which are his *Ostrographie*, *Manuel de Malacologie*, *Principes d'Anatome Comparée*, *Cours de Physiologie*, &c. D. 1850.

Blair, HUGH, an eminent Scottish divine and author, B. 1718. In 1741 he was licensed to preach, and was soon after appointed to the living of Colessie in Fifeshire, and in 1743 and 1754 he was presented to the ministry of Lady Yester's church, Edinburgh; and in 1758 he was removed from Lady Yester's to be one of the ministers of the High Church. In 1757, the university of St. Andrews conferred upon him the degree of D.D., and in 1759 he began a course of lectures on rhetoric and belles-lettres, which were so much applauded, that in 1762 George III. endowed a professorship for him. In 1763, he wrote a dissertation on the poems of Ossian. In 1777 a volume of his sermons appeared, which attained so rapid a sale as to induce the author to publish another volume in 1779, subsequently followed by three volumes more. In 1780 he obtained a pension from the crown, and three years afterwards he quitted his professorship through infirmities. His *Lectures on Rhetoric and Belles-Lettres* were published at that time, and were received with an extraordinary degree of favor. Time has not impaired their well deserved popularity, and they are still now considered as a text-book for the student. They have been translated into all the European languages The best American edition is that published by T. Ellwood Zell, Philadelphia. D. 1800.

Blair, ROBERT, an ingenious Scotch poet, and the minister of Athelstaneford, in E. Lothian, Scotland, B. 1699. Author of *The Grave*, in which is the oft-quoted sentiment of "Angels' visits, few and far between." D. 1747.

Blair, FRANCIS PRESTON, an Am. journalist, B. in Va., 1791. From 1830–45, edited the "Globe," at Washington. D. 1876. MONTGOMERY B., his son, B. in Ky., 1813, graduated at West Point in 1835; served in the Seminole war, left the army, and practised law in St. Louis; Postmaster-General under Pres. Lincoln, 1861–64. FRANCIS PRESTON, JR., brother of the preceding, B. 1821; practised law in St. Louis; Member of the Legislature, 1852–4, and republican member of Congress, 1856-60-62; became Maj.-Gen Vols., 1862. In 1868, was defeated as the democratic candidate for the Vice-Presidency. U. S. Senator from Missouri, 1871–3. D. 1875.

Blair, in *Ill.*, a P.O. of Randolph co.—In *Mich.*, a P.O. of Barry co.—In *Penna.*, a S.S.W. cent. county. *Area*, 650 sq. m.; drained by the Juniata R. and Clover Creek. *Surf.*, mountainous; the Allegheny chain bounding it on the W., and Tassey's Mountain on the E. *Soil*, partly fertile; iron and coal are extensively found and worked. *Cap.* Hollidaysburg. *P.* in 1890, 70,713.—A twp. of the above co.—In *W. Va.*, a P. O. of Hancock co.

Blairs'burg, in *Iowa*, a P.O. of Hamilton co.

Blairs'town, in *Iowa*, a P.V. of Benton co.—In *N. J.*, on Paulinskill Creek, 85 m. N. by W. from Trenton.

Blairs'ville, in *Geo.*, a P.V., cap of Union co.—In *Ill.*, a vil. of Williamson co.—In *Ind.*, a P.V. of Posey co.—In *Missouri*, a P.O. of St. François co.—In *Pennsylvania*, a post-borough of Indiana co., on Conemaugh River, 75 m. E. of Pittsburg.—In *S. Carolina*, a P.O. of York district.

Blaisois, (*blai-zwai',*) an ancient district of France, in the Orléanais; *cap.* Blois. It now forms a part of the dep. of Loire-et-Cher.

Blake, ROBERT, (*blaik,*) a celebrated English admiral, B. at Bridgewater, 1598. He was educated at Oxford, took part with the Parliamentarians at the beginning of the civil war, and served under Colonel Fiennes at Bristol, when that town was taken by Prince Rupert. He afterwards assisted in taking Taunton by surprise, and of this place he was made governor, and, in 1645, defended it against Goring with such bravery for two successive sieges, that he was publicly thanked and rewarded by Parliament. In 1649 he was appointed commander of the fleet in conjunction with Deane and Popham; and soon afterwards sailed in search of Prince Rupert, whose fleet he blockaded in Kinsale harbor. The prince afterwards escaping to Lisbon, he was there followed by *B.*, who demanded leave of the king of Portugal to attack him, and, being refused, he took several of the Portuguese ships coming home from Brazil laden with treasure. During his absence, Prince Rupert made sail to the Mediterranean, whither he was followed by *B.*, who attacked him in the harbor of Malaga, and destroyed nearly the whole of his fleet. After this, he returned to England with several prizes, again receiving the thanks of Parliament, by whom he was also made Warden of the Cinque Ports. Soon after this, he reduced the Scilly Isles, Guernsey, and Jersey, for which he was again thanked by the House, and appointed one of the Council of State. On the prospect of a war with the Dutch in 1652, he was appointed sole admiral of the fleet, and was attacked in the Downs by Van Tromp, who had 45 sail, while *B.* had only 23. He fought, however, with such determination, that the Dutch admiral was glad to retreat. In the November following, Van Tromp sailed into the Downs, with above 80 men-of-war, and off the Goodwin Sands, on the 29th of that month, an obstinate battle was fought between him and Blake, who had only half his force, and who was compelled to run with his shattered ships into the Thames. It was on this occasion that Van Tromp passed through the English Channel with a broom at his main-top, signifying that he had swept the sea of the English ships. In February, 1653, *B.* was enabled to put to sea with 80 men-of-war, and off Cape La Hogue fell in with the Dutch, who had an equal number and 300 merchantmen under convoy. A most bloody engagement ensued, which lasted three days, and in which the Dutch lost 11 men-of-war and 30 merchant-vessels, while the English lost only 1 ship. In June following, the fleets of the belligerent admirals fought again off the Foreland; and the Dutch sustaining a severe defeat, barely saved themselves in the shallow waters of Calais. In 1654, *B.* sailed into the Mediterranean, where he demolished the castle of Tunis because the Dey refused to deliver up the English whom he held as captives. A squadron of his ships, also, under the command of Captain Stayner, intercepted a Spanish Plate fleet, and took the admiral, vice-admiral, and two galleons. *B.* having received information that another Plate fleet lay at Santa Cruz, in Teneriffe, sailed thither, and notwithstanding the strength of the place, boldly went in, burnt the ships, and came out with comparatively little loss, while the slaughter of the Spaniards was immense. For this, he again received the thanks of Parliament, and was presented with a diamond ring worth £500. He soon afterwards returned to his station at Cadiz, but his ill health inspired him with a strong desire to return to England; and accordingly he set sail for his native land, but died as his ship was entering Plymouth harbor, August 27, 1657.

Blake'ly Gun. See GUN.

Blake'ly, in *Ala.*, a village, the former cap. of Baldwin co., on the Tensaw river, 12 m. E. by N. from Mobile. Its harbor is accessible to steamboats. Here the Confederates had constructed a series of redoubts and lunettes armed with 40 guns; the garrison, consisting of about 3,000 men, was commanded by Gen. St. John Lidell. On the 9th of April, 1865, the assault was made on these fortifications by the National troops under Gen. Steel. After a severe struggle, possession was taken of all the works, with Gen. Lidell and the whole garrison as prisoners of war. The Confederates lost, in killed and wounded, abt. 500 men; the National loss was abt. 100.

Blake'ly, in *Georgia*, a post-village, cap. of Early co., 170 m. S.W. of Milledgeville,

Blake'ly, in *N. Carolina*, a village of Stokes co.

Blake'ly, in *Pennsylvania*, a township of Luzerne co., 25 m. N. E. of Wilkesbarre. It contains rich mines of anthracite coal.

Blake'ly, in *Washington*, a village of Kitsap co.

Blakes'burg, in *Indiana*, a village of Putnam co., 11 m. N. E. of Greencastle.

Blakes'burg, in *Iowa*, a P. O. of Wapello co.

Blake's Ferry, in *Alabama*, a village of Randolph county.

Blakes'ville, in *Indiana*, a village of Harrison co., on the Ohio river, abt. 20 m. S. S. E. of Corydon.

Blake'ville, in *Iowa*, a post-village of Black Hawk co., abt. 8 m. N. E. of Waterloo.

Blake'ville, in *New Hampshire*, a village of Cheshire county.

Bla'key, ROBERT, PH.D., an English author; B. at Morpeth, Northumberland, 1795. Devoting himself early in life to literature and philosophy, he published in 1829 his first regular work on *The Freedom of the Divine and Human Wills*, which was favorably received, and brought him into notice among abstract thinkers. It was followed in 1833 by his *History of Moral Science*. This work has since become a text-book in many of the colleges in the U. States In 1834 he wrote his *Essay on Logic*, chiefly with a view to popularize this branch of knowledge. Dr. *B.* published several other volumes, among which may be mentioned *The Lives of the Primitive Fathers of the Church*, and *The History of the Philosophy of Mind*. For the last the author received commendations from MM. Victor Cousin, Gioberti, Gruyer, and numerous German savans, and a gold medal from the King of the Belgians. In 1835 he was appointed Professor of Logic and Metaphysics in Queen's College, Belfast, which he relinquished on account of ill health. His *Temporal Benefits of Christianity*, and his *Historical Sketch of Logic*, appeared in rapid succession, followed by the *History of Political Literature*. Dr. *B.* is the author of several volumes on angling and sporting topics, and a contributor to the *Encyclopædia Britannica*, etc. The University of Jena conferred upon him the honorary degree of Ph.D. in recognition of the merits of his philosophical writings. D. Oct. 6, 1878.

Blam'able, *a.* Deserving of blame or censure.

"Two extremes are equally *blamable*."—*Dryden.*

Blam'ableness, *n.* The state of being liable to blame; culpableness.

Blam'ably, *adv.* Culpably; in a manner deserving of censure.

Blame, (*blām,*) *v. a.* [Fr. *blâmer;* Gr. *blasphēmeō*, from *blapsis—blaptō*, to damage, to hurt, and *phēmi*, to speak.] To speak disparagingly or reproachfully of; to censure; to find fault with; to disparage; to condemn; to upbraid; to reprimand; to pass an unfavorable judgment upon.

—*n.* Imputation of a fault; expression of disapprobation; censure; reprehension; fault; crime; sin.

Blame'ful, *a.* Culpable; blamable.

Blame'fully, *adv.* In a culpable manner; blamably.

Blame'less, *n.* Free from blame; guiltless; innocent.

Blame'lessly, *adv.* Innocently; without fault.

Blame'lessness, *n.* Quality of being blameless; innocence; a state of being not worthy of censure.

Blam'er, *a.* One who blames; a censurer.

Blame'worthiness, *n.* The quality of deserving blame.

Blame'worthy, *a.* That is worthy of blame.

Blanc, JEAN JOSEPH LOUIS, a French historian and political writer, B. at Madrid, Oct. 28, 1813, is of Corsican extraction, his mother, *née* Estelle Pozzo di Borgo, belonging to the same family as the celebrated diplomatist of that name. When 19 years old, he went to Paris, and wrote for several daily journals Afterwards, at Arras, he contributed to one of the most important republican papers of the Department— the *Progrès du Pas de Calais*. In 1839 he founded the *Revue du Progrès*, in which he first published "The Organization of Labor." As he was returning home, one evening in Oct., 1839, he was suddenly assailed from behind by some ruffian, who inflicted a violent blow with a stick on his right eye. The author of this cowardly assault, which was made the day after *L. B.* had published a review of Louis Bonaparte's work, *Les Idées Napoléoniénnes*, was never discovered. *L. B.* had a brother younger one year than himself, who was at that time at Rodez, in the department of l'Aveyron, and who entertained so strong a conviction that his brother was being assaulted at the precise moment when it really occurred, that he was induced to write at once for information to Paris. This incident was the origin of Dumas's "Corsican Brothers," the main subject of which is the preternatural sympathy between two brothers. *L. B.* having become a clerk in a notary's office, soon found more congenial occupation as tutor in a private family, and shortly afterwards made his way to eminence among the journalists of Paris. The important part that he played in the stormy days of 1848 has become a matter of history. He was elected a member of the Provisional Government, and it has been erroneously asserted that, while serving his country in that capacity, he created and organized the famous *National Workshops*, a scheme that he strenuously deprecated and opposed, and which, to use the words of Lamartine, "was the device of his adversaries." This calumny was so ingeniously and industriously disseminated, to serve the purpose of political intrigues, that it was long credited, in spite of many unquestionable proofs of its fallacy. M. Louis Blanc, when a member of the Provisional Government, prevailed upon his colleagues to abolish capital punishment for political offences; and on being returned one of the representatives of Paris by 120,000 votes, after the Provisional Government had surrendered its power into the hands of the National Assembly, he brought forward and carried the motion for a repeal of the law by which the family of the Bonapartes was doomed to perpetual exile. To the abrogation of this law, Louis Napoleon was indebted for permission to return to France, and consequently for his subsequent wonderful good fortune. The circumstances that led to *L. B.*'s quitting France, and taking up his abode in England, may be briefly stated. A violent demonstration was made, May 15, 1848, in favor of Poland, by numbers of people, who invaded the hall of the National Assembly. *L. B.* exerted himself to check this unwarrantable attempt at popular dictation. Although the workingmen who took part in the demonstration did not follow his advice, they showed him sympathy and respect, which his enemies turned against him, making them the pretext for an attempt to proscribe him. This unfounded charge fell to the ground, and it was not until amid the excitement that prevailed after the sanguinary insurrection of June in the same year, when the minds of many were under the influence of a frantic reactionary movement, that the charge already disproved was revived, and his proscription resolved upon, and voted by the very men, indeed, who had but a short time before proclaimed his innocence. One of the most prominent of *L. B.*'s literary undertakings was his *Histoire de Dix Ans*, (1830–1840,) which passed through several editions and exercised great influence on political events in France, during the latter portion of the reign of Louis Philippe. His larger and more important production, the *History of the French Revolution*, written during his residence in England, has recently been completed, and consists of 12 vols. *Historical Revelations*, intended to expose the misrepresentations in Lord Normanby's narrative of events that occurred in Paris after the fall of Louis Philippe's govt., was published in 1859. *B.*, who while in England had acted as correspondent to several French journals, published *Letters on England*, 1866. In 1871, after the fall of the 2d empire, *B.* returned to Paris, and was elected to the Nat. Assembly. D. 1882.

Blanc, (Mont,) ('White Mountain,') the highest summit in Europe, belonging to the Alps of Savoy; extending from S.W. to N.E. bet. 45° 46′ and 45° 57′ N. Lat. In this direction it may have a length of abt. 13 m.; its breadth varies from five to six miles. This enormous mass of primitive rock rises far above the line of perpetual congelation, and descends with great steepness and to a vast depth on the N.W. and S.E; the valleys, which bound the mountain on these sides, being only between 3,000 and 4,000 feet above the level of the sea. The valley to the north-west consists properly of two valleys, those of Montjoie and of Chamouni, which are separated by a lateral branch of the mountain for some distance, but afterwards join one another. The valley of Chamouni is the larger, and the place to which travellers commonly resort to have a view of Mont Blanc, or to ascend it; the village of Chamouni, or the Prieuré, which is nearly in the centre of the valley, is 3,403 feet above the level of the sea. The valley to the south-east of the mountain mass, called the Valley of Entreves, consists properly of two valleys, which lie in the same direction, and open one into the other, which takes place nearly at equal distances from the extremities of the mountain-mass. The lowest point of this valley is Cormaggiore, situated 3,900 feet above the level of the sea. The southern extremity of the mountain is both united to and separated from the high mountain-range which extends in a southern direction to the very shores of the Mediterranean Sea, by the Col de Seigne. This mountain-pass, the highest part of which is below the point of eternal snow, rising only to 8,083 ft., unites the Valley of Bouneval in Savoy with the Valley of Entreves in Piedmont, and presents one of the grandest views of Mont Blanc. The northern extremity of the mountain is connected with the high range which, running to the east, separates the Valais (or Wallis) from Piedmont; and with another, which, extending in a north-western direction, divides Savoy from the Valais, and terminates at no great distance from the Lake of Geneva. From the former range it is separated by the Col de Ferret, or Ferrex, a mountain-pass, 7,764 feet above the sea, which connects the Valley of Ferret, or Ferrex, with that of Entreves. From the range of mountains extending to the Lake of Geneva, Mont Blanc is divided by the Col de Balme, which unites the Valley of Chamouni with that of Trent in the Valais, and rises to 7,552 ft. The whole mountain mass enclosed between the valleys and these three mountain-passes probably rises to upwards of 10,000 feet; and, as in this parallel the snow-line does not extend beyond 9,000 or 9,300 feet, it probably is about 1,000 feet above it. It is consequently all covered with snow, except in a few places where the steepness of the rock does not allow the snow to lie. The upper surface is extremely irregular, and a considerable number of rocks rise from it, which, from their resemblance to pyramids or steeples, are called *aiguilles*, or needles. Towards its southern extremity this extensive mass of rocks rises to its greatest elevation in that mountain pinnacle properly called *Mont Blanc*, whose summit attains the height of about 15,777 feet above the sea, in 45° 41′ 52″ N. Lat., and 6° 44′ 22″ E. Lon. When seen from the north or south, it presents the form of a pyramid, descending nearly perpendicularly to the south. When seen from the N.E. or the Valley of Chamouni, it resembles the back of a dromedary, and is called by the inhabitants of that valley *Bosse de Dromadaire*. Near it rises the Aiguille de Goute to the height of 12,204 feet. Farther to the N.E. the Aiguille du Midi attains 12,854 feet, and its neighbor, the Aiguille de Géant, 13,902 feet. Still farther to the N.W. stands the Aiguille d'Argentier, 13,400 feet high, and to the west of it the Aiguille de Dru, 12,460 feet. The most northern and lowest is the Aiguille de Tour, whose summit is only 11,036 feet above the level of the sea. There are still more of these peaks, but they have not been noticed by travellers. Mont Blanc exhibits all the grandeur of the Alps on a large scale. High tapering pyramids covered with eternal snow; extensive fields of ice, split to a great depth by wide cracks; glaciers of green color descending from its sides between bare dark-colored perpendicular rocks, and skirted by forests of fir; and grottos formed in the masses of eternal ice,—in addition to all the other varieties of mountain scenery,—attract great numbers of curious and scientific travellers. The waterfalls are numerous, and some of them magnificent, particularly the Cascade des Pelerins, of which we give an illustration, situated near Chamouni, and which is one of the most curious and beautiful scenes in the Alps. A torrent issues from the *Glacier des Pélerins*, high up the mountain, above the *Glacier des Bossons*, and descends, by a succession of leaps, into a deep gorge, from precipice to precipice, almost in one continual cataract: but it is all the while merely gathering force, and preparing for its last magnificent deep plunge and recoil of beauty. Springing in one round condensed column out of the gorge, over a perpendicular cliff, it strikes, at its fall, with its whole body of water, into a sort of vertical rock basin, which one would suppose its prodigious velocity and weight would split into a thousand pieces; but the whole cataract, thus arrested, at once suddenly rebounds in a parabolic arch, at least 60 feet into the air; and then, having made this splendid airy curvature, falls with great noise and beauty into the natural channel below. It is beyond measure beautiful. The first men-

Fig. 369.—CASCADE OF THE PELERINS, (MONT BLANC.)

tion made of Mont Blanc does not go back a century. If we are not mistaken, this mountain was first noticed by Richard Pococke, who, in his travels to the East, being struck by its extraordinary height and appearance, described it in his account of the glaciers of Switzerland. Nearly fifty years elapsed after Pococke's description, before it was ascended, for the first time, by Dr. Paccard and James Balmat, with great difficulty and danger, in August, 1786. A year afterwards, Saussure succeeded in reaching the summit, where he remained for five hours, and made a great number of observations. The pulse of the whole company, which was composed of 12 persons, beat with extreme quickness, and all of them felt great thirst and exhaustion, without any desire to take food. The color of the sky was dark blue; the stars were visible in the shade; the barometer sank to 16 inch. 1 line, while at Geneva it stood at 27 inch. 1 line; the thermometer indicated in the shade + 26½°, and in the sun + 29°, while at Geneva it was + 87° of Fahrenheit. Water consequently froze even when exposed to the sun. Since Saussure's ascent, Mont Blanc has been often ascended, but no very important observations have been made since that date.

Blanc, (Le,) a town of France, dep. Indre, on the Creuse, 33 m. W.S.W. of Chateauroux. It is an ill-built and precipitously situated town, is very ancient, and was often frequented by the Roman legions.

Blan'card, *n.* [Fr. *blanchard*, from *blanc*, white.] A kind of linen cloth manufactured in Normandy.

Blanc d'Argent, *n.* [Fr., silver-white.] (*Paint.*) This is a false appellation for a white lead, called also French white. It is first produced in the form of dross, is exquisitely white, and has all the properties of the best white leads; but, being liable to the same changes as the flake-white, it is unfit for general use as a water color, though good in oils or varnish.

Blanch, (*blansh,*) *v. a.* [Fr. *blanchir.*] To make to shine; to whiten; to make white by taking out the color; to change to white.

"And sin's black dye seems *blanch'd* by age to virtue."—*Dryden.*

—To strip or peel such things as have husks.

"Their suppers may be bisket, raisins, and a few *blanched* almonds."—*Wiseman.*

—*v. n.* To grow white; as, his cheeks *blanched* with fear.

Blanchard, (*blon'shahr,*) FRANCOIS, a French aëronaut, B. in 1738, was distinguished from his youth by his mechanical inventions. After making his first aërostatic voyage in 1784, he crossed the Channel from Dover to Calais, in 1785; for which exploit he was rewarded by the king of France with 12,000 francs, and a pension of 1,200 f. He first made use of a parachute in London, in 1785; went through various countries on the Continent, exhibiting his aëronautic skill; visited America with the same object; and, returning in 1798, ascended at Rouen

with 16 persons in a large balloon, and descended at a place 15 m. distant. He D. in 1809.—His wife, MADAME BLANCHARD, continued to make aërial voyages; but in June, 1819, having ascended from Tivoli, in Paris, her balloon took fire, at a considerable height, owing to some fireworks which she carried with her, the car fell, and the hapless aëronaut was dashed to pieces.

Blanch'ard, in *Maine*, a post-township of Piscataquis co., 120 m. N.E. of Angusta.

Blanchard, in *Ohio*, a thriving township of Hancock co.

—A township of Hardin co.

—A township of Putnam co.

Blanchard's Bridge, in *Ohio*, a post-village of Hancock co., Hancock township.

Blanchard's Fork, in *Ohio*, takes its rise in the central part of the State, and falls in the Auglaize River in Putnam co.

Blanch'ardsville, in *Wisconsin*, a post-office of Lafayette co.

Blanche, in *Missouri*, a post-office of Douglas co.

Blanche Furnace, in *Pennsylvania*, a village of Mercer co.

Blanche of Castile, Queen of Louis VIII. of France, was daughter of Alfonzo IX., King of Castille, and was born in 1187. She was married to Louis in 1200, was crowned with him in 1223, and on his death 3 years later, became regent during the minority of her son, Louis IX., displaying great energy and address as a ruler. She opposed the departure of Louis for the crusade, but accompanied him to Cluni, and carried on the government in his stead. His long absence, and the rumor of his intention to settle in the Holy Land, caused her great sorrow, and she D. in 1252.

Blanch'er, *n.* One who blanches or whitens.

Blan'chester, in *Ohio*, a post-village of Clinton co., 15 m. S.S.W. of Wilmington.

Blanchim'eter, *n.* [Eng. *blanch*, and Gr. *metron*, a measure.] (*Chem.*) An instrument used in ascertaining the bleaching-powers of chloride of lime and potash.

Blanch'ing, *n.* The act or art of whitening or making anything white.—(*Coin.*) An operation performed by annealing. washing, and cleansing the money.

—The process of covering iron plates with a thin coat of tin is also called blanching.

(*Cookery.*) The peeling and whitening of almonds, &c.

(*Hort.*) The whitening of the stems, stalks, or leaves of plants by tying them together, or by earthing them up, so as to exclude the light. Its object is generally to diminish the intensity of their native properties, and to render them more crisp and agreeable to the palate.

Blanc-manger, BLANC-MANGE, (*bla-monj'*,) *n.* [Fr., white food.] (*Cookery.*) A preparation of milk, cream, sugar, and isinglass, which are boiled together. After being flavored with lemon-peel, brandy, &c., the fluid is run into a mould and allowed to congeal. It is sometimes prescribed as a nutrimeut during convalescence, and in chronic diseases.

Blan'co, in *Texas*, a central co., watered by Guadalupe, Pedernales, and Rio Blanco rivers; *area*, about 710 sq. m. *Pop.* (1890) 4,635. *Cap.* Johnson City.

—A village of the above co., situated about 50 m. W. S. W. of Austin.

Blan'co, CAPE, a celebrated cape on the W. coast of Africa; Lat. 20° 46′ 26″ N., Lon. 17° 4′ 10″ W. This cape, which was discovered by the Portuguese in 1441, forms the extremity of a rocky ridge, called the *Geb-el-reid*, or White Mountain, projecting into the sea in a S. direction. Inside the cape is a spacious bay, which has on its S.E. side the bank and town of Arguin.

Bland, *a.* [Lat. *blandus;* probably from the root of *lenis*, with a prefix; O. Ger. *lind;* Dan. *lind*, soft, mild, and gentle.] Soft; smooth; soothing; gentle; mild.

> "And even calm
> Perpetual reign'd, save what the zephyrs *bland*
> Breath'd o'er the blue expanse.' — *Thomson.*

Bland, in *Virginia*, a S.W. co., bounded on the S.E. by a range called Walker's Mountain; *area*, abt. 350 sq. m. It is drained by Walker's and Wolf creeks.

Bland'ensville, or **Bland'insville,** in *Illinois*, a village of McDonough co.

Bland'ford, a borough of England, co. Dorset, 98 m. S.W. of London. It is a neat little town, situated amid a fine tract of sheep pastures.

Bland'ford, in *Virginia*, a village of Dinwiddie co., about 1½ m. E. Petersburg,

Bland'insville, in *Illinois*, a post-township of McDonough co., 33 m. E.N.E. of Keokuk.

Blan'dish, *v. a.* [O. Fr. *brandir;* Lat. *brandior*, *branditus*, from *blandus*, bland; O. Eng. *blandise.*] To soften; to soothe; to caress; to flatter.

—*v. n.* To act or speak courteously; to be soft in words or manners.

Blan'dishment, Blan'dishing, *n.* Act of blandishing; soft words; kind speeches; caresses; flattery.

Bland'ness, *n.* State of being bland.

Blan'don, in *Pennsylvania*, a post-village of Berks co., 8 m. N.N.E. of Reading.

Bland'ville, in *Kentucky*, a township and village, cap. of Ballard co., on Mayfield Creek.

Bla'nes, a town of Spain, prov. of Gerona, 22 m. S. of the city of that name, with a port on the Mediterranean; *pop.* 5,726.

Bland'ford, in *Massachusetts*, a post-township of Hampden co., 15 m. W. by N. of Springfield.

Blank, (*blangk*), *a.* [Fr. *blanc*, from the same root as *blanch.*] White; shining.

> "To the *blank* moon—her office they prescribed."—*Milton.*

—Void; empty; void of writing or letters.

> "Upon the debtor side I find innumerable articles; but, upon the creditor side, little more than *blank* paper."—*Addison.*

—Pale from fear, terror, &c.; confused.

> "But now no face divine contentment wears;
> 'Tis all *blank* sadness, or continual fears."—*Pope.*

—Without rhyme; when the rhyme is *blanched* or omitted.

> "Our *blank* verse, when there is no rhyme to support the expression, is extremely difficult to such as are not masters in the tongue."

Blank, *n.* [From the adjective.] A void space on paper.

> "I cannot write a paper full as I used to do; and yet I will not forgive a *blank* of half an inch from you."—*Swift.*

—A lot by which nothing is gained.

> "In fortune's lottery lies
> "A heap of *blanks* like this, for one small prize."—*Dryden.*

—A paper unwritten; anything without marks or characters.

> "Life may be one great *blank*, which, though not blotted with sin, is yet without any characters of grace or virtue."—*Rogers.*

—The white spot or mark which a shot is to hit.

(*Law.*) A space left in writing to be filled up with one or more words to complete the sense. When a blank is left in a written agreement which need not have been reduced to writing, and would have been equally binding whether written or unwritten, it is presumed, in an action for the non-performance of the contract, parol evidence might be admitted to explain the blank. And when a written instrument, which was made professedly to record a fact, is produced as evidence of that fact which it purports to record, and a blank appears in a material part, the omission may be supplied by other proof.

B. Indorsement. See INDORSEMENT.

—*v. a.* To deprive of color; to damp; to confuse.

> "If the atheist, when he dies, should find that his soul remains, how will this man be amazed and *blanked!*"—*Tillotson.*

Blank'-bar, *n.* (*Law.*) See COMMON BAR.

Blank'-cartridge, *n.* (*Mil.*) A charge of powder for a rifle or other gun, containing no ball or shot. It is usually used for firing salutes, and in exercising troops.

Blank'-door, *n.* (*Arch.*) A blank door is that which is either shut to prevent passage, or placed in the back of a recess where there is no entrance, so as to appear like a real door.—A *B. window* is that which is made to appear like a real window; but is only formed in the recess of a wall.

Blank'enburg, a walled town of N. Germany, in the duchy of Brunswick, formerly cap. of a principality of the same name, 37 m. S.S.E. of Brunswick city. Here is a palace of the Dukes of Brunswick. On the summit of the Regenstein, close by, are the remains of a large castle, constructed by Henry the Fowler, in 919, consisting of chambers cut out of the rock. *Pop.* 4,377.

Blan'ket, *n.* [Fr. *blanchet*, the blanket of a printing-press.] (*Com.*) A soft, loosely-woven woollen stuff, principally used for bed-coverings and wrappers; also, as a covering for horses, &c.

(*Printing.*) A woollen cloth or fine baize, which is laid between the tympans of a press.

(*Hort.*) A delicious variety of pear. It is sometimes written *blanquet*, and in French, *blanquette.*

(*Hist.*) To toss in a blanket, [which happened to the unfortunate esquire of *Don Quixote*, as every one knows,] is a very ancient custom, and was applied by way of punishment. The Emperor Otho used to go forth upon dark nights, and if he found a drunken man, he would order the discipline of the blanket to be administered.—Formerly, *B.* were used in theatres instead of curtains. (See *Macbeth* i. 5.)

—*v. a.* To cover with a blanket.

> "My face I'll grime with filth;
> *Blanket* my loins; tie all my hair in knots."—*Shaks.*

—To toss in a blanket, by way of penalty or contempt.

> "Ah! oh! he cry'd, what street, what lane, but knows
> Our purgings, pumpings, *blanketings*, and blows."—*Pope.*

Blanket Hill, in *Pennsylvania*, a post-office of Armstrong co.

Blan'keting, *n.* The act of tossing in a blanket.

See BLANKET.—Cloth or material for blankets.

Blank'ly, *adv.* In a blank manner; with paleness or confusion.

Blank'ness, *n.* State of being blank.

Blank-verse', *n.* (*Pros.*) Verse which is void of rhyme; any kind of verse in which there is not rhyme, blanched or omitted. The verse of the Greeks and Romans—at least such of it as has come down to us—is without rhyme. The Goths are said to have introduced rhyme from the East into the languages of modern Europe, and in the Middle Ages it came to be commonly employed in poetical composition, both in the Latin and vernacular tongues, by most of the nations of Europe. About the 15th century, when the passion for imitating classical models became general, attempts were made in Italy, France, and other countries, to reject rhyme as a barbarous innovation. The first attempt at blank-verse in English appears to have been a translation of the first and fourth books of the Æneid by the Earl of Surrey, who was executed in 1547. Its suitability for the drama was at once felt, and it was in general use in dramatic composition before Shakspeare began to write, which is supposed to have been about 1591. It was, however, almost entirely confined to the drama down to the appearance of "Paradise Lost," by Milton, in 1667. In an advertisement to the second edition of this work, the author, in answering objections to the want of rhyme, says: "This neglect of rhyme is so little to be taken for a defect, though it may seem so, perhaps, to vulgar readers, that it is rather to be esteemed an example, set the first in English, of ancient liberty recovered to heroic poem from the troublesome and modern bondage of rhyming." Since Milton's time, blank-verse has come into use in various kinds of poetry besides the dramatic; but it is principally in the heroic metre of ten syllables that blauk-verse is used, and, indeed, by some the term is restricted to that kind of metre. As an example of blauk verse:

> Of man's | first dis | obe | dience, and | the fruit
> Of that | forbid | den tree | whose mor | tal taste
> Brought sin | into | the world, | and all | our woe.

Frequently, in dramatic blank-verse, a supernumerary syllable occurs at the end of the line, as—

> To be, | or not | to be, | that is | the ques | *tion.*

In blank-verse, the poet is less encumbered than in any other species of versification; and hence it is particularly adapted for subjects calling forth sublime and noble emotions. "The constrained elegance of this kind of versification (rhyme), and the studied smoothness of the sounds, answering regularly to each other at the end of the line, though they be quite consistent with gentle emotions, yet weaken the native force of sublimity; besides that, the superfluous words which the poet is often obliged to introduce, in order to fill up the rhyme, tend further to enfeeble it." (*Blair.*)—It is also free from the full close which rhyme forces upon the ear at the end of each couplet, and allows the lines to run into each other without constraint. The German, probably, of all the languages of modern Europe, admits the greatest variety of blank-verse measures. From the practice of modern German poets it would appear that any species of verse which may be used in that language with rhyme, may also be used without it. In the German translations from Greek and Roman poets we find every species of ancient metre successfully imitated, and of course without rhyme. That which approaches nearest to, or rather is identical with, our ten-syllable blank-verse, is also much used, as in the following example:

> Der blinde Greis erhub sich alsobald,
> Wählt einen Text, erklärt ihn, wandt' ihn an,
> Ermahnte, warnte, strafte, tröstete
> So herzlich, dass die Thränen mildiglich
> Ihm niederflossen in den grauen Bart.—KOSEGARTEN.

Blank'-window, *n.* (*Arch.*) See BLANK-DOOR.

Blanqui, (*blang'ke,*) JERÔME ADOLPHE, a political French economist, was B. at Nice, 1798, and educated at the Lycenm there. In 1814, his family quitted Nice, and young *B.* went to complete his studies at Paris, where he became acquainted with J. B. Say, who induced him to turn his attention to the study of political economy. In 1825, by Say's recommendation, he was appointed Professor of History and of Industrial Economy in the Commercial School at Paris. On the death of Say, he was appointed Professor of Industrial Ecouomy in the "Conservatoire des Arts et Métiers," and was one of the editors of the *Dictionnaire de l'Industrie, Manufacturière, Commerciale, et Agricole.* In June, 1838, he became a member of the Academy of Moral and Political Sciences. The Academy sent him to Corsica to study the condition of that country, and in 1839 to Algiers, for the same purpose. In 1841 he visited Turkey. In 1851 the Academy, which highly valued his abilities, requested him to furnish a complete account of London in its financial and other aspects. This task he executed to the satisfaction of the savans who employed him. He died at Paris on the 28th of January, 1854. *B.*, as a national economist, was somewhat inclined to Socialism. Like his master, Say, he was in favor of free trade. In method, he was ingenious; in style, transparent; and even the dryest discussions become interesting, from his lively mode of treating them. His principal works are:—*Voyage d'un jeune Français en Angleterre et en Ecosse,* (Paris, 1824;) *Résumé de l'Histoire du Commerce et de l'Industrie,* (Paris, 1826;) *Précis Elémentaire d'Economie Politique, précédé d'une Introduction Historique, et suivi d'une Biographie des Economistes,* &c., (Paris, 1826;) and, most important of all, the *Histoire de l'Economie Politique en Europe, depuis les Anciens jusqu'à nos jours, suivie d'une Bibliographie raisonnée des Principaux Ouvrages d'Economie Politique.*

BLANQUI, LOUIS AUGUSTE, the brother of the economist, was B. at Nice in 1805. He has made himself conspicuous chiefly by his rapid advocacy of the most extreme political opinions. From an early age he dabbled in conspiracy, and submitted to its penalties with the pride of a martyr. After the revolution of February, he formed the Central Republican Society, which menaced the very existence of the Provisional Government. He it was also who organized the popular outbreak on the 15th May, the aim of which was to overthrow the Constituent Assembly, although it has been alleged that he was driven to this step by the impatience and violence of his party, or, more properly, his club. At the head of an excited mass, he made his appearance before the national representatives, and demanded the "Resuscitation of the Polish Nationality!" and the dissolution of the Assembly. *B.* was arrested, tried, and condemned to ten years imprisonment in Belleisle. In 1871, *B.* was an active member of the too celebrated *Commune of Paris.* Arrested in 1872, he was again tried, and condemned to deportation for life in a fortress. Released and returned to Paris, where he D. in 1880.

Blanquil'la, an island in the Caribbean Sea, 74 m. N.N.E. of Portugal. It belongs to Venezuela.

Blaps, *n.* (*Zoöl.*) A genus of coleopterous insects, family *Blapsidæ.* The type of genus and family is the species *Blaps mortisaga*, a very common insect, found in dark, damp, and dirty places about houses. It is black, but little shining; the tip of the elytra forms a short obtuse point, and is about ¾ inch in length.

Blap'sidæ, *n. pl.* (*Zoöl.*) See BLAPS.

Blare, *v. n.* [Du. *blaren;* Ger. *blärren, plärren*, to bleat, to weep.] To bellow; to roar. (R.)

—*n.* Noise; roar; sound. (R.)

(*Com.*) A small coin of Berne, value about 2 cents.

Blar'ney, in Ireland, a village in co. Cork. It has a fine old castle, and is remarkable for having in its neighborhood the famous *Blarney Stone*, the kissing of which is said to confer upon the Irish an eloquent power in the language of courtship, called *blarney*.

Blas'ket Islands, a group of rocky islands, at the entrance of Dingle Bay, S.W. coast of Ireland. One of these, called Tiraght, forms the westernmost land in Europe.

Blaspheme', *v. a.* [Fr. *blasphême ;* Gr. *blasphēmeō*. See BLAME.] To speak injuriously, reproachfully, and irreverently of the Supreme Being; to revile, speak, or write reproachfully or impiously of God or of sacred things. — To speak evil of; to utter abuse or calumny against; to speak reproachfully of.

"Those who from our labours heap their board,
Blaspheme their feeder, and forget their lord."—*Pope.*

—*v. n.* To utter blasphemy.

Blasphem'er, *n.* One who blasphemes.

Blasphem'eress, *n.* A female who blasphemes.

Blasphem'ing, *n.* The act of blasphemy.

Blas'phemous, *a.* Uttering or containing blasphemy; impiously, irreverent in regard to God or sacred things.

Blas'phemously, *adv.* In a blasphemous manner.

Blas'phemy, *n.* A crime marked for public punishment in the laws of most civilized nations, and which has been regarded as of such enormity by many nations as to be punished with death. The word is Greek, but it has found its way into the English and several other modern languages, owing, it is supposed, to the want of native terms to express with precision and brevity the idea of which it is the representative. Etymologically, it denotes speaking so as to strike or hurt: the using to a person's face reproachful and insulting expressions. In this general way it is used by Greek writers, and even in the New Testament; as in 1 *Tim.* vi. 4, "Whereof cometh envy, strife, railings, evil surmisings," where the word rendered "railings" is, in the original, "blasphemies." Thus, also, in *Mark* vii. 22, our Saviour himself, in enumerating various evil dispositions or practices, mentions, an "evil eye, blasphemy, pride, foolishness," not meaning, as it seems, more than the ordinary case of insulting speech. *B.* in this sense, however much to be avoided as immoral and mischievous, is not marked as a crime, and its suppression is left to the ordinary influences of morals and religion, and not provided for by law. In this sense, indeed, the word can hardly be said to be naturalized among us, though it may occasionally be found in the poets, and in those prose-writers who exercise an inordinate curiosity in the selection of their terms. But, besides being used to denote insulting and opprobrious speech in general, it was used to denote speech of that kind of a peculiar nature, namely, when the object against which it was directed was a person esteemed sacred, but especially when against God. — Among the canonists, the definition of *B.* is made to include the denying God, or the asserting anything to be God, which is not God: and this extended application of the term has been received in most Christian countries, and punishments more or less severe have been denounced against the crime. — In England, by the common law, open blasphemy was punishable by fine and imprisonment, or other infamous corporeal punishment. The kind of *B.* which was thus cognizable is described by Blackstone to be "denying the being or providence of God, contumelious reproaches of our Saviour Christ, profane scoffing at the Holy Scriptures, or exposing it to contempt and ridicule." (*Commentaries*, b. iv. c. iv.) All these heads, except the first, seem to spring immediately from the root-sense of the word *B.*, as they are of that hurtful and insulting speech which the word denotes. And we suspect, that, whenever the common law was called into operation to punish persons guilty of the first of these forms of *B.*, it was only when the denial was accompanied with opprobrious words or gestures, which seem to be essential to complete the true crime of *B.* Errors in opinion, even on points which are of the very essence and being of religion, were referred in England in early times to the ecclesiastics, as falling under the denomination of heretical opinions (see HERESY), to be dealt with by them as other heresies were. There is nothing in the statute book under the word *B.* till we come to the reign of King William III. In that reign an Act was passed, the title of which is "An Act for the more effectual suppression of *B.* and Profaneness." It states that "many persons have of late years openly avowed and published many blasphemous and infamous opinions, contrary to the doctrines and principles of the Christian religion, greatly tending to the dishonor of Almighty God, and may prove destructive to the peace and welfare of this kingdom;" and enacts that if any person or persons having been educated in, or having made a profession of the Christian religion within this realm, "shall by writing, printing, teaching, or advised speaking, deny any one of the persons of the Holy Trinity to be God, or shall assert or maintain that there are more gods than one, or shall deny the Christian religion to be true, or the Holy Scriptures of the Old and New Testament to be of divine authority, shall, for the first offence, be adjudged incapable of holding any office or employment, ecclesiastical, civil, or military; and, on a second conviction, shall be disabled to sue, prosecute, plead, or use any action in any court of law or equity, and shall also suffer imprisonment for three years." The main provisions of this Act remain still in force: but by 53 Geo. III. c. 160, those who deny the doctrine of the Trinity are exempted from its penalties. In 1841, the law against blasphemy was enforced upon Mr. Moxon for publishing an edition of Shelley's "Queen Mab:" but the sentence was merely nominal. In Scotland, blasphemy was, by Acts of the Scottish parliament passed in 1661 and 1695, punishable by death; and the last who suffered capital punishment for this crime in Scotland, was Thomas Aikenhead, a student of divinity, who was executed, 1696. These severe statutes were, however, repealed by 53 Geo. III. c. 160, which made the punishment arbitrary. By Act 6 Geo. IV. c. 47, the publication of blasphemy was punishable by fine and imprisonment, and by banishment for a second offence; but this last was repealed by 7 Will. IV. c. 5, which rendered the punishment only fine and imprisonment. In 1843, a person was tried before the High Court of Justiciary at Edinburgh, for publishing books denying the truth and authority of the Holy Scriptures, and tending to bring contempt upon the Christian religion, and, being found guilty, was sentenced to 15 months' imprisonment. In France, before the great Revolution, it was a *B.* also to speak against the Holy Virgin and the saints, to deny one's faith, to speak with impiety of holy things, and to swear by things sacred. The law relating to *B.* was totally repealed in 1791; and the present French penal code, art. 262, enacts that any person who, by words or gestures, shall commit any outrage upon objects of public worship in the places designed for the performance of its rites, shall be fined from $2 to $100, and be imprisoned for a period not less than 15 days nor more than 6 months. In most of the U. States, statutes have been enacted against *B.*; but these statutes are not understood in all cases to have abrogated the common law; and it has been decided that neither these statutes nor the common-law doctrine is repugnant to the constitution of those States in which the question has arisen.

Blast, *n.* [A. S. *blæst;* O. Ger. *blâst*, from *blâsan*, to blow.] A gust or puff of wind.

"They that stand high have many *blasts* to shake them."—*Shaks.*

—The sound made by blowing any wind-instrument.

"The Veline fountains and sulphurous Nar,
Shake at the baleful *blast*, the signal of the war."—*Dryden.*

—Violent explosion made by gunpowder when splitting rocks, or by inflammable gases in mines. — A gale; a rush; a storm.

—Pernicious or pestilential influence, as of wind; blight.

"By the *blast* of God they perish."—*Job* iv. 9.

(*Metallurgy.*) The current of air forced into furnaces by bellows, or air-engines, for the purpose of reducing the ores to a merchantable form. There are two kinds of blasts in use in the iron manufacture, the hot and the cold blast. The hot blast is obtained by forcing the air through a series of hot pipes, and its effect is to facilitate the fusion of the metal, at the same time that the quality of the latter is deteriorated; the cold blast requires a greater quantity of fuel to reduce the same quantity of ore, and it yields a firmer and more even quality of metal than the hot blast. — See IRON.

(*Furriery.*) A disease in the stomach of cattle.

Blast, *v. a.* To strike as with a blast, or with a sudden gust or destructive wind.

"Oh! Portius, is there not some chosen curse,
Some hidden thunder in the store of heaven,
Red with uncommon wrath, to *blast* the man
Who owes his greatness to his country's ruin."—*Addison.*

—To make to wither by some pernicious influence; to blight; to strike with some sudden plague, calamity, &c.

"To his green years your censures you would suit,
Not *blast* that blossom, but expect the fruit."—*Dryden.*

—To injure; to destroy; to make infamous.

"He is malicious, if he knows I deserve credit, and yet goes about to *blast* it."—*Stillingfleet.*

—To confound; to strike with terror.

"Trumpeters,
With brazen din *blast* you the city's ears."—*Shaks.*

—To blow up or split by gunpowder.

—*v. n.* To be struck as with a blast; to wither; to be blighted.

Blast'ed, *p. a.* Affected by some pernicious or destructive influence, as of wind; blighted; injured; destroyed; split by gunpowder.

Blaste'ma, *n.* [Gr., a bud, a sprout.] (*Bot.*) Applied to the part of the embryo comprising the radicle, plumule, and caulicule.

Blast'er, *n.* One who blasts.

Blast'-furnace. [A. S. *blæst*, blast; Fr. *fournaise*, furnace.] (*Metal.*) A furnace in which the combustion of the fuel is increased to an enormous extent by a blast blown from a bellows, or by means of fans. A smith's-forge is a blast-furnace on a small scale. *B.-F.*'s are used principally for smelting iron ores, and consist essentially of a long narrow funnel inverted upon another shorter funnel, the whole being built of solid masonry. They are usually 50 feet high by 15 feet in diameter at the largest part. At the bottom of the lower cone is a cylindrical hole, from which lead the *tuyères*, or blast-pipes, and the channel for the passage of the melted slag, which rises on the top of the metal and overflows. At the lowest part is the tap-hole for drawing off the melted metal. At the top is a gallery for the conveyance of fuel and ore. The *B.-F.* being lighted with coal, the roasted ore, combined with a flux of limestone, is thrown in; upon this is thrown another layer of coal, and so on; as the fuel burns away, the mass sinks, and is replenished with fuel, flux, and ore from the top. — See HOT BLAST, and IRON.

Blast'ing, *n.* A blast. — Destruction by a pernicious cause.

(*Mining* and *Quarrying.*) An operation by which large masses of rock are separated by means of the explosion of gunpowder or gun-cotton. A small opening is bored in the rock or stone, and filled with gunpowder, nitro-glicerine, gun-cotton, &c., and is fired by means of a fuse or train. In engineering operations of large magnitude, chambers, and even galleries, are formed in the rock, dynamite, or other explosive being inserted, and fired by the galvanic current. Thus enormous masses of rock, weighing thousands of tons, are removed. The old implements used have given way to the diamond drills, and other tools.

—*p. a.* Blighting; withering; injuring; frustrating.

Blastocar'pous, *a.* [Gr. *blastos*, a germ, and *karpos*, fruit.] (*Bot.*) That germinates inside of the pericarp.

Blas'toderm, *n.* (*Anat.*) [Gr. *blastos*, a germ, and *karpos*, fruit.] The germinal skin or membrane, or that granular membrane or stratum which lies immediately beneath the membrane vitelli of the ovum, and which is the seat of development of all parts of the body of birds.

Blast'-pipe, *n.* (*Mech.*) The waste steam-pipe of an engine, but more particularly applied to locomotive engines; in the latter it leads from the exhaust passages of the cylinders into the chimney, and is of great use for forming the draught through the fire-tubes, as each jet of steam emitted creates a partial vacuum in the chimney, which is immediately filled by a current of air rushing through the fire-gate.

Bla'tant, *a.* [Fr.; from Lat. *balo*, to bleat; A.S. *blætan*, to bleat.] Bellowing as a calf.

"You learn this language from the *blatant* beast."—*Dryden.*

Blat'ta, *n.* (*Zoöl.*) See BLATTIDÆ.

Blat'ter, *v. n.* [Lat. *blatero.*] To roar; to make a senseless noise. (o.)

Blat'tidæ, BLATTARIÆ, *n. pl.* (*Zoöl.*) The *Cockroach family*, order *Orthoptera*. This family contains orthopterous insects which have the body oval, flattened, the hind extremity of the abdomen furnished with conical articulated appendages, and the antennæ long and many-jointed. *B.* are nocturnal, and are found not only in forests, but some species also infest kitchens, store-rooms, and closets, devouring all kinds of provisions, and even fabrics. The genus *Blatta* contains several species, which are indigenous, and one, *B. Orientalis*, or black beetle, which is a native of Asia.

Blauveltville, in *New York*, a post-village of Rockland co., 29 m. N. of New York city.

Blawenburg, in *New Jersey*, a post-village of Somerset co., 15 m. N. by E. of Trenton.

Blay, *n.* (*Zoöl.*) A small river-fish; the BLEAK, *q. v.*.

Blaye, a fortified seaport of France, dep. Gironde, cap. arrond. on the right bank of the Garonne, 34 m. N.N.W. of Bordeaux. The river here is about 2½ m. wide, and defended by a fort on each side. All vessels inward-bound are required to anchor at *B.* and deliver a manifest of their cargo, and many of the outward-bound ships call here to take on board provisions and complete their cargoes. *Exp.*, wine, brandy, corn, oil, &c. *B.* is very ancient. In 1568, it was taken by the Protestants, and, later, by the Leaguers. The extensive marshes which surround it, having been drained by Henry IV., have become very fruitful. In 1832, the Duchess de Berry (*q. v.*), while a prisoner in the castle here, was delivered of a daughter. *Pop.* 4,764.

Blaze, *n.* [A.S. *blase, blæse*, a torch; O. Ger. *blechazan*, to shine forth, to glitter.] A shining forth; a glittering; glare; expanded light; flame; the stream of light and heat from any body when burning.

"The main *blaze* of it is past; but a small thing would make it flame again."—*Shaks.*

—Wide diffusion of a report; that which shines and spreads widely.

"For what is glory but the *blaze* of fame?"—*Milton.*

—A white mark on a horse's forehead;—also a mark made on trees in a forest, for identification of a route.

—*v. n.* To shine forth; to flame; to send forth or show a bright and expanded light. — To be conspicuous.

—*v. a.* To cause to shine forth; to spread, as news; to make public far and wide. — To set a white mark on a tree.

Blaz'er, *n.* One who blazes.

Blaz'ing, *p. a.* Flaming; emitting bright flame or light. — Publishing far and wide.

Blaz'ing-star, *n.* A comet.

Bla'zon, *v. a.* [Fr. *blasonner.*] To blaze abroad; to spread, proclaim, or publish far and wide. — To display or set forth conspicuously. — To adorn; to embellish. — To explain the figures on armorial ensigns.

—*v. n.* To blaze; to make a brilliant figure; to shine.

—*n.* (*Her.*) The act of drawing, describing, or explaining coats-of-arms; BLAZONRY, *q. v.*

—Publication; show; celebration.

"Men con over their pedigrees, and obtrude the *blazon* of their exploits upon the company."—*Collier.*

Bla'zoner, *n.* One who blazons; a herald.

Blazonry, (*blai'zon-re,*) *n.* [A.S. *blæsan;* Ger. *blasen*, to blow a horn; Fr. *blasonnir*, to blaze about, to make public.] (*Her.*) The art of deciphering coats-of-arms: also, that of expressing or describing a coat-of-arms in appropriate language. The word is supposed to be derived from the German *blasen*, to blow, and to have originated in the ceremonial of tournaments, from which so many other terms and usages in heraldry are derived; it having been customary on these solemn occasions for the herald to blow a trumpet when he called out the arms of a knight on ushering him into the lists. The principal rules for blazoning coats-of-arms, according to English usage, are as follows; (but on the Continent they are not all observed with strict adherence:) 1. In marshalling coats-of-arms it is false heraldry to place metal upon metal, or color upon color. 2. Begin with mentioning the metal or color of which the field is composed, stating the direction of the lines by which it may happen to be divided; as, *per bend*, *per fess*, *quarterly*, &c., and if they assume other forms than the simple straight lines, (*see* ENGRAILED, WAVY, RAGULY, &c.,) and then proceed to the principal and secondary charges in

order. 3. Shorten the description as much as possible, and avoid all repetition of the names of metals and colors, mentioning a charge of any color or metal that has been named before, as *of the first, of the second,* &c. Thus the coat-of-arms in fig. 370 would be described as *argent, on a bend engrailed gules, between two hurts, a mullet or, pierced of the second between two crescents of the first;* in which the field is first mentioned; then the principal charges on the field; and thirdly, the charges on the ordinary, in their proper metals and tinctures, without repetition. 4. In describing charges in a field or on an ordinary, between others of a different nature, always name that charge first which is nearest to the centre of the shield. Thus, in the above example, it is correct to say, a mullet between two crescents, not two crescents with a mullet between them. 5. When animals, plants, &c. are represented in their natural colors, they must be described as *proper* only, without naming any metal or color; thus we must say, a swan proper, not a swan argent. — See POINTS: TINCTURE; CHARGE; ORDINARY.

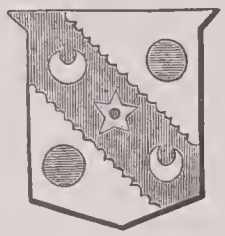


Fig. 370.

Blea, *n.* [Scottish *blæ*, pale, livid.] The wood that is just under the bark of a tree.

Bleach, (*blēch,*) *v. a.* [A. S. *blæcan*, from *blæc, blac*, pale. See BLACK] To make white or whiter; commonly, to whiten by exposure to the open air.

—*v. n.* To grow white in any manner.

Bleach'er, *n.* One who bleaches.

Bleach'ery, *n.* A place for bleaching.

Bleach'ing, *n.* The act or art of whitening, especially cloth. — (*Chem.* and *Manf.*) This process consists in a series of operations, by which the natural colors of various substances are discharged so as to whiten them. It is effected either by the action of various solvents, aided by exposure to light, air, and moisture, upon the bleaching-ground; or by the aid of chlorine. Cotton is more easily bleached than linen, in consequence of its being originally whiter, and having a less powerful attraction for the coloring-matter. In bleaching these goods upon the old principle, warm water is first liberally applied to remove the weaver's paste or dressing; they are then *bucked*, or boiled in a weak alkaline lye; and after having been well washed, are spread out upon the grass, so as to be freely exposed to the joint agencies of light, air, and moisture; the bucking and exposure are alternately repeated as often as necessary; the goods are then *soured*, that is, immersed in water slightly acidulated by sulphuric acid; lastly, they are very thoroughly washed and dried. By these operations the texture of the goods is to a certain extent impaired, and much time is required to complete the process, which cannot be carried on in the winter months. But the exposure upon the bleaching-ground is now to a great extent discontinued; and the same effect is obtained, after the process of bucking, by the action of weak solutions of chlorine or of chloride of lime, which, if skilfully used, can scarcely be said to injure the goods more than the long continued exposure. The theory of bleaching has not been satisfactorily developed; but, from such experiments as have been made in reference to it, it appears to be a process of oxidizement, and to depend upon some peculiar influence of nascent oxygen, or perhaps of ozone, upon the coloring-matter. — The color of manufactured wool depends partly upon its own oil, and partly upon the applications made to it in the loom. These are got rid of in the fulling-mill by the joint action of fuller's earth and soap; the cloth is then well washed and dried, and is tolerably white. If the slight yellow tint which it retains is objectionable, it is improved by adding a little stone-blue to the washing-water, or by exposure to the fumes of burning sulphur; this latter method, however, renders it more harsh, and if afterwards soaped, its yellowishness returns. The color of raw silk depends upon a natural yellow varnish, which is got rid of by boiling it in white soap and water, and by repeated rinsings. Certain articles of woven cotton, such as stockings, are bleached as usual, and finished by the action of sulphurous acid, or the fumes of burning sulphur. Straw is also whitened by a similar operation, and hence bleached straw hats are apt to have a disagreeable sulphurous smell.

Bleach'ing-Powder, *n.* The most important is the chloride of lime. It is prepared by exposing slaked lime to the action of chlorine gas. Slaked lime may be made to combine with half its weight of chlorine. Chemists are divided as to the true composition of this valuable compound, some looking on it as a hypochlorite of lime, CaO,ClO, united with chloride of calcium, CaCl, while others regard it as a combination of chlorine with oxide of calcium, in the form of an oxychloride, CaOCl. Chloride of lime is a white, moist powder, continually giving off hypochlorous acid. Its principal use is as a bleaching agent; but it is also employed as a disinfectant with great success. — See CALCIUM.

Bleak, *n.* (*Zoöl.*) The *Leuciscus alburnus*, a little Malacopterygious fish, belongs to the family of *Cyprinidæ*, very common in the rivers of Europe; length about 5 or 6 inches; shape slender, with the body much compressed; color bright silvery, the back olive-green; fins pellucid; scales deciduous; and the tail forked. Bleaks generally keep together in large shoals; and at certain seasons they are observed to tumble about near the surface of the water as if incapable of swimming to any considerable distance; but in a short time they recover, and presently disappear. It is from the scales of this fish that the beautiful silvery matter used in the preparation of artificial pearls is chiefly taken; other bright-scaled fishes may, however, be used for the same purpose. By contraction it is often called BLAY.

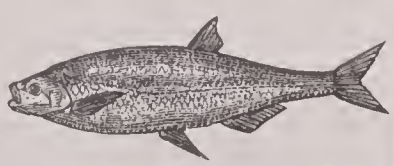


Fig. 371.—BLEAK, (*Leuciscus alburnus.*)

Bleak, (*blēk,*) *a.* [A. S. *blac, blæc.* See BLACK.] Pale; bleached, blighted, or blackened by piercing cold.

> "In treat the North
> To make his *bleak* winds kiss my parched lips,
> And comfort me with cold." — *Shaks.*

—Chill; cold; dreary; desolate.

> "Say, will he bless the *bleak* Atlantic shore?" — *Pope.*

Bleak'ish, *a.* Moderately bleak.

Bleak'ly, *adv.* In a bleak manner.

Bleak'ness, *n.* State or quality of being bleak; openness of situation; exposure to the wind; hence, coldness.

Blear, (*blēr,*) *a.* [O. Ger. *blâtara;* Du. *blaar;* Dan. *blære*, a blister, bladder, or bubble.] Sore, as with pustules or blisters; dimmed or impaired, as the eyes.

—*v. a.* To make sore; to dim or impair with soreness, as the eyes.

Bleared, *p. a.* Dimmed by soreness, or by a watery humor.

Blear'edness, *n.* The state of being bleared.

Blear'-eye, *n.* (*Med.*) The LIPPITUDE, *q. v.*

Blear'-eyed, *p. a.* Having sore eyes. — Wanting discernment.

Bleat, (*blēt,*) *v. n.* [A. L. *blætan*, formed from the sound.] To make the noise of a sheep.

—*n.* The cry of a sheep.

Bleat'ing, *n.* The same as BLEAT.

Bleb, *n.* A BLISTER, *q. v.*

Bleb'by, *a.* Full of blebs.

Bled, *imp.* and *part.* of BLEED, *q. v.*

Bled'soe, in *Tennessee*, a S.E. central county, washed by Sequatchie River; *surface*, generally mountainous; *area*, about 330 sq. m.; *cap.* Pikeville.

Bled'soe, in *Missouri*, a post-office of Hickory co.

Bled'soe's Landing, in *Arkansas*, a post-office of Lee co.

Bleed, (*blēd,*) *v. n.* (*imp.* and *pp.* BLED.) [A. S. *bledan.* See BLOOD.] To emit blood; to lose blood.

> "*Bleed, bleed,* poor country!
> Great tyranny, lay thou thy basis sure,
> For goodness dare not check thee!" — *Shaks.*

—To feel pain or agony, as from bleeding.

—To die by slaughter.

> "The lamb thy riot dooms to *bleed* to-day;
> Had he thy reason, would he skip and play?" — *Pope.*

—To issue forth or drop, as blood.

> "For me the balm shall *bleed*, and amber flow,
> The coral redden, and the ruby glow." — *Pope.*

—*v. a.* To let blood; to take blood from.

> "That from a patriot of distinguished note,
> Have *bled* and purg'd me to a single vote." — *Pope.*

Bleed'ing, *n.* A discharge of blood. — See HEMORRHAGE.

BLEEDING, or BLOOD-LETTING. (*Surg.*) Any artificial discharge of blood from the body, performed for the purpose of affording relief, or benefit, to an invalid. Bleeding is divided into general or topical, or constitutional and local. Bleeding from a vein or artery is an example of the first; leeches, scarifications, and cupping are instances of the latter. Venesection, or *phlebotomy*, as bleeding from a vein is usually called, is performed in different parts of the body, though the localities generally selected are the neck, arm, leg, and foot; the part by common consent adopted as the most convenient, both for the patient and surgeon, is the arm. — The person may be bled either lying, sitting, or standing; but when at all likely to faint during the operation, the sitting posture should be adopted. It is sometimes desirable to produce sickness or fainting, so as to relax the muscles of the body, as in cases of dislocation of the hip-joint and rupture, when the person should be bled standing, and from a large opening. The arm has been selected for bleeding, from the fact that the veins are more prominent there, and more easily reached at the bend of the arm than elsewhere. At this spot there are four veins, from any one of which the surgeon may bleed. Running up the outside of the arm is the *basilic vein*, A; a corresponding vein ascends on the inner side, called the *cephalic vein*, B. The median vein of the fore-arm splits into two branches, one running obliquely outward to join the basilic, and called the *median basilic*, C; and the other crossing obliquely inwards to join the cephalic, and called the *median cephalic*, D. Of these four, the median cephalic and median basilic are the two most generally selected for the operation. In fleshy and robust persons, the median basilic is the most convenient vein to open, because it is the most prominent, and the largest; but in thin or emaciated individuals the median cephalic should be selected. And for these reasons: that under the first runs the brachial artery, separated from the vein, in stout people, by some depth of cellular tissue, but in emaciated subjects only divided by the thin fascia or aponeurosis of the adjacent tendon; while crossing the median cephalic are the nerves of the surrounding cuticle. The danger of bleeding in the former is the fear of transfixing the vein, and wounding the artery beneath, causing an aneurism; while in the latter the thing to be apprehended is pricking the nervous filaments, and thereby causing neuralgia. But as every part of the body is beset by risks of a similar character, the operator — bearing in mind the caution given as respects the median basilic in persons of spare habits, and observing the following instructions — must take the hazard, and, as a general rule, select the median basilic vein for his operation.

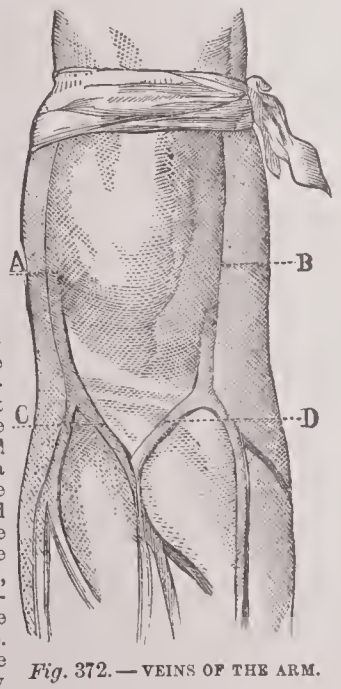


Fig. 372. — VEINS OF THE ARM.

Mode of Proceeding. Before commencing his operation, the person about to bleed must prepare his pledgets and bandage: the first consists of two slips of lint or linen rag, each slip folded up and doubled, one into a flat pad or compress about an inch square, the other a little larger and thicker; the bandage or fillet should be a piece of broad tape or ribbon 1½ yards long. Having arranged these necessary articles, he must provide himself with a basin and the handle of a broom, or any stick of similar proportions. The next duty is to select a fitting lancet, choosing one with rather broad shoulders, and bending the blade to nearly right angles with the handle. Having selected the vein by grasping the arm for a moment with his hand, to make the vessels distend, the operator should place his finger on the vein he purposes to open; and if he feels an evident pulsation beneath, he must select another, unless he is a practical operator and can open it without danger. The fillet is next to be doubled, and passed twice round the arm some few inches above the elbow-joint, and drawing it moderately tight, the operator should place the finger on the vein, to feel if any pulsation exists below; if satisfactory, the thumb of the left hand is to be pressed on the vein a little *below* where he inteuds to open it. The lancet is now to be grasped by the blade, lightly but firmly, between the right thumb and finger, only the point and half of the shoulder of the instrument protruding, and, resting the hand on the other fingers, he is to insert the lancet in an oblique direction into the vessel, till the blood mounts to the skin; he then brings up the instrument on as straight a line as possible — *making the wound in the skin the same size* as that in the vein. He then puts down the lancet, and, taking the basin, lifts his thumb from the vein and allows the stream to fall into the vessel in his hand; the broom-haudle, or any long stick, is next placed into the patient's hand, both as a rest for the arm and to assist the flow of blood, which it effects by the contraction of the muscles as he opens and shuts his fingers on the staff. The amouut of blood to be extracted depends upon circumstances and the nature of the disease; the ordinary quantity is from 12 to 16 ounces. When sufficient has been taken, the bandage is to be untied, when the blood in general ceases to flow; whether so or not, when the tape is untied, the thumb is again to be placed on the vein below the opening, and the arm supported in the operator's hand. Taking up the smallest pledget, he places it round the incision, and, pressing the two edges together, lays the compress on the top of the cut, securing it with the thumb, while the thicker and larger pledget is being placed above it. He then shakes out the fillet, and, placing the centre of it on the compress, passes first one end and then the other obliquely over and under the elbow, tying the two ends on the top of the compress; the cut in the vein heals very quickly, and after a day the bandage may be left off entirely. Sometimes, though the opening is sufficiently large, the blood will not flow; this often arises from the fillet being tied too tightly. All that is necessary, in that case, is to slacken the bandage so as not to impede the current in the arteries, and after a few minutes the blood will flow steadily. Sometimes, in languid constitutions, it is necessary to plunge the hand and part of the fore-arm in hot water to induce the blood to flow. When a vein is opened in the foot or instep, the process is nearly the same. As opening the external jugular vein is an operation of extreme delicacy, and could never be undertaken with safety by a non-professional person, we deem it unnecessary to describe the mode of procedure. — We have already spoken of the opening of arteries under the word ARTERIOTOMY. — The only artery that a non-medical person would be justified in opening is one of the branches of the temporal artery, which, in cases of apoplexy, or urgent affections of the head, might be rendered necessary. To effect this, all that is requisite is to stretch the skin tightly across the temple with the thumb and finger of the left hand; then, with a bistoury, make a small incision through the cuticle on the top of the artery, which, in turn, is to be opened with the point of the lancet, and the blood, as much as necessary, allowed to spring forth in leaps; three or four compresses being placed over it, and a firm and steady pressure established by means of the pledget.

Bleeck'er, in *New York*, a post-township of Fulton co., 50 m. N.W. of Albany.

Blem'ish, *v. a.* [Fr. *blemir;* Icel. *blami*, the livid color of a bruise.] To make pale, wan, or livid; to injure or impair. — To mark with any deformity; to mar; to tarnish; to taint; to sully.

—*n.* A livid spot; a mark of deformity; a scar or defect; speck, spot, or flaw. — Reproach; fault; stain; taint; dishonor.

Blem'ishless, *a.* That is without blemish or spot.

Blench, *v. n.* To shrink; to start back; to flinch. (o.)

Blend, *v. a.* [A. S. *blendan;* Icel. and Sw. *blanda;* Goth. *blandan.*] To unix or mingle together; to confound.

"He had his calmer influence, and his mien
Did love and majesty together *blend.*" — *Dryden.*

Blende, *n.* (*Min.*) A sulphide of zinc. See ZINC.

Blend'er, *n.* One who blends.

Blend'ing, *n.* Act of mingling or blending.

(*Paint.*) A term synonymous with *Melting.* They imply the method of laying different tints on buildings, trees, &c., so that they may mingle together while wet, and render it impossible to discover where one color begins, and another ends. A variety of tints of nearly the same tone, employed on the same object and on the same part, gives a richness and mellowness to the effect; while the outline, insensibly melting into the background, blends the objects together, and preserves them in unison.

Blen'don, in *Michigan,* a post-township of Ottawa co., about 16 m. W.S.W. of Grand Rapids.

Blen'don, in *Ohio,* a post-township of Franklin county.

Blen'don Institute, in *Ohio,* a village of Blendon township, Franklin co.

Blen'dous, *a.* Pertaining to blende.

Blend'-water, *n.* A distemper incident to cattle, affecting the liver.

Blen'heim, or **Blindheim,** (BATTLE OF.) See HOCHSTADT.

Blen'heim, in *N. York,* a post-township of Schoharie co., 42 m. W.S.W. of Albany.

Blen'nerville, in *Ireland,* a small seaport town, co. Kerry, on Tralee Bay.

Blen'ning, *n.* (*Zoöl.*) Same as BLENNIUS, *q. v.*

Blen'nius, *n.* [Gr. *blenna,* mucus.] (*Zoöl.*) A genus of fishes of the family *Gobidæ,* distinguished by having a single dorsal fin, smooth skin, and ventrals under the throat. The species are found in small communities among the rocks near the shore, and are capable of living without water for some time. They are all small, some of them only one or two inches long, and covered with a slimy mucus.

Blennog'enous, *a.* Forming or producing mucus.

Blennorrhœ'a, *n.* [Gr. *blenna,* mucus, and *reo,* I flow.] (*Med.*) An inordinate discharge or secretion of mucus, arising from weakness. — See GONORRHŒA.

Blent, *pp.* of BLEND, *q. v*

Bleos'taning, *n.* Mosaic pavement.

Bleph'aris, *n.* (*Zoöl.*) A genus of acanthopterygious fishes, distinguished by their having long filaments to their second dorsal, and to their anal fin rays. One species, inhabiting the W. India seas, is known under the appellation of the *cobbler-fish,* probably on account of the long thread-like appendages, for which it is so conspicuous.

Blepharopto'sis, *n.* [Gr. *blepharon,* an eyelid, and *ptesis,* fall.] (*Med.*) A falling down of the upper eyelid over the eye, caused by a paralysis of the *Levator palpebræ superius* muscle. This paralysis is an unfavorable symptom, and it is generally connected with a state of the brain favoring apoplexy or palsy.

Bleph'lia, *n.* (*Bot.*) A genus of unimportant plants, order *Lamiaceæ.*

Blere, a town of France, dep. Indre et Loire, cap. of cant. on the Cher, 17 m. E.S.E. of Tours. The castle of Chenonceaux, once the property and residence of the celebrated Diana of Poitiers (*q. v.*), is situated in the immediate vicinity. Diana, having been dispossessed of the castle by her rival, Queen Catherine de Medicis, the latter surrounded it with a superb park. After many vicissitudes, it was acquired, in 1733, by M. Dupin, a gentleman distinguished by his wealth and learning, but more by the wit and beauty of his wife. Under its new master, Chenonceaux became the resort of some of the most illustrious personages of the 18th century, including, among others, Voltaire, Montesquieu, Buffon, Fontenelle, and Bolingbroke. Rousseau wrote several pieces for the theatre at Chenonceaux, and it was here that the *Devin de Village* first appeared. Chenonceaux escaped the revolutionary frenzy, and continues to be one of the most interesting objects in this part of France. *Pop.* 3,721.

Bless, *v. a.* (*imp.* and *pp.* BLESSED, or BLEST.) [A. S. *bledsian, bletsian,* from *blithe,* blithe, joyful, merry; Swed. and Goth. *blezan,* or *blizt,* blessing; Goth. *bleiths,* merciful.] To make blithe, joyous, or glad; to make happy or prosperous; to render successful

"It is twice *bless'd,*
It *blesseth* him that gives, and him that takes." — *Shaks.*

—To invoke a blessing upon; to wish happiness to.

"*Blesses* his stars, and thinks it luxury." — *Addison.*

—To consecrate and set apart by prayer.

"He *blessed,* and brake, and gave the loaves." — *Matthew.*

—To praise; to extol; to glorify.

"The Creator and worker of all in all, alone to be *blessed,* adored, and honored by all forever." — *Hooker.*

—To esteem or account happy

—To wave, brandish, or flourish about. (R.)

"His sparkling blade about his head he *blest.* — *Spenser.*

To bless from. To preserve, keep, or secure from.

"The bellman's drowsy charm
To *bless* the doors *from* nightly harm." — *Milton.*

Bless'bok, *n.* A fleet antelope of S. Africa, *Gazella albifrous.*

Blessed, *a.* Happy; joyous; glad; prosperous.

All generations shall call me *blessed.*" — *Luke* i. 48.

—Pertaining to, or fraught with, happiness.

"Oh! *blessed* with temper whose unclouded ray
Can make to-morrow cheerful as to-day. — *Pope.*

—Enjoying supreme felicity; holy and happy; happy in heaven.

"For all we know
Of what the *blessed* do above,
Is that they sing and that they love." — *Waller.*

—Heavenly; sanctified by holy associations.

"And lay it lowly at His *blessed* feet." — *Milton.*

Bless'edly, *adv.* Happily; fortunately.

"This accident of Clitophon's taking, had so *blessedly* procured their meeting. — *Sidney.*

Bless'edness, *n.* State of being happy or blessed; beatitude; sanctity, happiness; bliss; joy; heavenly felicity.

"Many times have I . . . admired the *blessedness* of it." — *Sidney.*

Single-blessedness. Being happy in the unmarried state; self-centred or single happiness.

"Earthlier happy is the rose distill'd,
Than that, which withering on the virgin thorn,
Grows, lives, and dies in *single-blessedness.*" — *Shaks.*

Bless'ed Thistle, *n.* (*Bot.*) The *Centaurea benedicta.*

Bless'er, *n.* One who blesses, or confers a blessing; one who gives prosperity to anything.

"The giver of the gift or *blesser* of the action." — *Taylor.*

Bless'ing, *n.* Any of the means of happiness; a gift, benefit, or advantage.

"A just and wise magistrate is a *blessing* as extensive as the community to which he belongs." — *Atterbury.*

—Benediction; a wish of happiness pronounced; a prayer imploring happiness upon.

"And the father layeth his hand upon her head and giveth the *blessing.*" — *Bacon.*

(*Script.*) A gift or present, attended with the benediction or good wishes of the giver

"And Jacob said, receive my present at my hand, take, I pray thee my *blessing* that is brought to thee." — *Gen.* xxxiii. 11.

Bles'sington, MARGUERITE POWER, COUNTESS OF, an Irish lady, celebrated for her beauty, accomplishments, and literary productions, B. 1789. At the early age of 15 she contracted an ill-fated marriage with Captain Farmer, and after his death the Earl of *B.* obtained her hand, in 1818. After her marriage she passed several years abroad, and formed an acquaintance with Lord Byron, which enabled her to publish one of her most interesting works, her *Conversations with Lord Byron.* Soon after her husband's death, in 1829, she fixed her residence in London, and there were few literary celebrities, native or foreign, who did not share in the "feast of reason and the flow of soul" for which Gore House will be long remembered. Over and above the "Conversations" above mentioned, Lady Blessington published many novels, besides several works full of personal anecdote, epigram, sentiment and description, such as *The Idler in Italy, The Idler in France,* &c. For many years she edited the *Book of Beauty,* and the *Keepsake.* D. at Paris, 1849.

Bles'sington, in *Ireland,* a market-town, co. Wicklow, near the Liffey, 18 m. S.W. of Dublin.

Blest, *pp.* of BLESS, *q. v.*

Blest, *a.* Made happy.

"I die — but first I have possess'd,
And come what may I have been *blest.*" — *Byron.*

—Cheering, making happy; as, "*Blest* paper credit!" *Pope.*

Blet, *n.* [Fr. *blette.*] A decayed mark, or excrescence, on fruit.

Blet'ting, *n.* Marked or spotted surface of decomposing fruit.

Bleu de Paris. [Fr.] (*Dyeing.*) A fine blue dye, obtained by the action of bichloride of tin on aniline.

Blew, *pret.* of BLOW, *q. v.*

Bleyme, (*bleem,*) *n.* [See BLAIN.] (*Farriery.*) An inflammation in the foot of a horse, between the sole and the bone.

Bligh'ia, *n.* (*Bot.*) A genus of plants, order *Sapindaceæ.* Its only species is *B. sapida,* the Akee, an eatable fruit of the W. Indies and S. America. The edible portion is the aril, a white spongy substance in which the seeds are partially imbedded; and this, in tropical countries, is found to possess grateful subacid qualities. This genus is also known under the name of CUPANIA, q. v.

Blight, (*blīt,*) *n.* [O. Ger. *bleik,* pale; *pleihhil,* he, she, or it is pale, from *bleichen,* to whiten; A. S. *blæcan,* to bleach.] That which renders pale or white; that which destroys or withers up; mildew; anything nipping or blasting, — a term in common use for supposed injuries received by plants from atmospheric influences. Before effects were traced to their cause with the same care that they are at present, the sudden discoloration of the leaves of plants, their death, or their being covered with minute insects or small excrescences, was called by the general name of blight; and this blight was attributed to some mysterious influence in the air, to the east wind or to thunder, because these states of the atmosphere commonly accompanied the phenomena. It is now found that what is called blight is in some cases the effect of insects, to the progress of which the dry state of the atmosphere produced by east winds is peculiarly favorable; while in other cases it is caused by parasitical fungi. The appearance of these fungi on corn crops is frequently designated by farmers as the fire-blast; while on peach and other trees in gardens it is called mildew. — The sudden death of plants without apparent cause, and also the withering and drying up of part of their leaves and branches, to which appearance the term blight should perhaps be restricted, are produced by the transpiration of water from the leaves taking place with greater rapidity than it can be supplied by the absorption of the roots, and also by the roots becoming attacked by fungous spawn. In very hot weather in summer, branches of fruit-trees trained against walls, or of gooseberry bushes on espaliers, are sometimes withered up in a few minutes from this cause. What countrymen call the blight on standard apple- or other fruit-trees in orchards is commonly nothing more than the injuries done to the leaves and buds by the caterpillars of certain moths; that on thorn hedges, by the caterpillar of the saw-fly, or of the ermine, or of some other moths; and that on roses, by the aphides or greeu fly.

—In a figurative sense, anything which destroys one's hopes, or frustrates one's aims: as, *blighted* hopes.

(*Med.*) A variety of the nettle lichen, (*L. urticosus,*) consisting of an eruption on the human skin, of minute reddish principles, appearing in spots, or, more generally, diffused.

Blight, *v. a.* To affect with blight; to wither up; to blast; to destroy; to corrupt with mildew; to frustrate.

"And roughly *blight* the tender buds of joy,
Let reason teach." — *Lyttelton.*

—*v. i.* To corrupt or wither, as by blight.

Blight'ed, *p. a.* Blasted; disappointed, or frustrated.

Blight'ing, *ppr.* or *a.* Blasting; withering.

Blight'ingly, *adv.* By blasting, as if with mildew.

Blind, *v. a.* [A.S. *blind;* O. Ger. *blint,* from *blinten,* to make blind; allied to *blink,* or probably to *blend.*] To make blind; to deprive of sight.

"You nimble lightnings, dart your *blinding* flames
Into her scornful eyes." — *Shaks.*

—To darken; to obscure; to eclipse; as, his eyes are *blinded* to her faults.

"So whirl the seas, such darkness *blinds* the sky,
That the black night receives a darker dye." — *Dryden.*

—Destitute of sight: wanting the faculty of vision, unable to see; as, *blind* as a bat.

"The *blind* old man of Scio's rocky isle." — *Byron.*

—Intellectually dark; unable to judge or discern; ignorant; as, a man is *blind* to his own interests.

"Be to her virtues very kind;
Be to her faults a little *blind.*" — *Prior.*

—Depraved; used in a moral sense.

—Not discernible; unseen; out of public view; private.

"How have we wander'd a long dismal night
Led through *blind* paths by each deluding light." — *Roscommon.*

—Without opening for light, closed; as, a *blind* alley

—Undiscerning; undiscriminating; as, *blind* with prejudice.

(*Arch.*) A screen or shade attached to either the inside or outside of a window, as a protection against the sun. The most common form of inside window-blind consists of a plain hanging of union holland, or linen. The *wire-blind,* another kind of inside window-blind, consists of a frame of woven wire-gauge, or of perforated zinc, and is frequently painted, and sometimes also lettered and figured. Outside window-blinds are called *Florentine, Venetian, Spanish,* and *shutter-blinds.* There are also other blinds for shop-fronts, skylights, &c., known by various names: as, *common roller, spring patent,* &c.

—Something to mislead the eye or the understanding; as, "It is only intended as a *blind.*

"making the one a *blind* for the execution of the other.'
Decay of Piety.

—*n.* (*Fort.*) See BLINDAGE.

Blind, (**The,**) is a term applied to those who are deprived of the use of sight. There is none of the senses that affords such an endless variety of perceptions, such a fund of materials for the mind — the imagination, to work upon, as that of sight. When one considers the infinitely greater amount of information that is received by the eye than by the ear, he is naturally led to the conclusion that the blind must be in a much more helpless and pitiable condition than the deaf. In reality, however, this is found not to be the case: and various attempts have been made to account for it. The blind, as a class, are lively and cheerful, the deaf, shy and melancholy, often morose and suspicious. "Take," says Dr. Watson, "a boy, it may be, of 9 or 10 years of age, who has never seen the light, and you will find him conversible, and ready to give long narratives of past occurrences, &c. Place by his side a boy of the same age, who has had the misfortune to be born deaf, and observe the contrast. The latter is insensible to all you say, he smiles, perhaps, and his countenance is brightened by the beams of holy light, he enjoys the face of nature, nay, reads with attention your features, and, by sympathy, reflects your smile or frown. But he remains mute; he gives no account of past experience or of future hope, if you attempt to draw something of this sort from him; he tries to understand and to make himself understood, but he can not. He becomes embarrassed; you feel for him, and turn away from a scene too trying, under the impression that, of these two children of misfortune, the comparison is greatly in favor of the blind, who appears by his language to enter into all your feelings and conceptions, while the unfortunate deaf-mute can hardly be regarded as a rational being, yet he possesses all the advantages of visual information as direct sensation." The cause is not, that the blind possess a greater, or anything like an equal stock of materials for mental operations, but that "they possess an invaluable engine for forwarding these operations, however scanty the materials to operate upon artificial language," which is the medium of thinking; and "its value to a man is nearly equivalent to that of his reasoning faculties." The truth is, that the deaf are far more isolated all their lives from those that hear than the blind are from those that see. "Our interest in each other," says Dr. Wilson, "far exceeds, and ought to exceed, our interest in the

world; and from all this human sympathy the deaf are almost totally cut off: while the blind, excused from many duties, which the sceing can only discharge, are peculiarly free to indulge in gossip with their more favored neighbors, and can largely exchange opinions with them. Moreover, the blind can scarcely fail to find their own tastes suited in some portion of the talk of their neighbors;"—"whilst the deaf, unless they have a great aptitude for such occupations as employ the eye and the hand, are far more narrowed in their circle of studies and much more solitary than the blind." There have been blind travellers, like Holman; blind poets, like Homer, Miltou, and Blacklock; blind divines, like Lucas and Tronghton; blind mathematicians, like Saunderson and Moyes; blind naturalists, like Huber; blind historians, like Prescott; blind musicians, blind sculptors, blind mechanicians; indeed, Dr. Reid asserts that "sight discovers almost nothing which the blind may not comprehend." But their conceptions of many things must, at least, be very imperfect; light, color, and space, must ever be words which they cannot fully realize. The blind are able to make up, in great measure, for their want of sight by the greater development of their other senses. By assidnous application and attention, the senses of touch and hearing become much more delicate and acute. It has even been said that some have been able to distingnish colors by means of touch; but this seems very doubtful. By accurately distinguishing the various kinds and modifications of sound, they are able to form correct ideas on many subjects. Much, too, depends upon the memory, which, from exercise, becomes much more retentive than in men not deprived of sight. The *B.* institutions of the U. S. are not mere asylums, bnt educational establishments, in which the blind receive a thorough education. "They are socially far above those of any other country; large nnmbers of them become eminent scholars and musicians."

BLIND, EDUCATION OF THE. It was not till towards the close of the last century that any effort was made for the education of the blind. The first school established for that purpose was that of Paris, founded in 1784. It was followed by those of Liverpool, Edinburgh, and London, established in 1790, 1791, and 1800 respectively. Since that time schools have been established in most of the large cities and towns of Great Britain. One great obstacle in the way of the education of the blind, are the numerous systems that at present are in use for teaching them to read. M. Hauy was the inventor of the art of printing in relief; but various attempts had been made before his time to give them a knowledge of letters. The French system of M. Hauy was subsequently much improved upon by Mr. James Gall, of Edinburgh, who employed only one alphabet in place of two (capital and small letters), and excluded curves and circles, substituting angles and straight lines. He published several preparatory books in this style for the use of the blind. A few years later, in 1832, the Society of Arts in Scotland offered their gold medal for the best alphabet and method of printing for the use of the blind, which was awarded to Dr. Fry. Mr. Alston, of Glasgow, subsequently made various improvements upon Dr. Fry's system, so as to render the letters sharper and more tangible. The systems at present in use may be divided into two classes — the *alphabetical* and the *arbitrary*. The alphabetical comprise: 1. Alston's system of Roman capitals; 2. the American system of smaller capitals, with serrated edges; 3. the French alphabetical; and 4. Alston's modified. The arbitrary systems are: 1. Lucas's; 2. Frere's; 3. Moon's; 4. Le Systeme Braille; and 5. Le Systéme Carton. Each of these systems has its advocates and adherents. Books are printed in them; and, as few blind persons ever master more than one system, the books of every other are unintelligible to them. Mr. E. C. Johnson, in his "Tangible Typography," thus lays down the conditions to be satisfied in any system employed in the teaching of the blind: "The system of embossed printing for their use should embrace at least the following features: 1. It must resemble as nearly as possible the type in ordinary use among those who have eyesight; (*a*) that the blind scholar learning to read may have every possible help from words which he may have formerly seen, but which now his fingers must decipher; (*b*) that he may derive help in learning from any one who can read an ordinary book, or, if needful, that his friend may be able to read to him. 2. It must present the words correctly spelt in full, that, when he learns to write, he may do so in a correct manner, which others can read. 3. The raised characters must be clear, sharp, and well-defined, which the finger hardened by long work and the keen touch of the little child may be able alike to discern." The system of Mr. Alston is that which seems to meet with most favor, as being that which is most easily learned and most nearly allied to ordinary letters. He has simply adopted the ordinary Roman letters in such a form as to be most easily felt. The American books are printed on a modification of Alston's plan. They are smaller in bulk, and cheaper in cost than those published in England. In what are called the arbitrary systems, in place of the ordinary letters of the alphabet, arbitrary characters are adopted. One of the principal of these is the system of Mr. M. T. Lucas, which professes to be to a blind person what stenography is to a seeing person. His alphabet is composed of thirty-six characters, ten of which represent double letters. Not only are all letters omitted that are not necessary to the sound, but in many cases singlo letters stand for words; as *t* for the; *y*, yet; *m*, me; *b*, by, &c. The advantage claimed for this system is the saving of types, paper, and labor in the printing of books; but this is found not to be the case, for the characters occupy more space than if the words were all written at full length in Roman capitals; while it must be much more difficult to master, and must give rise to frequent confusion. The New Testament in Alston's system is comprised within 623 pages; whereas, in Lucas's it occupies 841. The system of Frere is also stenographic, founded on Gurney's shorthand, as that of Lucas was on Byrom's. Its distinctive feature, as compared with Lucas's, is, that it is phonetic, the characters being intended to represent the simple sounds of the English language, rather than the letters; and each word is represented according to its pronunciation. The alphabet is composed of thirty-two characters, to each of which is attached a short description intended to fix more strongly in the memory of the learner the force of the character. The vowels are represented by simple dots, which, in different positions, represent the different vowels, and are divided into five long and five short. There are also twelve rules in verse for teaching the learner how to supply the omitted vowels correctly. Mr. Moon's system is certainly the best of the arbitrary systems. His alphabet consists of "the common letters simplified;" in other words, six of the Roman letters remain unaltered; twelve others have parts left out, so as to be open to the touch; the rest are new and simple forms. It will be found, however, on examination, that the resemblance between Mr. Moon's letters and the Roman capitals is by no means so great as one might expect from his statement. "A letter," he says, "must consist of only one or two lines, to be felt by the thick finger of an adult." The words are all spelt at full length. Mr. Moon's system is, however, the most cumbrous and expensive that has yet been devised—circumstances which are much against its popularity. An ingenious "string alphabet," for enabling the blind to read and write or correspond with each other, was invented some time ago by David Macbeath and Robert Milne, two inmates of the Edinburgh Asylum, and has been found to answer its purpose remarkably well. The different letters of the alphabet are represented by different kinds and combinations of knots on a cord. They are distributed into seven classes, each class comprehending four letters, except the last, which has only two. The first, or A class, is distinguished by a large round knot; the second, or E class, by a knot projecting from the line; the third, or I class, by a series of links, vulgarly called "the drummer's plait;" the fourth, or M class, by a simple noose; the fifth, or Q class, by a nooso with a net-knot cast on it; and the seventh, or Y class, by a twisted noose. The first letter of each class is denoted by the simple characteristic of that class: the second, by the characteristic and a common knot close to it; the third by the characteristic and a common knot half an inch from it. The mode of teaching the blind by means of raised music is now little practised, it being found, from their great strength of memory, that they are able to learn very long pieces by means of the ear alone. Embossed maps and globes are employed for teaching them geography; and in addition to raised maps of the heavens, various ingenious contrivances have been resorted to for making them acquainted with different branches of astronomical knowledge. They are instructed in arithmetic by means of a board containing a series of pentagonal holes, which receive pentagonal pins, representing the ten digits. By the use of such boards they may be carried to any extent in arithmetical knowledge. They may be taught mathematics by means of a board full of small holes, with a few pins fitted to them, so as to represent certain letters; while with a cord extended from the different points, are formed the lines of the figure or diagram. The success of Saunderson, Moyes, and others, sufficiently proves that blindness is no great impediment to a knowledge of mathematics; indeed, according to some, the blind possess great advantages. In the various educational establishments for the blind, they are instructed in sundry manual occupations, as in the making of baskets, mats, rugs, shoes, and such like; for, in the words of Dr. Lettsom, "He who enables a blind person, without any excess of labor, to earn his own livelihood, does him more real service than if he had pensioned him for life."

Blind'age, BLIND, *n.* (*Fort.*) A term applied to a screen temporarily constructed to shield soldiers from an enemy's fire or reconnoissance. It is usually formed of timber encircled with fascines, and covered with earth, turf, brushwood, hides, &c.

Blind All-Fours, *n.* (*Games.*) A game of All-fours generally played by two persons. Each player has six cards, the first one played by the non-dealer being the trump. There is no begging, and the points are usually seven or nine. At Blind All-fours, some reject the sixes and sevens, and count all the pips on all the cards for game. The score is usually taken on a cribbage-board, or by means of two cards taken from the pack. — See ALL-FOURS.

Blind'-beetle, *n.* (*Zoöl.*) A name of the COCKCHAFER, *q. v.*

Blind'-coal, *n.* (*Min.*) A name given in Scotland to anthracite, or flameless coal.

Blind'ed, *pp.* or *a.* Made dark or obscure; deprived of sight; deprived of moral or intellectual discernment.

Blind'er, *n.* A person who blinds another. — *n. pl.* Same as BLINKERS, *q. v.*

Blind'fish, *n.* (*Zoöl.*) See HYPSÆIDÆ.

Blind'fold, *a.* Having something folded over the eyes so as to blind; having the mental vision darkened.

> "Who *blindfold* walks upon a river's brim,
> When he should see, has he deserved to swim?"—*Dryden.*

—*v. a.* To fold something over the eyes so as to blind; to cover the eyes: to hinder from seeing.

> "And when they had *blindfolded* him, they struck him on the face." — *Luke* xxii. 64.

Blindheim, (*blind'hīme.*) See HOCHSTADT.

Blind Hook'ey, *n.* (*Games.*) A game at cards, which is played thus: when the cards are shuffled and cut, they are divided by the youngest hand into as many portions, faces downwards, as there are players. The eldest hand then gives the dealer any one of the packs, and the other players take each a portion, upon which the stakes are placed. The dealer then turns up his lot, and according as the card at bottom is higher or lower than those of his adversaries, he wins or loses. The cards rank as at Whist, and all ties are won by the dealer. Each party has the right to shuffle, and the left-hand player cuts.

Blind'ing, *ppr.* or *a.* Depriving of sight or of understanding; obscuring: as, *blinding* tears.

Blind'ly, *adv.* Without sight or understanding. — Heedlessly; implicitly; inconsiderately.

> "Those who will not without examining submit, and *blindly* follow their nonsense." — *Locke*

Blind'man, *n.* A man who is blind: a sightless man. —A phrase employed in the English post-offices, to denominate a person who has charge of deciphering or elucidating bad, indistinct, or mysterious addresses of letters.

Blind'man's-buff, *n.* (*Pastimes.*) A play or pastime indulged in by a company of persons assembled together, in which one person is blindfolded, and in this way has to hunt out the others

> "At *blindman's buff* to grope his way." — *Hudibras.*

Blind'ness, *n.* State of being blind; want of bodily sight; want of intellectual or moral discernment; ignorance.

Blind-side, *n.* The side most vulnerable to assault; weakness; foible; weak part; as, "This is one of his *blind-sides.*" — *Swift.*

Blind'-story, *n.* (*Arch.*) A term sometimes employed in mediæval architecture to denote the *triforium* of a church, in contradistinction to the *clerestory.*

Blind'-worm, *n.* (*Zoöl.*) The common name of the genus *Anguis*, family *Chalcidæ* or Glass-snakes, which may be said to form the connecting link between the lizards and the true serpents. The name is more especially applied to the *slow-worm.* Though somewhat formidable in appearance, the *B.* is perfectly innocuous. Its usual length is about eleven inches; the head is small; the eyes are also small, and the irides red; the neck is slender, and thence the body enlarges, continuing of equal bulk to the tip of the tail, which ends bluntly, and is as long as the body. The general color of the back is cinereous, marked with very small lines of minute black specks: the scales are small, smooth, and shining, of a silvery-yellow on the upper parts and dusky beneath; the tongue is broad and forked, and the teeth are very small and numerous. The *B.* feeds on earth-worms, insects, &c., and among the uninformed has the character of possessing the most deadly venom. The motion of this reptile is slow, from which circumstance, as well as from the smallness of its eyes, its names are derived. Like all the rest of the kind, they lie torpid during the winter, being sometimes found in vast numbers twisted together.

Blink, *v. i.* [A.S. *blican*, to shine, to twinkle; Ger. *blicken*; O. Ger. *blichan*; Swed. *blicka.*] To twinkle; to wink; to see obscurely or with the eyes partially closed.

> "That, to trepan the one to think
> The other, both strove to *blink.*" — *Hudibras.*

—To gleam or glimmer, to shine intermittingly, as a lamp.

—*v. a.* To shut the eyes upon; to shut out of sight; to avoid, or purposely evade; as, to *blink* the subject.

—*n.* A glimpse, glance, or partial observation of anything; as, a *blink* of light. — Fugitive or intermittent light or luminousness; a term used in Scotland and some parts of England.

> "A thief sae paukie is my Jean
> To steal a *blink* by a unseen."—*Burns.*

—(*Naut.*) See ICE-BLINK.

—*pl.* (*Sporting.*) A term used in some parts of England to denominate boughs or brushwood employed to turn the course of deer or cattle.

Blink'ard, *n.* [*blink*, and *ard*, kind.] A person who blinks, or has bad or weak eyes. — Anything that twinkles or momentarily glimmers, as a star shining intermittently.

Blink'-beer, *n.* Beer kept unbroached until it is sharp.

Blink'er, *n.* One who blinks. — (*Saddlery.*) An expansion of the side of a horse's bridle to prevent him from seeing on either side, but at the same time not to obstruct his vision in front; sometimes called *blinder.* (Almost invariably used in the plural.)

Blink'-eyed, *a.* Blear-eyed; as, a *blink-eyed* crone.

Blink'ing, *pp.* and *a.* Winking; twinkling; avoiding; as, a *blinking* lamp.

Bliss, *n.* [A.S. *bliss.* See BLESS.] Blessedness; supreme felicity; full of complete happiness or enjoyment; heavenly joys; as, an abode of *bliss.*

> "Thou source of all my *bliss* and all my woe." — *Goldsmith.*

Bliss, in *Missouri*, a post-office of Miller co.

Bliss'field, in *Michigan*, a post-village and township of Lenawee co., on Raisin River, 22 m. N.W of Toledo, and 10 from Adrian.

Bliss'ful, *a.* Full of bliss; full of joy and felicity; as, *blissful* days.

Bliss'fully, *adv.* In a blissful manner.

Bliss'fulness, *n.* Exalted happiness; felicity; fulness of joy.

Bliss'less, *a.* Wanting, or without, bliss. (R.)

Blis'som, *v. i.* [A.S. *blithe*, sprightly.] To be ready to receive the ram, as when a sheep is in heat.

—*v. a.* To tup like a ram.

Blis'ter, *n.* [Ger. *blase*, and *blatter*, a vesicle, pustule; *blasen*; O. Ger. *blahan*, to blow.] A pustule or thin watery bladder on the skin, containing serum. It may be occasioned by a burn or other injury, or by a vesicatory. — Any swelling made by the separation of a film from the other parts, as that of iron caused by bubbles of air.

(*Med.*) Any substance which, applied to the skin, raises the outer cuticle, or scarf-skin, in *blisters* or pustules, and fills the space between that and the true skin with a watery fluid, called *serum*, separated from the blood by the stimulating potency of the article employed. *B.* are either of the animal, vegetable, or mineral kingdom. The following are the chief articles used for that purpose: Spanish flies, or *cantharides*; mustard, euphorbium, mezereon, savin, croton oil, common nettle, and steam; tartrate of antimony, nitrate of silver, ammonia, nitric acid, acetic acid, and caustic potash. — *B.* are applied either in the form of a plaster, or in the liquid state, as may suit the convenience of the operator. Their object is to draw away, by counter-irritation, any inflammatory action from a part to which direct remedies cannot be applied. Latterly they have been greatly used for the purpose of dispersing glandular tumors, and also for indolent ulcers. *B.* made from cantharides, when applied for too great length of time, produce distressing affections of the urinary bladder. A piece of silver paper, or gauze wet with vinegar, is often laid between the *B.* and the skin when it is applied to children and thin-skinned people. Mustard *B* are seldom kept on long enough to produce *B.* In every case a *B.* should not be kept long applied, and great cleanliness is necessary in dressing the part. Sores which have taken an unhealthy action have often been produced by keeping *B.* too long upon children.

—*v. i.* To rise in blisters.

"Embrace thy knees with loathing hands,
Which *blister* when they touch thee." — *Dryden.*

—*v. a.* To raise a blister or blisters; to apply a blistering plaster to the skin. — To injure or cause pain to, as if by a blister.

"A gentlewoman of mine, who . . . . hath *blister'd* her report." *Shaks.*

Blister-beetle, Blister-fly, *n.* (*Zoöl.*) See CANTHARIS.

Blistered Copper-ore', *n.* (*Min.*) The name applied in the mines of Cornwall, England, to reniform and botryoidal copper pyrites.

Blistered Steel, *n.* (*Metal.*) See STEEL.

Blis'ter-fly, *n.* (*Zoöl.*) See CANTHARIDÆ.

Blis'ter-plaster, *n.* (*Med.*) See BLISTER.

Blis'tery, *a.* Full of blisters.

Blite, *n.* (*Bot.*) See BLITUM.

Blithe, *a.* (Sometimes spelt BLYTHE.) [A.S. *blithe*; O. Ger. *blidi*, joyful, from *blithan*, to rejoice; Goth. *bleithjan*, to be merciful.] Happy; gay; merry; joyous; sprightly; mirthful.

"He work'd and sung from morn till night:
No lark more *blithe* than he." — *Bickerstaff.*

Blithe'ful, *a.* Joyous; full of mirth or gayety.

Blithe'ly, *adv.* In a gay, joyous manner.

Blithe'ness, *n.* Quality of being blithe; gayety; sprightliness.

Blithe'some, *a.* Gay; sprightly; joyous; cheerful; pleasant.

"Frosty blasts deface
The *blithesome* year." — *Philips.*

Blithe'someness, *n.* Quality or condition of being blithesome; gayety; sprightliness.

Bli'tum, *n.* [Gr. *bleton*, insipid; in allusion to its fair but insipid berries.] (*Bot.*) A genus of plants, ord. *Chenopodiaceæ*.—DIAG. Calyx 3-cleft, segments ovate, equal; stam. 1, exserted; sty. 2; ova., ovoid, acuminate: seed 1, contained in the calyx which becomes a berry.—They are herbaceous weeds, with flowers and fruits in capitate clusters terminal and axillary.—The Strawberry Blite, *B. capitanum*, is a weed-like plant, about 1 foot in height, branching, growing in fields, and sometimes cultivated for borders in the flower-garden; heads of flowers sessile, near together, on the branches and summit of the stem; fruit consisting of the reddened flowers, appearing like strawberries, full of a purple juice, taste insipid. It blossoms in June, and is found from Virginia to the Arctic Circle.

Bloat, (*blōt*,) *v. a.* [A.S. *blœd*; O. Ger. *blat*, from *blajan*, to blow; allied to Lat. *flatus*, from *flare*, to blow.] To blow, swell, or puff out or up; to swell up or make turgid; as, a *bloated* stomach.

—To inflate or puff up with vanity or self-adulation.

"His rude essays
Encourage him, and *bloat* him up with praise." — *Dryden.*

—*v. i.* To grow turgid; to dilate.

"If a person of a firm constitution begins to *bloat*, . . . his fibres grow weak." — *Arbuthnot.*

Bloat'ed, *pp.* or *a.* Swelled; grown turgid; inflated; as, "a *bloated* mass." — *Goldsmith.*

Bloat'edness, *n.* State of being bloated, turgidity.

"*Bloatedness* and scorbutical spots are symptoms of weak fibres." *Arbuthnot.*

Bloat'er, Bloat-herring, *n.* A smoke-dried herring; as, a Yarmouth *bloater*.

Bloat'ing, *n.* Condition of being swelled or bloated.

Blob, *n.* [See BLEB.] A drop; a viscid bubble.

Blob'ber, *n.* A vulgarism signifying a BUBBLE, *q. v.*

"A round filmy substance called a *blobber*." — *Carew.*

Blob'ber-lip, *n.* [*blobber* and *lip*.] A thick or heavy lip.

"They make a wit of their insipid friend.
His *blobber-lips* and beetle-brows commend." — *Dryden.*

Blob'ber-lipped, *a.* Having thick lips.

"His person deformed . . . flat-nosed, and *blobber-lipped*." *L'Estrange.*

Bloch, MARK ELEAZAR, (*blok*,) a German naturalist, b. at Anspach, 1723. His *Natural History of Fishes*, with 432 plates, which has been translated into French, and forms 12 vols. folio, is one of the finest works of its kind. D. 1799.

Block, (*blok*,) *n.* [Du. *blok*; Ger. *block*; O. Ger. *bloch*; Gael. *bloc*, round or bicular.] A solid log of timber, mass of stone, metal, &c.; a lump or mass of solid matter, generally presenting two plane faces; as, a *block* of marble.

"For want of a *block* he will stumble at a straw." — *Swift.*

—A block of wood used for decapitating criminals.

"I'll drag him thence,
Even from the holy altar to the *block*." — *Dryden.*

—A wooden mould, or that on which anything is formed or framed: as, a hat-*block*.

"He wears his faith but as the fashion of his hat; it ever changes with the next *block*." — *Shaks.*

—In the U. States, a square or connected mass of buildings. — Any obstruction, or cause of obstruction; a stop; a hindrance; an obstacle.

"No crime is *block* enough in our way to stop our flight." *Decay of Piety.*

—A blockhead; an obtuse fellow. (o.)

"What tongueless *blocks* were they, would they not speak?" *Shaks.*

(*Falconry.*) A perch for a falcon or other bird of prey.

(*Arch.*) [Fr. *bloc*.] A term applied to large, unworked masses of marble or stone; it is also used to denote a modillion in a cornice, or the small projections left on the stones of some buildings, which are supposed to have been indications of the unfinished state of the work, though they are discovered upon some elaborately finished buildings, such as the choragic monument of Thrasyllus. The introduction of the blocks on the arch-stones of the Pont-du-Gard (Fig. 163) is a striking illustration of their use.

(*Naut.*) The shell or case that contains the wheel or *sheave* of a pulley, (which last term is never used at sea.) Two or more blocks, with the rope, constitute what is technically called a *tackle*. *B.* are of various kinds, being called *single*, *double*, *triple*, &c., according to the number of sheaves they contain. They also bear different names from some peculiarity of shape, such as the *long-tackle block*, *clue-line block*, *snatch-block*, &c., or from the position of the rigging in which they happen to be placed. There is a great difference in the size and capability of blocks used on board ship, and for the various purposes in which such mechanical appliances are required. The component parts of a *B.* are the *shell*, the *sheave*, the *pin*, and the *strap*. By means of blocks, sailors are enabled to raise the sails, and tighten or loosen ropes in different parts of the vessel with greater facility. See DEAD-EYE. — Blocks are also the pieces of wood and iron on which a ship's keel is supported when undergoing repairs in a dry or graving dock.

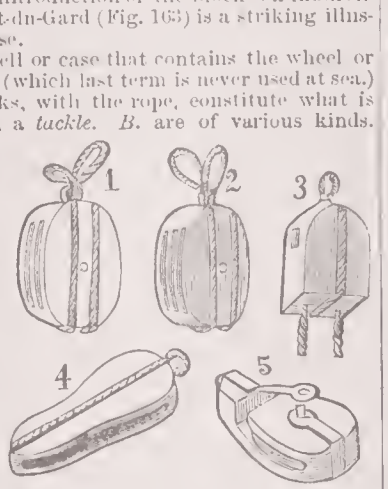


Fig. 373. — BLOCKS.

1. Double-block. — 2. Triple-block. — 3. Clue-line block. — 4. Long-tackle block. 5. Snatch-block.

Block, *v. a.* To enclose or shut up as with a block or blocks, or some solid mass; to stop up; to obstruct.

"Recommend it to the Governor of Abingdon, to send some troops to *block* it up." — *Lord Clarendon.*

—To fasten or secure by means of blocks.

To block out. To lay out; to bring into shape or form.

Blockade', *n.* [It. *bloccato*, blocked up; from *bloccare*, to block up.] The blocking up, or shutting up, of a port by surrounding or guarding it with hostile ships, with a view to prevent egress or ingress of supplies or reinforcements. — In International Law, the right to blockade the ports of an enemy in war, and to exclude neutrals, is limited by the following recognized principles: 1. The blockade must be substantial, by means of a sufficient force to prevent the entry or exit of vessels; otherwise a neutral is not bound to respect it. 2. It is essential that the neutral should have notice of the blockade; otherwise his ship cannot be justly condemned. A counter-notice should also be given by the blockading Power when the blockade has ceased.

(*Mil.*) A sort of circumvallation round a place, by which all foreign connection and correspondence is, as far as human power can effect it, to be entirely cut off. Towns and forts that are difficult of investment and regular approach by trenches, through being situate in a commanding position on a hill or eminence, are blockaded by being surrounded with a cordon of works, or redoubts, established on the surrounding heights, at the distance of half a mile or more of each other, according to circumstances and the nature of the country. Sometimes *B.* must be carried on by sea and land at the same time, to render it complete and efficient; but the term is more particularly applicable to the investment or watching of a port by ships of war.

To raise a blockade. To remove or withdraw from the blockade of a port or place. — *To run a blockade.* To succeed in passing into a blockaded port by eluding the vessels of the blockading squadron.

—*v. a.* To block up or close up a town or fortress by ships of war or troops; to besiege or beleaguer closely.

Blockad'er, *n.* One who, or that which, blockades.

Blockade'-runner, *n.* (*Naut.*) The name generally given to a class of vessels built for the special object of running into a blockaded port.

Block-cor'nice, Block-entab'lature, *n.* (*Arch.*) Ornamentation frequently used to finish plain buildings where none of the regular orders have been employed. Of this kind there is a very beautiful example composed by Vignola, much used in Italy, and employed by Sir Christopher Wren to finish the second design of St. Paul's Cathedral, London.

Block'ers, in *N. Carolina*, a P. O. of Cumberland co.

Block'head, *n.* A stupid, obtuse fellow; a dolt.

"The bookful *blockhead* ignorantly read,
With loads of learned lumber in his head." — *Pope.*

Block'headed, *a.* Stupid; obtuse; dull of comprehension.

"Says a *blockheaded* boy, these are villainous creatures." *L'Estrange.*

Block'headism, *n.* State or character of being a blockhead.

Block'headly, *a.* Resembling a blockhead; as, "Some *blockheadly* hero." — *Dryden.*

Block'house, *n.* (*Mil.*) A work of defence, formed principally, as the name implies, of logs of timber. It may be built by itself, in which case it may be looked on as a small independent fort; or it may be situated in the interior of field-works, when it becomes a retrenchment, used for the same purposes as erections of a somewhat similar nature, called *blindages*.

Block'house, in *Pennsylvania*, a village of Liberty township, Tioga co., 30 m. N. of Williamsport.

Block'ing-course, *n.* (*Arch.*) A course of masonry or brick-work, laid on the top of a cornice crowning a wall.

Block'ings, *n. pl.* (*Carpentry.*) Small pieces of wood fitted in or glued, or fixed to the interior angle of two boards or other pieces, in order to give strength to the joint.

Block'ish, *n.* Like a block; stupid; dull: inane

"And by decree let *blockish* Ajax draw." — *Shaks.*

Block'ishly, *adv.* In a stupid manner.

Block'ishness, *n.* Stupidity; dulness.

Block Island, belonging to *Rhode Island*, and lying in the Atlantic Ocean near Montauk Point, the E. extremity of Long Island; Lat. 41° 13′ N., Lon. 71° 35′ W. It is 8 m. long by about 4 broad, and forms the township of New Shoreham. On the N.W. part of the island there are two fixed lights.

Block'lesham, *n.* (*Geol.*) See BRACKLESHAM.

Block'ley, in *Pennsylvania*, Philadelphia co., on the Schuylkill River, and now included within the bounds of the city of Philadelphia.

Block'-like, *a.* Stupid; dull; like a block.

Block-machine', Block-machin'ery, *n.* The machinery for manufacturing ships' blocks, invented by Mr. Brunel, an Englishman, in 1801.

Block'-plan, *n.* (*Arch.*) A plan of a ground or dwelling, representing its general arrangement, without entering upon any of the details. It is customary to commence a series of plans by such a drawing, which is usually made upon a very small scale.

Block'-ship, *n.* (*Naut.*) A large vessel of war, employed on coast-duty for the protection of a specified district. These ships are generally old ones, and are rarely fit for operations in the open sea.

Block'-tin, *n.* (*Metal.*) Tin cast into blocks or ingots. The tin which is sold in commerce under this name, is less pure than the *grain-tin*, being made from the common ore of the veins. The best qualities of this metal are the Banca, the Cornish, and the Spanish tin. — The term is also applied to articles of inferior value, which are made of iron-plate, covered with a coating of tin of variable thickness, according to their qualities.

Block'ville, in *New York*, a P. O. of Chautauqua co.

Blod'get Mills, in *New York*, a P. O. of Cortland co.

Blois, (*blwa.*) a town of France, cap. dep. Loire et Cher, on the Loire, 35 m. S. W. of Orleans. *B.* is an old town, only remarkable for the beauty of its situation, its antiquity, its monuments, and the historical events of which it has been the theatre. At one extremity of the town is the castle, and at the other the cathedral. The former is an immense pile, built at different periods and in different styles of architecture. Louis XII. was born in this castle; and in it also Margaret d'Anjou was married to the Duc d'Alençon, and Margaret of Valois to Henry IV. But it derives its principal interest from events of a very different character. Here, in Dec., 1588, the Duc de Guise, and his brother the Cardinal, were basely murdered by the order, and almost in the presence, of Henry III. Queen Catherine de Medicis died here, and Maria Louisa held her court in it after the capitulation of Paris. It was since occupied as a barrack, but in 1880–87, was restored at great cost.

Blomary, (*bloom'ary,*) *n.* [See BLOOM.] (*Metal.*) The first forge in iron-smelting, through which the metal passes after it has been smelted from the ore.

Blond, Blonde, *a.* [Fr.] Fair-complexioned; light-colored; flaxen.

Blonde, (*blond*,) *n.* [Fr. *blond*, *blonde*, fair, light-colored, (applied to hair and complexion).] A fair-complexioned person, with light hair and blue eyes. This term is generally applied to a woman possessing fair hair and complexion, and is used in contradistinction from *brunette* (q. v.): as, that lady is a *blonde*.

Blonde, Blond-lace', *n.* A fine description of lace.

Blon'del, the minstrel and favorite of Richard I. ("Cœur-de-Lion"), whom *B.* is said to have discovered in ...

Austrian dungeon by singing beneath its walls the first part of a song of their joint composition, called "*O Richard! mon bon roi.*"

Blond Met'al, *n.* (*Min.*) A peculiar kind of coal-measure clay-ironstone, which, after being smelted, is made into a variety of tools. It is found at Wednesbury, England.

Blood, (*blŭd,*) *n.* [A. S., Swed., and Dan. *blôd;* Goth. *bloth;* O. Ger. *bluot;* Ger. *blut;* Fr. *sang.*] The red, vitalizing fluid which circulates through the arteries and veins of men and animals. (See below, ℥ *Physiol.*)

—Family; progeny; kindred; consanguinity; relation by descent from a common ancestor.

"O! what a happiness is it to find
A friend of our own *blood*, a brother kind!" — *Waller.*

—High, or honorable birth; royal lineage; aristocratic descent; as, a prince of the *blood.*

"What can ennoble sots, or slaves, or cowards?
Alas! not all the *blood* of all the Howards." — *Pope.*

—Murder, or blood shedding; violent taking away of life.

"They say *blood* will have *blood*." — *Shaks.*

—A sanguinary or murderous temperament or disposition. (R.)

"He was a thing of *blood*." — *Shaks.*

—Temper of the mind; state of the passions.

"At your age,
The hey-day in the *blood* is tame, it 's humble." — *Shaks.*

—A man of fire or spirit; a spark; a rake.

"Rome, thou hast lost the breed of noble *bloods*." — *Shaks.*

—The juice of anything; as, the *blood* of the grape.

Cold blood. State of temperament in which any act is committed premeditatedly, and without sudden impulse. — *Warm blood.* Applied to one of stroug passions or impulsive temper. — *To heat the blood.* To stir up or inflame the passions.

(*Physiol.*) In animals of the simplest structure, all the liquids of the animal economy resemble each other. It seems, indeed, to be only water charged with a certain amouut of organic particles; but in animals higher in the scale of being, the humors cease to be of the same nature, and there is one, distinct from all the others, destined to nourish the body; this fluid is the *blood.* It not only nourishes the body, but is the source whence are drawu all the secretions, such as the saliva, urine, bile, and tears. — In mammals, birds, reptiles, fishes, and in most animals of the class *Annelides*, the blood is red. But in the greater number of the lower animals the blood presents various hues and density, being often thin or watery, and slightly yellow or green, rose-colored or lilac. It is difficult, therefore, to be seen, and for a long time these animals were called *bloodless* or *exsanguineous.* Those animals with white blood are very numerous; all insects, for example. The crustacea of all sorts have only white or pale-colored blood; and in this category may be placed all the mollusca, zoöphites, and intestinal worms. — By the use of the microscope we discover that the blood of a red-blooded animal is composed of a yellowish transparent liquid, called *serum*, and of a number of small solid corpuscles, which float in the serum, called *blood-globules*, discovered by Leuwenhoeck and Malpighi, whose researches were made soon after the microscope was invented. — *Globules* or *Corpuscles of the Blood.* Before birth, the globules have dimensions, and even a form different from what they afterwards acquire. Thus, in the chick the globules are at first circular; and it is only at a more advanced period of incubation that the globules assume an elliptic form. After birth, they never vary. — In all animals of the same species, the globules have the same dimensions and resemble each other in this respect. It is not so with different species. Thus, iu man, (*Fig.* 374,) and iu most mammals, the globules are circular. In the camel and llama, however, they are elliptic. In birds, reptiles, batrachia, and fishes, they are elliptic. — The corpuscles are always microscopic; and in man, and mammals in general, they are extremely small. High powers of the microscope have revealed, of late, that in the human blood scarcely any two corpuscles are of precisely the same size; some of them being from 5 to 6 times the size of others. Their average leugth is about $\frac{1}{2400}$ of an inch. It would be possible, if they were closely packed together, for 8,126,464 to lie in a space occupied by a pin's head; and the tiny red drop which issues from the puncture of living flesh by the prick of a needle, consists of about 5,000,000 of these bodies. — In birds, the globules are larger than in mammals; in the reptiles and batrachia they are still larger; in the proteus they attain their maximum. Finally, in fishes, the globules are intermediate between those of birds and the batrachia. — Moreover, the blood-globules are always flattened, and present a central spot surrounded with a rim or border. They seem to be composed of a central nucleus and an envelope, resembling a bladder This envelope being depressed, gives to the globule the appearance of a disc, swollen in the middle. It is of a reddish color, and seems formed of a substance resembling jelly, but very elastic. The central nucleus is of a spheroidal form, and is not colored. In mammals, the nucleus is not distinct, and the ceutral portion is depressed; but analogy induces us to suppose that, as in other auimals, it is also preseut in mau. The wonderful Spectral Aualysis (see SPECTRUM) has already been applied with marvellous success to the study of the changing and transforming substances of our flesh and blood. No doubt that in a time not far distant the compositiou and functions of the corpuscles of the blood will be positively ascertained. For the present, confident as we are that Science has not said its last word, we will proceed to relate the discoveries already accomplished, without assuming any personal opinion, and availing ourselves of the able study in spectral analysis by Dr. R. King Browne. — The coloring-matter of blood (of its red corpuscles) is capable of existing in two states of oxidation, distinguishable by a difference of color and a fundamental difference iu the action on the spectrum. It may be made to pass from the *more* to the *less* oxidized state by the action of reducing agents, and recovers its oxygen from the air. It seems perfectly demonstrated, that this coloring-matter, constituting the distinctive matter of the red corpuscles, named *cruorine*, could easily pass from one state to the other, and the reverse In the more oxidized, the scarlet state, that in which it is found giving, by the corpuscles, to the arterial blood its scarlet hue, it is distinguished as *scarlet cruorine;* and in its reduced or less oxidized state, that in which the red blood-corpuscles give to venous *B.* its purple hue, it is known as *purple cruorine.* It is hardly necessary to designate what a consummato explanation these facts afford, of the oxygen appropriatiug aud carrying capacity of the red blood-corpuscles, nor what a soul-iuspiring exemplification it is of the achievements of spectral aualysis. In the lungs, the purple cruorine of the red corpuscles of venous *B.* appropriates the oxygen from the atmosphere, and becomes *scarlet* or arterial cruorine; and in the whole of the general circulatiou, iu the minute blood-channels, this cruorine of the red globules having passed through the arterial part of the circuit, loses a part of its oxygen, and passes back to the purple or venous state. — Dr. R. K. Browne has calculated that the blood-red corpuscles move 400 times their own length in a second. They are not, as is generally believed, carried by the fluid, as impelled by successive contractions, from the heart, but move through the liquid blood at a much faster rato than the liquid itself. Each globule may, therefore, move at a rate different from time to time, and different from its fellows, although, iu general terms, they concur or move together at a certain rate. Upon the perception of this fact, uo doubt, will turn many future discoveries of the condition of varying states of health and disease. Mankind have always had a dim instiuct, hitherto uncorrected and unsupported by science, that many states of disease are depeudent on the blood. These results, high though they may be, have been exceeded, in direct practical consequence to the world at large, by those achieved with the *Micro-spectroscope*, q. v. An eminent London optician, Mr. Lorby, has, in iuventing and using it, supplied *Medical jurisprudence* with a new and certain means of ideutifying the character and variety of dried blood-stains. By it a scrap of blood-stained fabric 1-10th of an inch square, containing, possibly, not more than 1-1000th of a grain of red corpuscle coloring-matter, may be ascertained to have received the blood from oue or auother sourcc. — But the at present crowning result of these observations is, that the cruorine itself is a surer test for a far smaller quantity of substance by itself than either the spectroscope or micro-spectroscope can take account of, except by means of it. — If a weak solution of *B.* be iuverted in a test-tube over mercury, it reduces itself to the state of oxidation of venous cruorinc, and a small prism will then show the one-line spectrum, characteristic of purple cruorine: but if a single drop of distilled water be added, the oxygen in solution (not in combination) in that drop will restore the cruorine to its scarlet state. This change of state iu the oxidized substance, the *cruorine*, will be at once shown in the spectroscope; but the amouut of oxygen by itself which the cruorine thus appropriates, and by which it changes its state, would never be revealed *by itself*, or in any other way known to us, even by the *spectroscope*, q. v. — Other globules, spherical aud colorless, exist in the blood, resembling greatly those observed in the chyle; from being miugled with the red globules they are not readily observed. — In the white blood of the invertebrate kingdom, globules are also found, but different from those described; the size varies more in the same individual, and their surface has a raspberry appearance; their form is generally spherical, but neither a central nucleus nor external envelope is to be seen. — *Composition of the B.* The composition of the *B.* is very complex. In the higher animals we find water, albumen, fibrin, a coloring-matter containing iron, a yellow coloring-matter; several fatty substances, as cholesterine, cerebriue (a substance containing phosphorus); many salts, as chloride of sodium or sea-salt, sulphate of potash, carbonate of soda, hydrochlorate of potash, hydrochlorate of ammonia, the carbonates of lime and magnesia, with phosphates of soda, lime, and magnesia; the lactates of soda, the alkaline salts formed by the fatty acids; finally, free carbonic acid, nitrogen, and oxygen. But this complexity, great though it be, is yet below the reality, for there certainly exist other substances in the *B.* which chemistry cannot demonstrate, by reason, probably, of our imperfect means of analysis. By arresting, for example, the secretion of the urine from the *B.*, various matters will theu be fouud mixed with the blood which could not be previously detected, but which are presumed to have been present uuder the same, or other unknown, forms. — The substauces enumerated as entering into the composition of the *B.*, compose nearly all the parts of the animal ecouomy: the albumen forms the basis of many tissues, the fibrin is the constituent part of the muscles, and the salts enter into the composition of the bones and of many huuors; and from the whole of the facts known, it may be safely concluded, that the materials destined to become flesh, bile, urine, &c., already exist in the blood, the orgaus which are to appropriate them merely drawing them from the *B.*, but not forming them; and thus there exists some reason for calling the *B. liquid flesh.* — The proportions in which these constituent parts of the *B.* exist, vary much in different animals; and as regards the solid and liquid elements, they may differ in the samo individual at different times. — In man the globules are more numerous, and the watery part less than in woman; temperament also exercises some influence in this respect. In 100 parts of the *B.* in man, we find 79 parts of water, 19 of albumen, 1 part of salts, with some traces only of fibrin and coloring-matter. Iu birds, the proportion of water in the *B.* is less; but in the batrachia and in fishes the amount is greater. In the frog, for example, there are 88 parts of water in 100 of the *B.* — Analogous differences are observed, in compariug the relative qualities of the serum and globules of the blood in different animals; while — as we shall subsequently see — there exists a remarkable relation between the amount of the globules and the animal heat. Birds, of all animals, have the *B.* richest in red globules; and in them the animal heat is greatest. Mammals, less warm than birds, have from 7 to 12 per cent., while in reptiles and fishes, the proportion does not exceed 5 or 6 per cent. of the whole weight of the *B.* — Sp. grav. of *B.* corpuscles, 1·0885; of serum or *liquor sanguinis*, 1·028. — *Temperature of the B.* of various animals, accordiug to the researches of Rudolphi and Tiedemann:

	Deg. Fahr.		*Deg. Fahr.*
Great Titmouse	111·25	Squirrel	105
Swallow	111·25	Ox	104
Ducks & Geese,	106 to 111	Ape	103
Common Hen	102 to 109	Dog	101
Eagles, Hawks, &c.	104 to 109	Cat	98 to 103
Pigeon	106 to 109	Elephant	99
Gull	100	Horse	98·24
Bat	106	Man	98

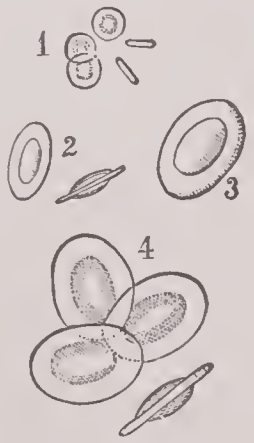


Fig. 374.
GLOBULES OF THE BLOOD.
1. Human blood.
2. Domestic fowl.
3. Frog.
4. A fish of the shark kind.
(Magnified nearly 400 times.)

Coagulation of the B. In its ordinary condition the *B.* is always fluid; withdrawn from the vessels of the living animal, and left for a time to itself, it separates into two portions, a semi-solid mass and a liquid portion in which the mass floats; the solid part is called the *clot.* — This phenomenon (the formation of the clot) is due to the presence of fibrin in the *B.*; it is held in solution in the serum during life; but when this loses its influence over it, it solidifies, euclosing with it the red globules, and thus forming the red gelatinous mass called the clot. The simple experiment of beating up the *B.* with little rods as it flows from the veins, and thus removing the fibrin, which adheres to the rods, proves that the coagulability of the *B.* depends on the presence of this substance. — Another experiment equally simple shows that the fibrin is contained in the serum, and not in the red globules, as was long supposed. Throw in a filter the *B.* of a frog; all the serum may be made to pass, and the globules retained; in the serum thus separated from the globules, a clot is formed, which, however, is colorless. — *Use of the B.* The *B.* is the special agent of nutrition, and the general restorer of what is lost. But in addition, it is proved, by the simple experiments of blood-letting and of transfusion, to form au essential stimulus for the performance of the functions of life. By severe blood-letting or loss of *B.*, we become enfeebled and seemingly dead; but if, before this happens, the *B.* of another animal be transferred into the veins of the suffering individual, the vitality is restored. The importance of the globules is also proved by the same experiment, for if simple serum be so transfused, death takes place. — The fibrin of the *B.* also plays an important part, for Mr. Magendie has shown, that when *B.* deprived of its fibrin is injected into the veins of a dog, the animal dies with symptoms resembling those of putrid fever. — The influence of the *B.* over nutrition may also be readily demonstrated. Withdraw the *B.* more or less from any organ, and it gradually wastes away in proportion to the quantity withdrawn; while on the contrary, the greater size of the muscles in those who employ them actively, and hence draw to them a larger amount of *B.*, is well known. — To those already enumerated important functions and uses of the blood, some physiologists — chiefly since the discoveries which we owe to the Spectrum Analysis — go so far as to assert that "the life is the blood;" *i. e.*, that the entire principle of life exists in the blood. It is not within our domain, however, to discuss this problem, which properly belongs to the province of physiological speculation. That animal life is impossible without the action of the blood, is a fact generally known, and as such, accepted; but to try to find in the animated corpuscle the germ that originates intellectual life is a theory that materialists may put forth, but whose actual solution remains yet to be given and demonstrated. — See ARTERIALIZATION; ARTERY; CIRCULATION; HEART; RESPIRATION; TRANSFUSION; VEIN, &c.

(*Med.*) See BLEEDING; HEMORRHAGE; HÆMATEMESIS; HÆMOPTYSIS; APOPLEXY; &c.

(*Manuf.*) The chief use of blood is as a manure made into a compost of 50 gallons of blood with a quarter of peat-ashes and charcoal-powder; on light soils, 48 bushels have been laid on each acre, or half a hundredweight

with twelve tons of farm-dung. It is now rarely used in sugar-refining. It is used to make animal charcoal in Prussian-blue works, and also in some Turkey-red dye-works.

(*Law.*) Relationship; stock; family. — Brothers and sisters are said to be of the *whole-blood* if they have the same father and mother, and of the *half-blood* if they have only one parent in common.

(*Eccl. Hist.*) Under the Old Testament dispensation, the life of all animals was regarded as especially existing in the blood, which was a sacred and essential part of the sacrifices offered to God. It was solemnly sprinkled upon the altar and the mercy-seat, "for it is the blood that maketh atonement for the soul." It was therefore most sacredly associated with the *B.* of the Lamb of God, which "cleanseth us from all sin." Hence, the strict prohibition of the Israelites to eat *B.*, or any meat in which *B.* remained, — a prohibition renewed in *Acts* xv. 29. The Christian Church continued for some centuries to abstain from *B.*; and when it was alleged against them that they were in the way of drinking human *B.*, they replied that it was not lawful for them to drink even the *B.* of animals. After the 4th century, however, the injunction came to be considered as merely of a temporary character, and ceased to be binding.

Blood, *v. a.* To bleed; to let blood from. — To stain or smear with blood.

"He was *blooded* up to the elbows by a couple of Moors." *Addison.*

—To inure or accustom to blood, as a hound.

"Fairer than fairest, let none ever say,
That ye were *blooded* in a yielded prey."—*Spenser.*

—*v. i.* To bleed; to be bled.

—*a.* Pertaining to blood; of the color of blood; of a superior or particular blood; as, a *blood*-horse.

Blood, (Avenger of,) (*ă-venj'er.*) (*Hist.*) In the early ages, the penalty of death for the crime of murder was not inflicted by any legal tribunal or public authority, but it was considered the duty of the most immediate relative of the victim to hunt and slay the murderer. The Hebrew word *Goël* signified the avenger of blood; it had also a wider signification. The Mosaic law placed this recognized institution of the rude social condition of the times under certain regulations, prohibited the murderer from purchasing by money a ransom for his life, and appointed cities of refuge for the man-slayer not guilty of positive murder. The doctrines of the Koran permit the avenging of blood by the nearest kinsman, but allow him to receive money as a commutation for the murder. The Arabs follow the primitive custom to this day. Hereditary feuds of clans, families, and tribes have always originated in the avenging of blood, of which the *Vendetta* of Corsica is the most modern and familiar example in Europe.

Blood-bap'tism, *n.* (*Eccl. Hist.*) In the early Christian Church, when any one suffered martyrdom without having been baptized, he was considered to have been blood-baptized; and hence martyrdom was termed *blood-baptism.* — See Baptism.

Blood'-bespotted, *a.* Spotted with blood.

Blood'-bought, *a.* Bought at the cost of life, or the shedding of blood.

Blood'-brother, *n.* See Blood, (*Law.*)

Blood, (Corruption of.) (*Law.*) See Attainder.

Blood, (Coun'cil of.) (*Hist.*) This name was popularly given to the *Council of Tumults*, organized by the Duke of Alva in 1567, to try criminals against the Spanish throne and the Roman Catholic religion in the Netherlands. By its order, 500 citizens were arrested on Ash-Wednesday, 1568, and condemned to death. It also had Counts Egmont and Horn executed, June 2, 1568.

Blood'-dyed, *a.* Dyed or stained with blood.

Blood'-flower, *n.* (*Bot.*) See Hæmanthus.

Blood'-frozen, *a.* Chilled in blood.

Blood'-full, *a.* Full of blood or spirit. (O. and R.)

Blood'-guiltiness, *n.* The guilt of murder.

"Then with *blood-guiltiness* to heap offence." — *Shaks.*

Blood-guilty, (*blud'gil-te,*) *a.* Guilty of shedding blood.

Blood'-heat, *n.* A degree of heat equal to that of human blood, which is about 98° Fahr.

Blood'-horse, *n.* A horse of the purest breed, or best stock.

Blood'-hot, *a.* Having the same temperature as human blood.

Blood'-hound, *n.* (*Zoöl.*) A variety of dog, *Canis sanguinarius*, celebrated for its exquisite scent and unwearied perseverance, and trained not only to the pursuit of game, but to the chase of man. A true *B.* (and the pure blood is rare) stands about 28 inches in height, and is muscular, compact, and strong; the forehead is broad, and the face narrow towards the muzzle; the nostrils are wide and well developed; the ears, large, pendulous, and broad at the base; the aspect is serene and sagacious; the tail long, with an upward curve when in pursuit, at which time the hound opens with a voice deep and sonorous, that may be heard down the wind for a very long distance. The color of the true breed is said to be invariably a reddish tan, darkening gradually towards the upper parts till it becomes mixed with black on the back, the lower parts being of a lighter shade, and the muzzle tawny. Our ancestors soon discovered the infallibility of the bloodhound in tracing any animal, living or dead, to its resting-place. To train it, the young dog, accompanied by a staunch old hound, was led to the spot whence a deer or other animal had been taken on for a mile or two; the hounds were then led on and encouraged, and after hunting this "drag" successfully, were rewarded with a portion of the venison which composed it. The next step was to take the young dog with his seasoned tutor, to a spot whence a man whose shoes had been rubbed with the blood of a deer had started on a circuit of two or three miles; during his progress the man was instructed to renew the blood from time to time to keep the scent well alive. His circuit was gradually enlarged at each succeeding lesson, and the young hound, thus entered and trained, became, at last, fully equal to hunt by itself, either for the purposes of woodcraft or war.

"And hark! and hark! the deep-mouthed bark
Comes nigher still and nigher;
Bursts on the path a dark *blood-hound*,
His tawny muzzle tracked the ground,
And his red eye shot fire." — *Sir Walter Scott.*

The *B.* was formerly employed in the tracking of criminals, and we believe, it is to a certain extent used, even at

Fig. 375. — Cuban blood-hound.

the present time, in Australia, for the pursuit of sheep-stealers and bushrangers. In Cuba, and the Southern States of America, the practice of chasing runaway negroes with hounds of this species was almost invariably adopted, and generally with success. The Cuban *B.* has been described as being of the size of the largest hound, with erect ears, which are usually cropped at the points, with the nose rather pointed, but widening much towards the hinder part of the jaw.

Blood'ily, *adv.* In a bloody manner; cruelly.

Blood'iness, *n.* State of being bloody. — Disposition or propensity to shed blood.

Blood'less, *a.* Without blood; destitute of life.

"He cheered my sorrows, and, for sums of gold,
The *bloodless* carcass of my Hector sold." — *Dryden.*

—Without slaughter or effusion of blood; as, a *bloodless* encounter.

—Without spirit, activity, or energy.

"Thou *bloodless* remnant of that royal blood." — *Shaks.*

Blood'lessly, *adv.* Without bloodshed.

Blood'let, *v. a.* To bleed; to open a vein; as, "experiments in *bloodletting*." — *Arbuthnot.*

Blood'letter, *n.* A phlebotomist; one whose vocation is to let blood in cases of disease.

Blood'letting, *n.* (*Med.*) Venesection; the act of bleeding.

Blood'-marked, *a.* Marked or stained with blood.

Blood of St. Janua'rius, *n.* (*Eccl. Hist.*) See Januarius, (St.)

Blood'-pudding, *n.* Same as Black-pudding, *q. v.*

Blood'rain, *n.* A vegetable growth, which sometimes appears in the form of blood-red spots on cooked provisions, and which is referred to the *algals*, under the name of *Palmella prodigiosa*; but which seems rather to be one of those conditions of mould, which, under various colors, are common on paste and other culinary articles. The spots consist of myriads of extremely minute granules.

Blood'-red, *a.* Red as blood. — *Blood-red heat* is the term applied to that degree of heat which is only necessary to reduce the protuberances on coarse iron by the hammer, in order to prepare it for the file, the iron being previously brought to its shape. This heat is also used in punching small pieces of iron.

Blood'-relation, *n.* One related by blood or descent.

Blood'root, *n.* (*Bot.*) See Sanguinaria.

Blood'-shaken, *a.* Having the blood in feverish circulation.

Blood'shed, *n.* The shedding or spilling of blood; slaughter.

"Abhorred *bloodshed*, and tumultuous strife." — *Spenser.*

Blood'-shedder, *n.* A murderer; one who sheds blood.

Blood'-shedding, *n.* The shedding of blood; the crime of shedding blood.

"These hands are free from guiltless *blood-shedding*." — *Shaks.*

Blood'-shot, Blood-shotten, *a.* Red and inflamed by a turgid state of the blood-vessels.

"When redd'ning clouds reflect his *blood-shot* eye." — *Garth.*

Blood'-spavin, *n.* (*Farriery.*) An enlargement of that vein that extends along the inside of a horse's hock.

Blood'-spilling, *n.* The act of spilling or shedding blood.

Blood'-stained, *a.* Guilty of taking human blood; stained with blood

Blood'stone, *n.* (*Min.*) A jaspery variety of quartz, of a dark-green color, variegated with red spots, like drops of blood, (whence the name.) It is frequently made into seal and ring stones, and other small ornamental articles. — Certain kinds of hematitic iron ore were called *B.* by the ancients, because (as Theophrastus says) they seemed "as if formed out of concreted blood." At the present day the term is more especially restricted to the hard and compact hematite, which is made into burnishers, and which possesses the valuable property of laying on gold or silver leaf without fraying or tearing it; it should be of a deep red color, free from flaws, close-grained, and susceptible of a fine polish. Galicia, in Spain, is the country from which the finer descriptions of this variety of hematite are almost exclusively obtained.

Blood'-stroke, *n.* Loss of sensation and power of motion from hemorrhage of the brain.

Blood'-sucker, *n.* Anything that sucks blood; more especially applied to a leech.

—A cruel man; a murderer.

"The nobility cried out upon him, that he was a *blood-sucker*, a murderer, and a parricide." — *Hayward.*

Blood'-sucking, *a.* That which sucks blood.

Blood'-swelled, *a.* Swollen with blood.

Blood'thirstiness, *n.* A thirst for shedding blood, a sanguinary, murderous disposition.

Blood'thirsty, *a.* Eager to shed blood.

Blood'-vessel, *n.* An artery, vein, or any other vessel in which the blood of the animal body circulates.

Blood'-warm, *a.* Lukewarm; of the temperature of blood.

Blood'-won, *a.* Won by bloodshed.

Blood'wood, *n.* (*Bot.*) See Logwood.

Blood'wort, *n.* (*Bot.*) Same as Bloodroot. See Sanguinaria.

Blood'y, *a.* Stained with blood; containing, or consisting of, blood. — Cruel; murderous; given to bloodshed; having a sanguinary disposition.

"False of heart, light of ear, *bloody* of hand." — *Shaks.*

—Marked by cruelty; attended with slaughter; as, a *bloody* engagement.

—*v. a.* To stain or smear with blood.

Blood'y Assizes, *n. pl.* (*Hist.*) The term popularly given, in England, to the special commission appointed, after the suppression of the Duke of Monmouth's rebellion, 24th August, 1685, for the trial of offenders concerned therein. They set out for the W. of England under a military escort, commanded by the infamous Judge Jeffreys, (with the rank of lieut.-general,) and condemned about 300 persons to death, almost without trial. Nearly 1,000 were shipped as slaves to the West India plantations. James II. termed this expedition. *Jeffreys' campaign*, and rewarded him with the Lord-Chancellorship of England.

Bloody Bridge, in *S. Carolina*, 3 m. N.W. of Legaréville. Here, in the early part of July, 1864, a severe action took place between a body of Union colored troops, 600 strong, and the defenders of a Confederate battery, when the former were repulsed with the loss of their commander and 97 men killed and wounded.

Blood'y-eyed, *a.* Possessing bloody or murderous eyes.

Blood'y-faced, *a.* Having a bloody face.

Blood'y Far'land, a headland of Ireland, on the N. W. coast of co. Donegal, 5 m. W.S.W. of the Isle of Innisboffin.

Blood'y-flux, *n.* (*Med.*) The dysentery.

"Pains in the bowels looseness, *bloody fluxes*." — *Arbuthnot.*

Blood'y-fluxed, *a.* Suffering from the bloody-flux.

Blood'y-hand, *n.* (*Her.*) The distinguishing feature on the escutcheon of a baronet of Great Britain, presenting an open hand *gules*; hence its common appellation of *bloody-hand.*

Blood'y-hunting, *a.* Hunting for blood; as, "*bloody-hunting* slaughtermen." — *Shaks.*

Blood'y-minded, *a* Cruel; inclined to bloodshed; of sanguinary disposition.

"I have not the power to bring it out, for fear of this *bloody-minded* colonel." — *Dryden.*

Blood'y-red, *a.* Crimson-colored; of the color of blood.

Blood'y Run, in *Pennsylvania*, a post-village of Bedford co., on a branch of the Juniata River, 8 m. E. of Bedford.

Blood'y-seep'tred, *a.* Wielding a sceptre gained by blood.

Blood'y-sweat, *n.* (*Med.*) A sweat attended by a discharge of blood; the sweating sickness.

Bloom, *n.* [Goth. *bloma*; Ger. *blume*, from *blühen*, to flower; Gr. *phloös*; Lat. *flos*; Sansk. *phull*, to flower, to bloom.] State of blooming, blossoming, or opening of flowers and leaves; as, the trees are covered with *bloom.*

"But not to me returns
Day; . . . or sight of vernal *bloom*." — *Milton.*

—A blossom; an expanded bud; a flower.

"The turf with rural dainties shall be crown'd,
While opening *blooms* diffuse their sweets around." — *Pope.*

—State of youth or prime of life; a shining or glowing with freshness, youth, growth, and color; as, in the *bloom* of life.

"Were I no queen, did you my beauty weigh,
My youth in *bloom*, your age in its decay." — *Dryden.*

—Native flush or tint on the cheek: delicacy of color.

"O'er her young cheek and rising bosom, move
The *bloom* of young desire and purple light of love." — *Gray.*

—The purplish-blue color seen on certain freshly gathered fruits; as, the *bloom* of grapes.

(*Metal.*) [A.S. *blôma.*] The lump of wrought iron in puddling-mills, which leaves the furnace in a rough state, to be subsequently rolled into the bars or other material into which it may be desired to convert the metal: the blooms are already partially converted into wrought iron by passing under the shingling-hammer.

(*Painting.*) A term denoting that appearance on pictures which resembles the bloom upon a peach or other fruit; whence the name. It is probably ascribable to moisture in the varnish used in the painting, and may be expunged by hot camphine being wiped over the surface of the picture, afterwards placing it in the sunlight to dry.

Bloom, *v. i.* To shine; to glow; to show the beauty and freshness of youth.

"Beauty, frail flow'r, that every season fears,
Blooms in thy colors for a thousand years!" *Pope.*

—To put forth blossoms; to come into flower; to blow.

"It is a common experience, that if you do not pull off some blossoms the first time a tree *bloometh*, it will blossom itself to death." — *Bacon.*

Bloom, in *Illinois*, a post-village and township of Cook co., 27 m. S. of Chicago.

Bloom, in *Pennsylvania*, a township of Columbia county. Within its limits is Bloomsburg, the county-seat.

—A township of Clearfield co.

Bloom, in *Ohio*, a flourishing township of Fairfield county.

—A township of Morgan co.

—A township of Scioto co.

—A township of Seneca co.

—A post-township of Wood county, 20 m. W. of Maumee City.

Bloom, in *Wisconsin*, a township of Richland county.

Bloom'ary, *n.* (*Metal.*) See BLOMARY.

Bloom Centre, in *Ohio*, a post-office of Logan co.

Bloom'er, *n.* A costume advocated more or less openly by many ladies. Its name is derived from a Mrs. Anne Bloomer, of New York, who had been an active promoter of the "Woman's Rights Movement," and who, in 1849, inaugurated this particular style of dress. It partly resembles men's attire, consisting generally of a jacket with short sleeves, a skirt descending a little below the knee, and a pair of Turkish trousers; also a large, low hat, intended to be worn with this costume.

—A woman who wears the Bloomer costume.

Bloom'er, in *Arkansas*, a post-office of Sebastian co.

Bloomer, in *Michigan*, a township of Montcalm co., 40 m. N.N.W. of Lansing.

Bloom'erism, *n.* Advocacy or adoption of the Bloomer costume, and "Strong-Minded-Womanism" generally.

Bloom'er's Prairie, in *Wisconsin*, a township of Chippewa co., 60 m. E. by N. of Hudson.

Bloom'ery, in *W. Virginia*, a P. O. of Hampshire co.

Bloom'field, ROBERT, an English poet, B. 1766, was the son of a poor tailor at Honington, Suffolk, and was himself a shoemaker. His principal work is a poem, entitled *The Farmer's Boy*, which pleasantly depicts the scenes of his own early life, and displays considerable genius. He wrote several other effusions, but his first was the best. "The Farmer's Boy" obtained very great popularity, and was translated into French and Italian. Although patronized by Capel Lofft and the Duke of Grafton, the latter years of the modest poet were embittered by want, ill-health, and consequent dejection. D. 1823.

Bloom'field, in *California*, a township of Nevada co., about 11 m. N.E. of Nevada City.

—A post-village of Sonoma county, 16 m. of Santa Rosa.

Bloomfield, in *Connecticut*, a post-township of Hartford co., 7 m. N.W. of Hartford.

Bloomfield, in *Illinois*, a village of Adams co., 6 m. E. of the Mississippi river.

—A post-village of Johnson co.

—A village of McDonough co., abt. 4 m. S.E. of Macomb.

Bloomfield, in *Indiana*, a village of Jay co., 7 m. N. of Portland.

—A township of La Grange county, 20 m. N. by E. of Albion.

—A prosperous post-village, cap. of Greene co., 80 m. S.W. of Indianapolis, on a fork of White River.

—A village of Spencer co., 30 m. E. by N of Evansville.

Bloomfield, in *Iowa*, a thriving city, cap. of Davis co., on C., B. & Q. and Wabash R.Rs., 85 m. W. by S. of Burlington. Seat of Southern Iowa Normal School, and has a large general trade. *Pop.* (1898) 2,250.

—A township of Clinton co.

—A township of Polk co.

—A township of Winneshiek co.

Bloomfield, in *Kentucky*, a thriving post-village of Nelson co., 39 m. S.W. of Frankfort.

Bloomfield, in *Maine*, a flourishing post-village and township of Somerset co., on the Kennebec River, opposite Skowhegan, 35 m. N. by E. of Augusta. The township merged in that of Skowhegan in 1861.

Bloomfield, in *Michigan*, a village and township of Oakland co., 5 m. S.E. of Pontiac.

Bloomfield, in *Minnesota*, a township of Fillmore co.; *pop.* 888.

Bloomfield, in *Missouri*, a post-village and cap. of Stoddard co., on Lick Creek, 280 m. S.E. of Jefferson City.

Bloomfield, in *New Jersey*, a post-village and township of Essex co., 3½ m. N.W. of Newark, and 54 N.E. of Trenton.

Bloomfield, in *Ohio*, a township of Jackson co.

—A village of Jefferson co., 12 m. W. by S. of Steubenville.

—A township of Logan co.

—A post-twp. of Morrow co., 31 m. N.N.E. of Columbus; called *South B.*, in opposition to *North B.* (q.v.).

—A village of Pickaway co.

—A village of Scioto co., 18 m. from Portsmouth, and abt. 100 m. S. of Columbus.

—A township of Trumbull co.

—A village of Muskingum co.

Bloomfield, in *Pennsylvania*, a post-village and township of Crawford co., 20 m. N.E. of Meadville.

—Or NEW BLOOMFIELD, a borough of Centre township, and cap. of Perry co., 24 m. N.W. of Harrisburg. *Pop.* (1898) 750.

Bloomfield, in *Virginia*, a post-village of Loudoun co., 158 m. N. of Richmond.

Bloomfield, in *Wisconsin*, a post-village and township of Walworth county, 45 miles S.S.W. of the city of Milwaukee.

—A township of Waushara co.

Bloomfield, in *Vermont*, a post-township of Essex co., on the Connecticut River, 60 m. N.E. of the city of Montpelier.

Bloomfield, in *Upper Canada*, a post-village of Prince Edward co., on Great Sandy Bay, 42 m. N.W. of Kingston.

—A post-village of Durham county, 100 m. W. of Kingston.

Bloomfield Centre, in *Michigan*, a village of Bloomfield township, Oakland co., 20 m. N.N.W. of Detroit.

Bloom'ing, *a.* Opening in blossoms; flowering; flourishing; as, "as *blooming* as a rose." — Showing the freshness and beauty of youth; thriving in early vigor; as, "his *blooming* face." — *Shenstone.*

Bloom'ing, *n.* (*Metal.*) See SHINGLING.

(*Painting.*) Same as BLOOM, *q. v.*

Bloom'ingburgh, in *New York*, a post-village of Sullivan co., 100 m. S.S.W. of Albany.

Bloom'ingburgh, in *Ohio*, a post-village of Fayette co., on the E. branch of Point Creek, 32 m. S.W. of Columbus.

Bloom'ingdale, in *Illinois*, a village of Logan co., 35 m. S.S.E. of Peoria.

—A post-township of Du Page co., 25 m. W. by N. of Chicago.

Bloom'ingdale, in *Indiana*, a P. O. of Parke co.

Bloom'ingdale, in *Michigan*, a post-township of Van Buren co., 45 m. S. by W. of Grand Rapids.

Bloom'ingdale, in *New Jersey*, a post-village of Passaic co., on Pequannock Creek, 25 m. N.W. of Newark.

Bloom'ingdale, in *New York*, a P. O. of Essex co.

Bloom'ingdale, in *Ohio*, a post-office of Jefferson co., 124 m. E. of Columbus.

Bloom'ingdale, in *Wisconsin*, a village of Winnebago co.

—A post-village of Vernon co., 27 m. E.S.E. of La Crosse.

Bloom'ing Grove, in *Indiana*, a post-village and township of Franklin county, 5 m. N. of Brookville.

Bloom'ing Grove, in *Kansas*, a post-office of Linn co., on the Osage River, 66 m. S.S.E. of Lawrence.

Bloom'ing Grove, in *Illinois*, a village of Bloomingdale township, Du Page co.

Bloom'ing Grove, in *Michigan*, a village of Berrien co., on the shore of Lake Michigan, 5 m. S. by W. of St. Joseph.

Bloom'ing Grove, in *Minnesota*, a post-township of Waseca co.

Bloom'ing Grove, in *New York*, a post-township of Orange co.

Bloom'ing Grove, in *Ohio*, a township and village of Richland co.

Bloom'ing Grove, in *Wisconsin*, a post-township of Dane co.

Bloom'ingly, *adv.* In a blooming manner.

Bloom'ingness, *n.* State or condition of being blooming.

Bloom'ingport, in *Indiana*, a post-village of Randolph co., 12 m. S. of Winchester.

Bloom'ingsburg, in *Indiana*, a post-village of Fulton co., 35 m. N.N.E. of Logansport.

Bloom'ington, in *Arkansas*, a P. O. of Benton co.

Bloom'ington, in *Illinois*, a city and cap. of McLean co., 60 m. N.N.E. of Springfield, and 126 S.S.W. of Chicago. *B.* has large manufacturing interests and numerous nurseries, and is the seat of the Illinois Wesleyan University and of a Roman Catholic college. The State Normal University and the Soldiers' Orphans' Home are at Normal, 2 m. distant. *Pop.* in 1890, 20,484; in 1897, abt. 26,400.

Bloom'ington, in *Indiana*, a city, cap. of Monroe co., 51 m. S. W. of Indianapolis. The State University is located here. It has large tanneries, hard-wood manufactories, &c. *Pop.* in 1890, 4,018; in 1897, abt. 6,500.

Bloom'ington, in *Iowa*, a township of Decatur co.

—A township of Muscatine co.—A post-office of Polk co.

Bloom'ington, in *Kansas*, a village of Douglas co., on Rock Creek, 9 m. S.W. of Lawrence.

Bloom'ington, in *Kentucky*, a P. O. of Magoffin co.

Bloom'ington, in *Minnesota*, a post-village and township of Hennepin co., on the Minnesota River, 16 m. S. S. W. of Minneapolis.

Bloom'ington, in *Maryland*, a P. O. of Garrett co.

Bloom'ington, in *Missouri*, a prosperous village and township of Buchanan co., 12 m. from St. Joseph.

—A post-village, former cap. of Macon co., 100 m. N. by W. of Jefferson City.

Bloom'ington, in *Ohio*, a post-village of Clinton co., 33 m. E.S.E. of Dayton.

Bloom'ington, in *Oregon*, a village of Polk co., on the Luckamute river, 14 m. S.E of Dallas.

Bloom'ington, in *Pennsylvania*, a village of Clearfield co.

Bloom'ington, in *Tennessee*, a post-vill. of Putnam co.

Bloom'ington, in *Utah*, a village of Rich co.

Bloom'ington, in *Wisconsin*, a township and village of Grant co.

Bloom'ing Valley, in *Pennsylvania*, a post-village of Crawford co., 6 m. N. E. of Meadville.

Bloom'ingville, in *Ohio*, a post-village of Erie co., 6 m. S. of Sandusky city.

Bloom'less, *a.* Destitute of bloom.

Bloom Rose, in *Ohio*, a village of Brown co.

Blooms'burg, in *Pennsylvania*, a flourishing post-borough of Bloom township, cap. of Columbia co., on Fishing Creek, 78 m. N.N.E. of Harrisburg. It is a fine and pleasant city, and possesses an extensive and increasing trade. *Pop.* in 1890, 4,635; in 1897 (est.) 5,500.

Blooms'burg, in *Virginia*, a village of Halifax co., 116 m. W. S. W. of Norfolk.

Blooms'bury, in *New Jersey*, a post-village situate in Warren and Hunterdon counties, on the Musconetcong River, 7 m. E.S.E. of Easton, and 40 N.W. of Trenton.

Bloom'ville, in *Illinois*, a village of Will co., 50 m. S.W. of Chicago.

—A post-village of Kankakee co.

Bloom'ville, in *New York*, a post-village of Delaware co., on Delaware River, 74 m. S.W. of Albany.

Bloom'ville, in *Ohio*, a post-village of Bloom township, Seneca co., 36 m. S.W. of Sandusky city.

Bloom'y, *a.* Full of bloom or blossoms; flowery; flourishing.

"Hear how the birds on ev'ry *bloomy* spray,
With joyous music wake the dawning day." — *Pope.*

Blore Heath, (*Hist.*) a place in the parish of Blore, co. of Stafford, England, where a battle was fought during the wars of the Roses, Sep. 23, 1459, when the Yorkists, commanded by the Earl of Salisbury, defeated a superior force of the Lancastrians, led by Lord Audley. Henry VI. and Queen Margaret were in the neighborhood at the time of the encounter.

Blos'erville, in *Pennsylvania*, a post-office of Cumberland co.

Bloss'burg, in *Penn'a*, a post-vill. and twp. of Tioga co., on the Tioga River, 133 m. W. by N. of Harrisburg. *B.* is a thriving town and valuable coal and iron mines are worked in the neighborhood. Here are mineral springs, containing free sulphuric acid, and sulphates of iron, alumina, and magnesia. They are astringent and tonic.

Blos'som, *n.* [A. S. *blosma*, from the same root as BLOOM.] Bloom; state of blooming; — specifically, the flower or corolla of a plant.

"To his green years your censure you would suit,
Not blast the *blossom*, but expect the fruit." — *Dryden.*

(*Farriery.*) A term sometimes used to indicate a peach-colored horse; i. e., a horse whose hairs are intermixed of bay and white colors.

Blos'som, *v. i.* To yield or put forth blossoms or flowers; to bloom; to blow; to flower.

"Warms in the sun; refreshes in the breeze,
Glows in the stars, and *blossoms* in the trees." — *Pope.*

—To flourish; to mature; to prosper; to progress.

"Only the actions of the just
Smell sweet and *blossom* in the dust." — *Shirley.*

Blos'somed, *a.* That has, or is covered with, blossoms.

Blos'som Hill, in *Louisiana*, a post-office of Caddo parish.

Blos'som Hill, in *Virginia*, a post-office of Princess Anne co.

Blos'soming, *a.* Putting forth flowers; blowing.

Blos'somy, *a.* Full of, or replete with, blossoms; as, "The *blossomy* tree." — *Chaucer.*

Bloss'vale, in *New York*, a post-office of Oneida co.

Blot, *v. a.* [Goth. *blanthjan*, to remove; Swed. and Goth. *blotta*, to make naked or bare; Frisian, *blat*; Ger. *bloss*, bare; Dan. *plet.*] To stain, spot, or smear, as with ink.

"O sweet Portia!
Here are a few of the unpleasant st words
That ever *blotted* paper." — *Shaks.*

—To stain with opprobrium; to tarnish; to disgrace.

"My guilt thy growing virtues did defame,
My blackness *blotted* thy unblemish'd name." — *Dryden.*

—To obliterate; to expunge; as, to *blot* out a sentence.

"One line which, dying, he could wish to *blot*." — *Lyttelton.*

—To efface; to erase; to destroy. (Generally followed by *out.*)

"One act like this *blots out* a thousand crimes." — *Dryden.*

—*n.* A spot, stain, or blur upon paper; as, a *blot* of ink.

—An obliteration of printed or written matter.

"Let flames on your unlucky papers prey,. . . .
And make of all an universal *blot*." — *Dryden.*

—A blemish in reputation; a stigma, disgrace, reproach.

"Make known
It is no vicious *blot*, murder, or foulness,
That hath deprived me." — *Shaks.*

(*Games.*) In backgammon, when a single man is left on a point, and is liable to be taken up.

Bloteh, (*bloch,*) *n.* [Probably from the root of BLOAT, *q. v.*] A pustule upon the skin; a tumor; a spot; an eruption.

"Spots and *blotches*, . . . straggling over the body." — *Harvey.*

Blotched, (*blocht,*) *a.* Marked with blotches.

(*Bot.*) Color distributed in blotches or patches.

Blotch'y, *a.* Possessing blotches; spotted.

Blote, *v. a.* To smoke-dry; to cure with smoke; as a herring. — See BLOATER.

Blot'ter, *n.* One who, or that which, blots or effaces.

(*Com.*) A waste-book employed in commercial business, in which are entered all transactions in consecutive order.

Blot'tingly, *adv.* With blotting.

Blot'ting-paper, *n.* Unsized paper, serving to imbibe ink, and thus prevent blots. Though no account of its first use is known to exist, it was probably introduced soon after the invention of paper. Fuller (about 1655) says: "Paper participates in some sort of the characters of the countrymen which make it: the Venetian being neat, subtile, and court-like; the French, light, slight, and slender; the Dutch, thick, corpulent, and gross; not to say sometimes also *charta bibula*, sucking up the ink with the sponginess thereof."

Blount, (*blunt,*) CHARLES, LORD MOUNTJOY and EARL OF DEVONSHIRE, second son of James, Lord Mountjoy, b. 1563. His person and accomplishments attracted the notice of Queen Elizabeth, who conferred on him the honor of knighthood; and some of our readers will remember the manner in which he is introduced among the courtiers of that queen in Sir Walter Scott's *Kenilworth*. In 1594 he was made Governor of Portsmouth, and succeeded his brother in the peerage, assembling some troops, with which he served in the Netherlands and in Brittany; but the Queen was displeased at his absence, and ordered him to return to court. She made him Knight of the Garter in 1597, and gave him a military appointment in Ireland, where he suppressed a rebellion. In 1603 he returned to England, bringing with him Tyrone, the rebel chieftain. Subsequently James I. created him Earl of Devonshire, and made him Master of the Ordnance. Towards the close of his life he fell into disgrace by marrying the divorced Lady Rich, sister of the unfortunate Essex. D. 1606.

Blount, Sir HENRY, an English traveller through Turkey, Syria, and Egypt; author of a *Voyage to the Levant*. B. 1602; D. 1682.

Blount, in *Alabama*, a northern county. *Area*, 955 sq. m. Watered by the Locust and Mulberry forks of Black Warrior River. It is well timbered, affords excellent pasture, and has a partly hilly surface. *Cap.* Oneonto. *Pop.* (1890) 21,930.

Blount, in *Tennessee*, an E.S.E. county, bordering on N. Carolina. *Area*, about 450 sq. m. The Holston River forms its N.W. boundary, while on the W. it is skirted by the Tennessee, and intersected and drained by Little River and other streams. *Surface*, mountainous, and soil very fertile; limestone, iron ore, and marble are found. *Cap.* Marysville.

Blount's Creek, in *North Carolina*, a post-office of Beaufort co.

Blount's Ferry, in *Florida*, a P. O. of Columbia co.

Blount's Springs, in *Alabama*, a much resorted-to spa of Blount co., on the Mulberry fork of Black Warrior River, 80 m. N.E. of Tuscaloosa. There are chalybeate and sulphurous springs here.

Blounts'town, in *Florida*, a post-village, cap. of Calhoun co.

Blounts'ville, in *Alabama*, the former cap. of Blount co., on the Locust Fork of Black Warrior river.

Blounts'ville, in *Georgia*, a village of Jones co., 16 m. W. of Milledgeville.

Blounts'ville, in *Indiana*, a village of Delaware co., 24 m. N.W. of Centreville.

—A post-village of Henry co., 13 m. N.E. of Newcastle.

Blounts'ville, in *Tennessee*, a township and post-village, cap. of Sullivan co., near the Holston River, and about 100 m. N.E. of Knoxville.

Blouse, (*blowse,*) *n.* [Fr.] A light, loose garment, like a long frock, worn as an over-covering by the French peasantry and workmen. In other countries it is principally in use among waggoners, draymen, and farm-laborers. The garment called in England a *smock-frock* strongly resembles it. It is worn in France of different colors, but in other countries blue appears to be the prevailing hue. A variety of the *B.* of a light material, as linen, &c., is also much worn by tourists, pedestrians, artists, &c.

Blow, (*blo,*) *n.* [O. Ger. *bliuwan*, to strike; *blâw*, livid; Goth. *bliggvan*, to strike, from the blue or livid color produced on the skin by a stroke.] A stroke; a hit; a knock; stroke of death, or one that kills.

"And every hand that dealt the *blow*,
Ah me! it was a brother's!" — *Campbell*

—A sudden calamity; an unexpected evil.

"We bear it calmly, though a ponderous woe,
And still adore the hand that gives the *blow*." — *Pomfret.*

—The act of a fly when lodging eggs in flesh; also, the egg itself.

"I much fear, lest with the *blows* of flies
His brass-inflicted wounds are fill'd." — *Chapman.*

(*Naut.*) A sudden and violent gale of wind; as, it came on a heavy *blow* after clearing the land.

A blow-out. A vulgarism to denote a jollification, or good entertainment; as, we had a first-rate *blow-out*.

To come to blows. To fight; to engage in personal encounter.

At a blow. Instantaneously; at one attempt; by a single action.

"Every year they gain a victory, and a town; but if they are once defeated, they lose a province *at a blow*." — *Dryden.*

—[Ger. *blüthe*, a blossom.] A flower; a blossom. —A plot or bed of flowers.

Blow, *v. i.* [A.S. *blowan;* Ger. *blühen*. See BLOOM.] To put forth buds or flowers; to bloom; to blossom.

"Fair is the kingcup that in meadow *blows*,
Fair is the daisy that beside her grows."—*Gay.*

—To fructify, or cause to blossom.

—(*imp.* BLEW; *pp.* BLOWN.) [A.S. *blawan;* O. Ger. *blâhan*, or *blâjan*, to blow; probably allied to Lat. *flo*, and the Gr. root *aō* (with a prefix), to blow, to breathe.] To breathe; to send forth or produce wind or a current of air; to be in motion, as air; — as, the wind *blows*.

"While the battle rages long and loud,
And the stormy tempests *blow*."—*Campbell.*

—To pant or puff; to breathe hard and quick.

"Here 's Mrs. Page at the door, sweating and *blowing*, and looking wildly."—*Shaks.*

—To sound by being blown; to sound, as a horn.

"*Blow*, bugle, *blow*, set the wild echoes flying,
Blow, bugle; answer echoes, dying, dying, dying."—*Tennyson.*

To blow over. To pass away without anticipated effect; as, the storm has *blown over*. — *To blow out.* To talk irrationally or scurrilously. (Vulgar.) — *To blow up.* To raise into the air by sudden force; as, to be *blown up* by an explosion.

Blow, *v. a.* To throw or drive wind upon; as, to *blow* with a bellows.

—To drive a vessel by wind; as, a ship was *blown* ashore.

"Though bladed corn be lodg'd, and trees *blown* down."—*Shaks.*

—To sound a wind-instrument; as, to *blow* a flute.

"Where the bright seraphim, in burning row,
Their loud uplifted angel-trumpets *blow*."—*Milton.*

—To spread by report; to circulate; as, the news has been *blown*.

"So gentle of condition was he known,
That through the court his courtesy was *blown*."—*Dryden.*

—To infect with the eggs of flies; as, the meat is fly-*blown*.

—To swell up, or inflate with wind; to puff into size; to enlarge by injecting air.

"No *blown* ambition doth our arms incite."—*Shaks.*

—A vulgarism used in the U. States, in the sense of to vaunt, to boast, to brag.

—To form into shape by the breath.

"Boy, *blow* the pipe until the bubble rise."—*Parnell.*

—To warm with the breath; to infuse heat by breathing upon.

"When icicles hang by the wall,
And Dick the shepherd *blows* his nail."—*Shaks.*

To blow out. To extinguish by wind or the breath; as, *to blow out* a light. — *To blow hot and cold.* To look favorably on a thing at one moment, and view it unfavorably at another. — *To blow off.* To emit; to allow to escape; as, *to blow off* steam. — *To blow upon.* To taint or compromise by injurious reports; to bring into discredit; as, her reputation is *blown upon*.

"He will whisper an intrigue that is not yet *blown upon* by common fame."—*Addison.*

To blow up. To inflate; to puff out with pride.

"*Blown up* with the conceit of his merit."—*Bacon.*

—To fill with air: to raise or swell, as with the breath.—To kindle; to inflame.

"His presence soon *blows up* th' unkindly sight."—*Dryden.*

—To burst; to hurl into the air by gunpowder or other projectile force; as, to *blow up* a ship. —To render abortive; to frustrate suddenly; as, to *blow up* a plot. —Vulgarly, to scold, abuse, or rebuke orally; as, "he *blew* me *up* sky-high."

Blow'-ball, *n.* The floccose head of the dandelion.

Blow'en, *n.* A slang term for a paramour; a prostitute.

Blow'er, *n.* One who blows; a smelter of metals.

(*Mech.*) See BLOWING-MACHINE.

—A steam-jet to create a draft of air through a chimney.

—A plate of sheet-iron, zinc, or tin, placed in the upper part of a fireplace, and beneath the orifice of a chimney, to circumscribe the surface of the air, and hence occasion an increased current.

—A blowing out, or excessive discharge of gas, from a hole or fissure in a mine.

(*Mining.*) The name given, in coal mines, to the fissures made in hewing the coal, and from which the marsh-gas exhales with considerable force, when accumulated under pressure, as is often the case.

(*Naut.*) A name usually given by seamen to the whale, from its spouting forth an immense quantity of water.

Blow'-fly, *n.* (*Zoöl.*) See SARCOPHAGA.

Blow'-hole, *n.* A cavernous aperture at the base of a cliff, on a plane with the sea, and into which the surges dash themselves violently. —That nostril on the upper part of the head of a whale, which serves for breathing or *blowing*. — An orifice in the ice, where whales, seals, &c. inhale the air.

Blow'ing, *n.* (*Metal.*) The projecting of air into a furnace, in a strong and rapid current, for the purpose of increasing the combustion.

Blow'ing Cave, in *Georgia*, a post-village of Decatur county.

Blow'ing-machine, *n.* (*Metal.*) An instrument for producing a current or blast of air, chiefly for the purpose of exciting the combustion of fuel, and producing a great heat. The common bellows is an instrument of this kind; but for certain processes in metallurgy, as in smelting and refining ores, the intermittent blast produced by the single bellows is prejudicial, and even in the double form of the machine, as used generally by blacksmiths, the defect is not altogether remedied. Various contrivances have been employed for the purpose of producing a continuous and equable blast, though depending generally on the principle of forcing air into large cylinders or air-chests by means of a force air-pump, and allowing it to escape by eduction pipes under a regular pressure. For the regulation of the pressure, the air may be forced into a vessel inverted in a reservoir of water; but as the air is chilled by its contact with the water, the water regulator is found to be objectionable for large blast-furnaces, and a weight is employed. Machines on this principle are in use at every foundry and great engine-manufactory; and they have this advantage, that a number of forges may be supplied from the same air-chest.

Blown, *p. a.* Swelled; inflated; expanded, as a blossom. — Useless; stale; unprofitable. — Panting for breath; exhausted; spent; as, a *blown* horse.

(*Farriery.*) Suffering from disease of the intestines, caused by the exhalation of gases evolved by a repletion of green food.

Blow'-off Cock, *n.* (*Steam-Engineering.*) The stop-cock in the blow-off pipe.

Blow'-off Pipe, *n.* (*Steam-Engineering.*) The pipe fixed to the bottom of a boiler, for discharging the sediment, which is effected by blowing through a portion of the water from the boiler.

Blow'-pipe, *n.* An instrument by which a small jet of air is directed laterally into the flame of a lamp or candle, so as to divert it in a long slender cone upon a piece of charcoal or other substance, so placed as to receive it. When a flame is thus urged by the *B.*, the extreme heat is just at the tip of the outer white flame, where the combustion is most perfect, and where substances are rapidly burned or oxidized; while the interior blue flame, in consequence of its excess of combustible matter, abstracts oxygen from, or reduces, substances; so that several metals, when thus heated before the *B.*, are alternately oxidized and deoxidized by being placed in the outer and inner flame. The blow-pipe is of important service to the chemist, in enabling him to ascertain easily and quickly the effects of intense heat upon a variety of substances; and he frequently has recourse to it in order to distinguish metallic and earthy minerals from each other, and to ascertain, in a general way, the nature of their component parts. It is, in fact, a most important auxiliary in all cases of qualitative analysis, and an invaluable instrument for the mining-engineer, the mineralogist, and the geologist. By holding the substance to be tested in platinum-pointed forceps, its fusibility can be determined, or some characteristic color may be communicated to the flame. Important facts may also be learned if the substance is placed upon charcoal, from the color of the deposit formed, the odor emitted, &c. By the employment of carbonate of soda, borax, or a salt of phosphorus, other important results may be attained. The art of keeping up a continuous current of air through the blow-pipe may be readily acquired. See Eldeshort's *Manual of Blow-pipe Analysis* and Plattner's *Manual of Qualitative and Quantitative Analysis with the Blow-pipe*.

Blow'-point, *n.* A child's play, resembling *push-pin*.

"Shortly boys shall not play
At span-counter or *blow-point*." — *Donne.*

Blow'-valve, *n.* (*Steam-Engineering.*) The snifting-valve of a condensing engine.

Blow'y, *a.* Windy; blowing.

Blowze, (*blouz,*) *n.* A ruddy, fat-faced woman.

Blowzed, (*blouzd,*) *a.* Having a high color; blowzy.

Blowzy, (*blouz'i,*) *a.* Ruddy-faced; fat and ruddy; coarse-featured.

Blub'ber, *n.* [Probably from Dn. *bobbel*, bubble.] (*Physiol.*) The cellular membrane of the whale in which the oil, or fat, is included.

(*Zoöl.*) The Medusa, or sea-nettle.

(*Com.*) The fat or oil of whales, seals, walruses, &c. In application to the whale, it is, properly speaking, the *adeps* of the animal, and lies immediately beneath the skin, and over the muscular flesh. — In the porpoise it is a firm and fibrous mass, usually about an inch thick; in the whale its thickness is generally six inches; about the under lip it is two or three feet thick. The quantity of *B.* obtained from one of these animals is generally from 20 to 30 tons, from which 15 to 22 tons of oil may usually be extracted. The use of the *B.* to the animal seems to be partly to poise the body, and render it equiponderant to the water, partly to keep the water at some distance from the blood, and so prevent chill, and partly to reflect the hot steams of the body, and so redouble the heat; since all fat bodies are less susceptible of cold than lean ones. — It is generally brought home from the fishing-ground stored in casks. The oil is drained out of the blubber by placing the latter, cut up, on racks, through which the oil drips down into casks. It is then heated up to 225°, to deprive it of its rancid smell, and also to make the grosser parts settle. The oil is then pumped over with cold water, left to cool, and finally stored in casks.—See BALÆNIDÆ.

Blub'ber, *v. i.* To weep in a noisy manner, so as to swell the cheeks.

"Even so lies she,
Blubb'ring and weeping, weeping and *blubb'ring*." — *Shaks.*

—*v. a.* To swell the cheeks with weeping.

"Tir'd with the search, not finding what she seeks,
With cruel blows she pounds her *blubber'd* cheeks."— *Dryden.*

Blubbered, (*blub'berd,*) *p. a.* Swelled; turgid;—commonly applied to the lips.

"Thou sing with him, thou booby! never pipe
Was so profan'd, to touch that *blubbered* lip." — *Dryden.*

Blub'bering, *n.* The act of weeping noisily and violently.

Blücher, (*bloo'kr,*) GEBHARD LEBRECHT VON, (FIELD MARSHAL,) a distinguished Prussian general, whose impetuous intrepidity gained him the appellation of "Marshal Forward" (*Vorwärts*), was born at Rostock, 1742. He entered the Swedish service when quite a youth, and in his first campaign was made prisoner by the Prussians, whom he afterwards joined, and rose to the rank of captain; but being discontented with the promotion of other officers over his head, he obtained his discharge from the great Frederick, who dismissed him with the pithy remark that "he might go to the devil if he pleased:" and he afterwards lived many years in retirement. Being recalled by King Frederick William, he was made major-general after the battle of Leystadt, in 1794, and commanded the cavalry at the battle of Jena, which decided, for a time, the fate of the Prussian monarchy. When Prussia entered into the coalition against Napoleon, in 1813, our hero, then seventy years old, was

made general of the centre of the allied army; distinguished himself at Lützen and Leipzig, pursued the flying French across the Rhine, and after a year of obstinate conflict in France, headed the right wing of the allied army under the walls of Paris, at the time of Napoleon's abdication, in 1814. In England, which he visited with the allied sovereigns, he was received with enthusiasm. Being re-invested with the command of the Prussian army during the Hundred Days, he was defeated by Napoleon at Ligny, on June 16, 1815, on which occasion he was unhorsed and charged over by both the French and Prussian cavalry. Marshal Grouchy was commissioned by Napoleon to push *B.*'s retreat, and check his junction with the British army, which Wellington required. But having deceived Grouchy by leaving a body of his troops to mask the operation, he retrograded unmolested, by a skilful and dangerous flank movement; and his advanced division, under Bülow, arrived at Waterloo at five o'clock, just as the whole reserved *élite* of the French army was advancing in dense column to make their last desperate effort to break through the British squares. This fresh flank attack on the advancing column contributed greatly to decide the victory, and Blücher arrived in time to participate in the pursuit. He was a rough and fearless soldier; brave, honest, and free; beloved by his comrades, and a sworn foe to the enemies of his country. D. at his estate in Silesia, 1819, aged 77.

Bluchers, (*Bloo'churz.*) *n. pl.* The name given, in England, to a pair of men's strong ankle-boots;—sometimes called *ankle-jacks.*

Bludgeon, (*bluj'un,*) *n.* [Probably from Goth. *bliggran*, to strike: perhaps allied to Gr. *plēgō*, *plēssō*, to strike.] A short stick or cudgel, with one end heavier than the other, and used to strike blows with, as a weapon of offence.

Blue, (*bloo,*) *n.* [Fr. *bleu;* A.S. *bleo, bleoh, bleow;* O. Ger. *bláw*, livid, sky-blue.] The color which the sky exhibits; a cerulean hue; one of the seven primary colors of the rays of light when refracted through a glass prism.

(*Painting.*) A great variety of blue pigments are used in the arts; they are obtained from both mineral and vegetable sources. Prussian blue, one of the most generally used, is made from a mixture of prussiate of potash and a salt of iron. Indigo is also much used when dissolved in sulphuric acid. — See Colors; Blue Carmine; Blue Ochre, Prussian Blue; Litmus; Blue Verditer; Indigo Blue.

(*Dyeing.*) Blues are generally dyed with indigo, or with Prussian blue; in the latter case, the stuff is steeped successively in solutions of a salt of peroxide of iron and of ferrocyanide of potassium. Aniline blue is also much employed for silk and woollen fabrics.

—A learned woman. — See Blue-Stocking.

—Straitlaced in morals; austere in temper; extreme; as, "Presbyterian true *blue*." — *Butler.*

—In the plural, a vulgarism and contraction for the *blue-devils;* i. e. dejection of mind; low spirits; delirium-tremens.

Blue, *a.* Of a blue color; sky-colored.

> "Why does one climate and one soil endue
> The blushing poppy with a crimson hue.
> Yet leave the lily pale, and tinge the violet *blue?*" — *Prior.*

—Depressed in spirits; dejected; as, to feel quite *blue.*

Blue, *v. a.* To make blue; to dye or tint of a blue color.

Blue Ball, in *New Jersey*, a village of Monmouth co., about 4 m. S. of Freehold.

Blue Ball, in *Ohio*, a post-office of Butler co.

Blue Ball, in *Pennsylvania*, a post-village of Lancaster co., now called East Earl, *q. v.*

Blue Bayou, in *Louisiana*, flowing S.E. between Terrebonne and La Fourche Interior parishes, into the Gulf of Mexico.

Blue'bell, *n.* (*Bot.*) See Scilla.

Blue Bell, in *Pennsylvania*, a post-village of Montgomery co.

Blue'berry, *n.* (*Bot.*) See Vaccinium.

Blue'bird, *n.* (*Zoöl.*) The *Sialia sialis*, an American bird of the family *Turtidæ*. This is a bird well known to every child, and whose habits of familiarity with man in summer are on a par with those of the European Redbreast in winter. — As early as the middle of February, if the weather be open, he usually makes his appearance about his old haunts, the barn, orchard, and fence-posts. Storms and deep snows sometimes succeeding, he disappears for a time; but about the middle of March he is again seen accompanied by his mate, visiting the box in the garden, or the hole in the old apple-tree, the cradle of some generations of his ancestors..... "When he first begins his amours," says a curious and correct observer, "it is pleasing to behold his courtship, his solicitude to please and to secure the favor of his beloved female. He uses the tenderest expression, sits close by her, caresses and sings to her his most endearing warblings. When seated together, if he espies an insect delicious to her taste, he takes it up, flies with it to her, spreads his wing over her, and puts it in her mouth." — The food of the bluebird consists principally of insects, particularly large beetles and other *coleoptera*, frequently of spiders, and sometimes of fruits and seeds. The nest is built in holes in trees, and similar situations. The bird is very prolific, for though the eggs, which are of a pale-blue color, seldom exceed six, and are more frequently five in number, two and sometimes three broods are produced in a season. Its song is cheerful, continuing with little interruption from March to October, but is most frequently heard in the serene days of the spring. The *B.* are common in most parts of North America, having been seen in Carolina, Virginia, Maryland, and the Bermuda Islands. Wilson gives the United States, the Bahamas, Mexico, Brazil, and Guiana, as its localities. About November it takes its departure from the United States. The whole upper part of the bird, which is about seven inches and a half long, is of a rich sky-blue, shot with purple. The bill and legs are black. Shafts of the wing- and tail-feathers black. Throat, neck, breast, and sides, partially under the wings, reddish chestnut. Wings, dusky black at the tips. Belly and vent white. The female is duller in its colors.

Blue'-black, *n.* (*Painting.*) A well-burnt and levigated charcoal, of a cool, neutral color, and not differing from the common Frankfort black. *B.* was formerly much employed in painting.

Blue'-blood, *n.* [Sp. *sangre azul.*] A phrase common in Spain, where it is applied to the blood of the old nobility by way of euphuism: and to define its supposed distinction from the red blood of plebeians; as, he is a grandee of the *bluest blood.*

Blue'-bonnet, *n.* (*Zoöl.*) See Titmouse.

(*Bot.*) Same as Blue-bottle. — See Centaurea.

—*pl.* A term sometimes applied to the Scottish Highlanders, from their wearing a *blue bonnet*, or what is commonly called a *Glengarry.*

> "All the *blue-bonnets* are crossing the Border." — *Sir W. Scott.*

Blue'-book, *n.* In England, a term given to the reports that are to be printed and published by order of the parliament: so called from the blue color of their bindings. Also, in America and in England, a book containing the names of all persons holding public offices, with other particulars of general interest.

Blue'-bottle, *n.* (*Bot.*) See Centaurea.

(*Zoöl.*) A name of the Flesh-fly, *Musca vomitoria*, belonging to the order *Diptera.* This insect is termed blue-fly from its color, and flesh-fly from the fact of its depositing its eggs in fleshy viands, in which the larvæ

Fig. 376. — BLUE-BOTTLE, OR FLESH-FLY.
(Magnified.)

are hatched. It is generally larger than the common house-fly, and its wings indeed are sometimes nearly three-quarters of an inch in expanse. It is distinguished by a proboscis, always very apparent, membranous, and bibliate, generally bearing two palpi, and capable of being withdrawn entirely within the oral cavity; it also has a sucker of two pieces; the antennæ in a plate with lateral setæ.

Blue Branch, in *Texas*, a vill. of Burleson co.

Blue'breast, *n.* (*Zoöl.*) The *Cyanecula suecica*, an elegant little bird of the family *Sylvicolidæ*, much resembling our Redstart. It inhabits different parts of Europe, and is mostly found on the borders of forests. It is five inches and a half in length, of which the tail occupies two and a quarter. The head, back, and wing-coverts are ashy-brown, mottled with a darker tint: a reddish-white line passes above the eyes; a brilliant sky-blue covers the throat and half-way down the breast; this is set off by a spot of the most dazzling white, the size of a pea, placed precisely over the larynx, which, enlarging and diminishing successively by the movement of this part when the bird sings, produces the most beautiful effect. The blue passes into a black band, and the latter into a fine orange: the belly is dusky white; the thighs and sides are reddish; and the quill-feathers dark brown. Some males have two little white spots on the throat, and some even three: but some have none. The food of the Bluebreast consists of flies, the larvæ of insects, and worms. The nest is built in bushes and in the holes of trees; and the eggs are of a greenish hue. The females, when young, are of a celestial-blue tint on the sides of the throat; and when very old, they have the throat sometimes of a very bright blue.

Blue Cañyon, in *California*, a P. O. of Placer co.

Blue'-cap, *n.* (*Zoöl.*) Same as Blue-fish, *q. v.*

Blue Car'mine, *n.* (*Painting.*) A blue oxide of molybdena, of which little is known as a substance or as a pigment. It is said to be of a beautiful blue color, and durable in a strong light, but is subject to change in hue by other substances, and blackened by foul air; we may conjecture, therefore, that it is not of much value in painting.

Blue Cop'per, *n.* (*Chem.*) A fine blue mineral consisting of sulphide of copper. It is also known as *Indigo copper.*

Blue Cop'peras, *n.* (*Chem.*) Sulphate of copper; so called to distinguish it from green copperas, which is sulphate of iron. It is also called *blue vitriol*, and *blue-stone.* — See Copper, (Sulphate of.)

Blue Creek, in *Florida*, a village of Liberty co.

Blue Creek, in *Indiana*, a post-office of Franklin co.

—A township of Adams co.

Blue Creek, in *Ohio*, Paulding co., empties into the Anglaize river.

—A post-office of Adams co.

Blue Creek, in *W. Virginia*, a village of Kanawha co.

Blue-curls, *n.* (*Bot.*) See Prunella, and Trichostema.

Blue'-devils, *n. pl.* Depression of spirits; hypochondria; sometimes used, in a vulgar sense, to denote the malady of *Delirium-tremens.*

Blue'-disease, *n.* (*Med.*) See Cyanosis.

Blue Eagle, in *Missouri*, a post-office of Clay co.

Blue Earth, in *Minnesota*, a S. county, bounded partially on the N. by the Minnesota River, divided by the Blue Earth, or Mankato River, and also watered by the Maple and Watonwan rivers. *Area*, about 760 sq. m. *Surface.* Undulating. *Soil.* Fertile. *Min.* Limestone. *Cap.* Mankato.

Blue Earth City, in *Minnesota*, a post-village, *cap.* of Faribault co., on Blue Earth River, is 42 m. S. by W. of Mankato, and 100 S.S.W. of St. Paul.

Blue Earth River, in *Minnesota.* See Mankato.

Blue'-eyed, *a.* Having blue eyes.

> "Nor to the temple was she gone, to move
> With prayers the *blue-eyed* progeny of Jove." — *Dryden.*

Blue'-eyed Grass, *n.* (*Bot.*) See Sisyrinchium.

Blue'fields, or Blew'fields, a river of Central America, Mosquito Territory, falling into an inlet of the Caribbean Sea, after a course of several hundred miles, in Lat. 12° N., Lon. 83° W. At its mouth is a town of the same name, with a good harbor, and built on a commanding height.

Blue'-fish, *n.* (*Zoöl.*) The Tennodon salvator, a fish of the *Mackerel* family, about 18 inches long, found in almost all seas. It has the first dorsal in a furrow, teeth

Fig. 377. — BLUE-FISH, (*T. salvator.*)

on the outer row separate, flat, and lancet-shaped; inner series crowded, and the teeth dense upon the vomer, palatines, and tongue. It is prized as an article of food.

Blue'-grass, *n.* (*Bot.*) See Poa.

Blue Grass, in *Illinois*, a post-office of Vermilion co.

Blue Grass, in *Indiana*, a post-office of Fulton co.

Blue Grass, in *Iowa*, a post-village and township of Scott county, situated 44 miles east by south of Iowa City.

Blue'-haired, *a.* Having blue-colored hair.

> "This place,
> The greatest and the best of all the main,
> He quarters to his *blue-haired* deities."— *Milton.*

Blue Hill, in *Maine*, a post-township of Hancock co., on Frenchman's Bay, 80 m. E. of Augusta. It has a trade in shipbuilding.

Blue Hill Falls, in *Maine*, a P. O. of Hancock co.

Blue Hills, in *New Hampshire*, a chain of hills, of which Saddleback Mountain is the most elevated summit.

Blue Iron-ore, *n.* (*Min.*) See Vivianite.

Blue Island, in *Illinois*, a suburban part of Chicago.

Blue'-jacket, *n.* (*Naut.*) A name popularly given in England to a man-o'-war's man; — derived from the blue color of his clothing.

Blue'-john, *n.* (*Min.*) The name commonly given by the miners of Derbyshire, England, to the beautiful variety of compact fluor-spar, which is made into vases and other ornamental articles.

Blue'-lead, *n.* (*Min.*) A term applied by miners to *galena*, in contradistinction to *white lead-ore, anglesite*, &c. The name is also given to a pseudo-morphous variety of galena accompanying the carbonates of lead and copper.

Blue Lick, in *Indiana*, a post-office of Clarke co., 9 m. W.N.W. of Charleston.

Blue Lick Springs, in *Kentucky*, a post-village and spa of Nicholas co., 70 m. N.E of Frankfort. The mineral waters here bear a high celebrity, and are much sought after.

Blue'-light, *n.* (*Pyrotechny.*) A composition consisting of saltpetre 4 parts, sublimed sulphur 2 parts, and red orpiment 1 part. It is used for signal-purposes, and puts forth a vivid blue flame.

Blue'ly, *adv.* With a blue color; as, "While as the light burnt *bluely.*" — *Swift.*

Blue Mill, in *Missouri*, a post-office of Jackson co.

Blue Mould, *n.* See Aspergillus.

Blue Mound, in *Wisconsin*, a township of Dane co., 22 m. S.W. of Madison.

—A village of Iowa co.

Blue Mountain, in *Pennsylvania*, a post-office of Northampton co.

Blue Mountain, in *Arkansas*, a post-township of Izard co.

Blue Mountains, in Australia, a range nearly parallel to the coast in New South Wales.

Blue Mountains, in Jamaica, a range traversing the whole length of the island from E. to W., and attaining in some places an altitude of 6,000 feet.

Blue Mountains, in the U. States. See Appalachian Mountains.

Blue Mountains, in *Oregon*, a ridge stretching from N. Lat. 46° S. to the northern frontier of Utah. It runs almost parallel with the Coast Range, from which it is distant E. about 200 m. The *B. M.* sometimes rise to the snow region, but are generally from 3,000 to 4,000 ft. high.

Blue'ness, *n.* Quality of being blue; a blue color.

Blue-ochre, (*blū'o-kr,*) *n.* (*Paint.*) A mineral color of rare occurrence, found with iron pyrites in Cornwall, Eng., and also in N. America; it is a sub-phosphate of

iron. What Indian-red is to the color red, and the Oxford ochre to yellow, this is to other blue colors. They class iu likeness of character; hence it is admirable rather for the modesty aud solidity, thau for the brilliancy of its color.

Blue-oiut'ment, *n.* (*Med.*) An ointment contaiuiug mercury.

Blue-pe'ter, *n.* (*Naut.*) A small square flag of blue color with a white square iu the centre; used in the mercantile uarine service as a signal for immediate sailiug.

Blue'-pill, *n.* (*Med.*) A small bolus (*pilula hydrargyri*) consisting of mercury triturated with conserve of roses and the powder of liquorice-root till the globules disappear and a homogeneous bluish-gray pill-mass is obtained; it contains oue-third of its weight of mercury. — See SALIVATION.

Blue Point, iu *New York*, a post-office of Suffolk co.

Blue Pond, in *Alabama*, a post-office of Cherokee co.

Blue Prussiau, *n.* See PRUSSIAN BLUE.

Blue Rap'ids, iu *Kansas*, a post-village and township of Marshall co., on Big Blue River, 15 m. S. of Marysville.

Blue Ridge, or BLUE MOUNTAINS, in the U. States. See APPALACHIAN MOUNTAINS.

Blue Ridge, in *Illinois*, a flourishing township of Platt county.

Blue Ridge, in *Indiana*, a post-office of Shelby co.

Blue Ridge, in *Missouri*, a P. O. of Harrison co.

Blue Ridge, iu *North Carolina*, a post-office of Henderson co.

Blue Ridge, in *Virginia*, a post-office of Botetourt co.

Blue River, in *Wisconsin*, a small stream of Grant co., that empties into tho Wiscousin River.

—A post-towuship of Grant co.

Blue River, in *Indiana*, takes rise in Henry co., and after a S.W. course to the mouth of Sugar Creek, Johnson co., assumes the name of Driftwood Creek, or East Fork of White River. — A stream risiug in Washington co., and falling iuto the Ohio at Leavenworth.—A stream of Whitley co., emptyiug iuto Eel River, a little below Columbia.

—A township of Harrison co..

—A township of Johnson co.

—A township of Hancock co.

—A township of Henry co.

—A township of Harrison co.

Blue River, in Abyssinia. See AZREK.

Blue Rock, in *Kentucky*, a post-office of Carter co.

Blue Rock, in *Pennsylvania*, a village of Iowa co.

—A post-office of Chester co.

Blue Rock, in *Ohio*, a post-township of Muskingum co., 15 m. S.S.E. of Zanesville.

Blue Skiu, *n.* (*Med.*) A condition of the body only witnessed in the collapse stage of tho Asiatic cholera.—See CHOLERA.

Blue Spriug, in *Georgia*, a village of Baker co., 20 m. N.E. of Newton.

Blue Spring, in *Virginia*, a post-office of Gordon co.

Blue Spriug Grove, iu *Kentucky*, a village of Barreu co.

Blue Springs, in *Florida*, a village of Volusia co.

Blue Springs, in *Missouri*, a post-village of Jackson co., 9 m. S.E. of Iudependence.

Blue Springs, in *Nebraska*, a post-vill. of Gago co., on Big Blue River, 65 m. S.W. of Nebraska city.

Blue Springs, in the E. part of *Tennessee*. At this spot, Oct. 10–11, 1863, a smart engagement took place between a detachment of Union troops, and a body of Confederates under Gen. Jones, in which, after 24 hours' fighting, the latter were defeated; the National loss being about 100 men, and that of the Confederates a little greater.

Blue Staek Mouutaiu, in Ireland, co. Donegal, attains an elevation of 2,213 feet above sea-water level.

Blue'stoeking, *n.* (*Lit.*) A learned or literary lady; a blue; originally, the designation of certain literary clubs in England, during the last century, cousisting of ladies as well as literary men, and which received the name frou one of the leading members (Mr. Stillingfleet) always appearing at the meetings in *blue stockings*. Hence the name was transferred to literary ladies in general.

(*Zoöl.*) An American bird, gen. AVOSET, *q. v.*

Blue'stoek'ingism, *n.* (*Lit.*) Feminine pedantry; learning or manner of a blue-stocking. (R.)

Blue'-stoue, *n.* (*Min.*) See COPPER, SULPHATE OF.

Blue'stoue, in *Virginia*, a river, rising in Tazewell co., in the N.W. portion of the State, aud taking a N.E. course, falls into the New River.

—A post-office of Tazewell co.

Blue Sulphur Spriugs, in *West Virginia*, a post-village of Greenbrier co.

Blue'-tint, *n.* (*Painting.*) In coloring, this tint is made of ultramarine and white, mixed to a lightish azure. It is a pleasant working color, and with it should be blended the gradatious iu a picture. It follows the yellows, and with them it makes the greens; and with the red it produces the purples. No color is so proper for blending down or softening the lights into keeping. In pictures of less value, Antwerp blue may be substituted for ultramariue.

Bluets, (*bloo'etz,*) *n.* (*Bot.*) A name applied to plants of different species, from the color of their flowers; as, *Centaurea cyanus*, *Oldentendria cærulea*, *Vaccinium augustifolium*, &c.

Blue'-veined, *a.* Having blue veins.

Blue-ver'diter, *n.* (*Painting.*) A blue oxide of copper, or precipitate of the nitrate of copper by lime, of a beautiful light-blue color. It is little affected by light; but time, damp, and impure air turu it greeu, and ultimately blacken it,—changes which ensue even more rapidly in oil than in water; it is, therefore, by no means an eligible pigmeut iu oil, and is principally confined to distemper painting, and the uses of the paper-stainer, though it has been found to stand well many years iu water-color drawings and crayou paiutings, wheu kept dry.

Blue'ville, iu *Illinois*, a post-office of Christian co.

Blue'-vit'riol, *n.* (*Chem.*) Blue-stoue; sulphate of copper.

Blue Wing, in *N. Carolina*, a P. O. of Granville co.

Blue'y, *a.* Rather blue; bluish. (R.)

Bluff, *a.* [Probably from O. Eng. *bloughty*, swelled, puffed, which may bo from *bloat*, *bloated*; W. *bloffi*, to miugle.] Swollen out; blustering; big; burly.

"Like those whom stature did to crowns prefer,
Black-brow'd and *bluff*, like Homer's Jupiter." — *Dryden.*

—Sometimes used for outspoken; rudely frank in manner or lauguage; brusque; uuceremonious; "as, *Bluff* King Hal."

—Abrupt; bold; of a steep ascent; like a bluff.

Bluff, *n.* A high steep bank projecting into the sea, or iuto the river; as the *bluffs* of the Mississippi. (This term is also applied, in the U. States, to any eminence presenting an abrupt front, eveu when at a distance from water; as, Council *Bluffs*.) — A game of cards.

Bluff, *v. a.* To bluster; to repulse gruffly; to act in an overbearing manner.

Bluff, in *Missouri*, a villago of Holt co., 90 m. N.W. of Independence.

—A post-office of Taney co.

Bluff, in *Wiscousin*, a post-office of Sauk co.

Bluff'-bowed, Bluff'-headed, *a.* [*bluff* and *bow.*] (*Naut.*) A vessel with full and square bows.

Bluff Bridge, in *Virginia*, a village of Washingtou co.

Bluff City, in *Illinois*, a post-village of Schuyler co., 51 m. W. of Springfield.

Bluff City, in *Nebraska*, a village of Gage co., 65 m. S.W. of Nebraska City.

Bluff Creek, in *Iowa*, a thriving township of Monroe county.

Bluff Dale, in *Illinois*, a post-village of Greene co., 65 m. W.S.W. of Springfield.

Bluff'uess, *n.* Bluntness; brusqueness of aspect or manner; as, *bluffness* of face.

Bluff Point, in *Tennessee*, a P. O. of Hickmau co.

Bluff'port, in *Missouri*, a village of Howard co., on the Missouri River.

Bluff Spriug, iu *Alabama*, a post-office of Clay co.

Bluff Spring, in *Illinois*, a post-office of Cass co.

Bluff Spring, in *Georgia*, a post-village of Talbot co., 30 m. N.E. of Columbus City.

Bluff Springs, iu *Tennessee*, a village of Jackson co.

Bluff'ton, in *Indiana*, a city, the capital of Wells co., on the Wabash river, 25 m. S. of Fort Wayne aud 100 m. N. E. of Indianapolis. *Pop.* (1890), 3,589.

Bluffton, in *Iowa*, a village and township of Winneshiek co., on tho Upper Iowa River, 12 m. N.N.W. of Decorah.

Bluffton, in *Michigan*, a post-office of Muskegon co.

Bluffton, in *Missouri*, a post-office of Montgomery co.

Bluffton, in *Ohio*, a post-village of Allen co., 16 miles N.E. of Lima. *Pop.* (1898) 1,500.

Bluffton, in *South Car.*, a post-village of Beaufort co.

Bluffton, in *Wisconsin*, a village of Marquette co., 60 m. N. by E. of Madison.

Bluff'ville, in *Illinois*, a post-office of Carroll co.

Bluff'y, *n.* Presenting a bluff appearance.

Blu'iug, *n.* A making blue; as, the *bluing* of steel.

—A preparation used iu lauudries, to impart a bluish tinge to hot water.

Blu'ish, *a.* Blue in a minor degree.

"Here, in full light, the russet plains extend;
There, wrapt in clouds, the *bluish* hills ascend." — *Pope.*

Blu'ishly, *adv.* In a bluish manner.

Blu'ishness, *n.* A small degree of blue color.

Blu'menbaeh, JOHANN FRIEDRICH, a distinguished Germau physiologist and comparative anatomist, B. at Gotha, 1752. He studied at Jena and Göttingen, and became Professor of Medicine, librarian, and keeper of the museum at the University of Göttingen in 1778. His principal works are, *Institutiones Physiologicæ*, which was translated into English by Dr. Elliotson; *Handbuch der vergleichenden Anatomie;* an *Essay on the Natural Variety of the Human Race;* and works on Embryology and the Bones of the Human Body. He also published a description of the large collection he had formed of skulls of different races. *B.* was a master in his field, and the sterling character of his writings is confirmed by recent researches. His *Anthropological Treatise*, and the *Memoirs of his Life*, by Marx aud Flourens, were translated into English and edited by B. T. Bendyshe, M.A., and published for the Anthropological Society of London in 1865. D. 1840.

Bluu'field, in *Michigan*, a post-township of Saginaw co., 8 m. E. of Saginaw City.

Bluu'field Juuetion, iu *Michigan*, a post-office of Saginaw co.

Bluu'der, *v. i.* [Allied to A.S. *blenda;* Icel. *blanda*. See BLEND.] To be confused; to mistake grossly; to err widely or stupidly; to flouuder; to stumble.

"In this men *blunder* still you find,
All think their little set mankind." — *Hannah More.*

—*n.* A gross mistake; a stupid error; inadvertence.

"O wad some power the giftie gie' us,
To see ourse'ls as ithers see us!
It wad frae mony a *blunder* free us,
Aud foolish notion." — *Burns.*

Blun'derbuss, *n.* [Eng. *blunder*, and Du. *bus*, tube.] A short hand-gun of heavy calibre, widening towards the muzzle, and adapted for discharging several bullets at a time, so that, without auy exact aim, one or more of the bullets may *blunderingly* hit the mark.

"There are *blunderbusses* in every loop-hole, that go off of their own accord at the squeakiug of a fiddle." — *Dryden.*

Blun'derer, *n.* One who makes a bluuder, or is apt to make gross mistakes.

"Another sort of judges will decide...him a mere *blunderer*." *Watts.*

Bluu'derhead, *n.* A stupid person; oue who frequently makes blunders; as, a "thick-skulled *blunderhead*." — *L'Estrange.*

Bluu'dering, *p. a.* Moving or acting with blind precipitance; mistaking grossly; stumbling.

Bluu'deringly, *adv.* In a blundering or stupid manner.

Blun'derville, in *Kentucky*, a village of Ballard co. — *pon.* 385.

Blungiug, (*blunj'ing,*) *n.* (*Pottery.*) See PLUNGING.

Bluut, *a.* [Swed. and Goth. *plump*, dull, blockish; probably allied to the root of Gr. *amblynō*, to blunt, to make dull.] Dull on the edge or poiut; not sharp; as, a *blunt* knife.

"Thanks to that beauty, which can give an edge to the *bluntest* swords." — *Sir P. Sidney.*

—Dull in understandiug; obtuse; not quick.

"I'll quickly cross,
By some sly trick, *blunt* Thurio's dull proceeding." — *Shaks.*

—Unpolished; brusque; unceremonious; abrupt in speech; rude; plain.

"To use too many circumstances, ere one can come to the matter, is wearisome; to use none at all, is *blunt*." — *Bacon.*

—Hard to penetrate; almost impenetrable. (R.)

"I find my heart hardened and *blunt* to new impressions."—*Pope.*

Bluut, *v. a.* (*pp.* BLUNTED; *ppr.* BLUNTING.) To dull the edge or poiut of auything; as, to *blunt* a pencil.

"So sicken waning moons too near the sun,
And *blunt* their crescents on the edge of day." — *Dryden.*

—To repress, weakon, or impair.

"*Blunt* not his love;
. . . . By seeming cold." — *Shaks.*

Bluut, *n.* A cant term for money; hard cash; as, down with the *blunt*.

Bluut, in *Illinois*, a flourishing township of Vermillion county.

Bluut'ing, *n.* Act of making blunt.

Bluut'ish, *a.* Blunt in a certaiu degree.

Bluut'ishuess, *n.* State of beiug bluut in speech or manner.

Bluut'ly, *adv.* In a blunt manner; unceremoniously; plainly; abruptly; without delicacy or courteousness.

"A man of honest blood,
Who to his wife, before the time assign'd,
. . . . thus *bluntly* spoke his mind." — *Dryden.*

Bluut'ness, *n.* Dulness of edge or point; want of sharpness; obtuseness.

"The crafty boy, that had full oft essay'd,
But still the *bluntness* of his darts betray'd." — *Suckling.*

—Want of polish; rude sincerity or plainness.

"Some readers will he assisted to discern a difference between *bluntness* of speech and strength of reason." — *Boyle.*

Bluut'-witted, *a.* Dull; stupid; obtuse.

"*Blunt-witted* lord, ignoble in demeanour." — *Shaks.*

Blur, *n.* [Probably from Du. *blaar*, blister; from the root of *bladder*.] A pustule; a blaiu; a stain; a blot; as a smudge of ink upon paper.

—Indistinctness of vision; confused perceptiou; as, everything appeared a *blur*.

—A blot, stain, or stigma; used in a moral sense.

"Man, once fallen, was nothing but a great *blur*." — *South.*

Blur, *v. a.* To obscure; to spot; to smear, as with ink; as, a *blurred* manuscript.

"But time hath nothing *blurred* those lines of favour." — *Shaks.*

—To dim; to see darkly; to cause indistinct vision; as, her eyes were *blurred* with tears.

—To soil; to sully; to blemish.

"Sarcasms may eclipse thine own,
But cannot *blur* my just renown." — *Hudibras.*

Blurt, *v. a.* [Probably from Icel. *blaer*, a blast, from *blása*, to blow.] To throw out, as a sudden blast of wind; to utter suddenly, inadvertently, unadvisedly, or rudely. (Generally preceding *out.*)

"And yet the truth may lose its grace,
If *blurted* to a person's face." — *Lloyd.*

Blush, *v. i.* [A. S. *ablisian;* Du. *bloozen*, from *blos*, a blush, redness; from the root of *blow.*] To grow red or rosy iu the face; to bear a blooming red color.

"But here the roses *blush* so rare,
Here the morniugs smile so fair." — *Crashuw.*

—To redden with shame or confusiou.

"The man that *blushes* is not quite a brute." — *Young.*

—*v. a.* To make red; to indicate by blushiug.

"And ne'er returneth
To *blush* and beautify the cheek again."—*Shaks.*

—*n.* A bright rosy or reddish color.

"Bear away those *blushes*."—*Shaks.*

—A red glow on the cheeks or face, caused by shame, confusion, or diffidence.

"Nor mark... her *blush* of maiden shame."—*Bryant.*

—Sudden appearance or glance.

"All purely identical compositions . . . at first *blush*, appear to contain no certain iustructions in them."—*Locke.*

Blush'ful, *a.* Full of blushes; as, "averts her *blushful* face." — *Thomson.*

Blush'fully, *adv.* In a blushful or blushing manner.

Blush'ing, *n.* A sudden suffusing or reddening of the face, excited by a sense of shame, confusion, or surprise. It is produced by an increased flow of blood into the capillary vessels of the face and neck; and besides reddening, it creates a sensation of heat in those parts. It is occasioned by the mental shock acting upon the brain,

and withdrawing the nervous energy which ordinarily contracts the muscular coats of the blood-vessels of these parts, whence the blood is permitted to flow with greater violence through the vessels.

Blush'ing, *p. a.* Reddening in the cheeks or face; bearing a bright rosy color.

"And hears his *blushing* honors thick upon him."—*Shaks.*

Blush'ingly, *adv.* In a blushing manner.

Blush'less, *a.* Unblushing; without blushes.

Blush'y, *a.* Like a blush: having the color of a blush.

"Blossoms . . . of apples, crabs, peaches, are *blushy*, and smell sweet."—*Bacon.*

Blus'ter, *v. i.* [A. S. *blæstan*, from *blæst*, a blast.] To be boisterous; to blow with noise and violence, as a gale of wind.

"So now he storms with many a sturdy stour,
So now his *blust'ring* blast each coast doth scour."—*Spenser.*

—To bully; to boast; to swagger; to talk in a hoctoring manner.

"With hoarse commands his breathing subjects call,
And hoast and *bluster* in his empty hall."—*Dryden.*

Blus'ter, *v. a.* To utter, or give action to, with noisy vehemence.

"My heart 's too big to hear this, says a *blustering* fellow; I'll destroy myself. Sir, says the gentleman, here's a dagger at your service; so the humor went off."—*L'Estrange.*

Blus'ter, *n.* Roar or noise like that of a tempest; boisterousness.

"The skies look grimly,
And threaten present *blusters*."—*Shaks.*

—Boastful talk; swaggering manner; turbulent behavior.

"A coward makes a deal more *bluster* than a man of honor."
L'Estrange.

—Loud, tumultuous noise.

"So by the brazen trumpet's *bluster*,
Troops of all tongues and nations muster."—*Swift.*

Blustera'tion, *n.* Blustering; braggadocio; empty, noisy talk. (A vulgar term used in some parts of England, and in the U. States.)

Blus'terer, *n.* One who blusters; a swaggerer; a braggadocio.

Blus'tering, *n.* A loud noise, like that of a tempest; swaggering; noisy boasting, or assumption.

—*a.* Making a loud, windy noise; tempestuous; as, a *blustering* fellow.

Blus'teringly, *adv.* In a blustering, noisy manner.

Blus'terous, BLUS'TROUS, *a.* Tumultuous; noisy; boastful. (o.)

Blyth, or **Blythe,** a seaport of England, co. Northumberland, on the Blyth, 12 m. N.E. by N. of Newcastle-on-Tyne; *pop.* 2,148.

Blyth, the name of four rivers of England, one of which falls into the German Ocean, near Southwold; another into the river Tame, Warwickshire; another into the North Sea, at Blyth, Northumberland; another into the Trent, about 5 m. from Rugeley.

Blythe, in *Arkansas*, a twp. of Marion co.

Blythe, in *Pennsylvania*, a township of Schuylkill co., *pop.* 1,924.

Blythe'ville, in *Missouri*, a post-village of Jasper co.

Bo! *interj.* [W. *bw.*] A word used to frighten children.

Bo, *n.* The name given in Ceylon to the *Ficus religiosa*, a tree held sacred by the Buddhists, and called *Peepul* in India.

Bo'a, *n.* [Lat. *boa*, *bova*, from *bos*, *bovis*.] (*Zoöl.*) A genus of large serpents, natives of the warm parts of America, which with the similar large serpents of Asia and Africa forming the genus *Python*, constitute the family BOÏDÆ, *q. v.*

—A long, serpent-like piece of fur, or similar material, worn round the neck by ladies.

Bo'a-constric'tor, *n.* (*Zoöl.*) See BOÏDÆ.

Boadicea, or BOUDICEA, (*bo'a-dis'e-a,*) a British heroine, the widow of Prasntagus, and queen of the Iceni. Having been ignominiously treated by the Romans, she headed an insurrection against them, attacked their settlements, and reduced London to ashes; but being at length utterly defeated by Suetonius Paulinus, she is said by Tacitus to have put an end to her life by poison, A. D. 61.

Boa Island, in Ireland, co. Fermanagh, being the chief island on Lough Erne, and containing 1,400 acres.

Boals'burg, in *Pennsylvania*, a post-village of Harris township, Centre co., 85 m. N.W. of Harrisburg, and 10 S. of Bellefonte. It is a neat but quiet place, containing several fine churches and an academy.

Boanerges, *n. pl.* [Hob. *bnê hargem*, "sons of thunder."] (*Script.*) A name given by our Saviour to James and John, the sons of Zebedee (*Mark* iii. 17), perhaps on account of their power as preachers. Some suppose it was given on the occasion of their request that Christ would call for fire from heaven, and destroy a village of the Samaritans, which had refused to entertain them. (*Luke* ix. 53–54.)

Boar, (*bōr,*) *n.* [A.S. *bar.* See BEAR.] The male of swine, whether wild or tame. — See HOG.

Boar, *v. i.* (*Manege.*) To toss or uplift the nose in the air; —said of the horse.

Board, (*bōrd,*) *n.* [A.S. *bord*, *brœd*, breadth, a table.] A substance of wood contained between two parallel planes, as when the bulk is divided into several pieces by the saw; the pieces are called *boards*. There is this distinction, however, that, though in the case of elm and fir, such pieces are called *boards*, they become *planks* when cut of oak and mahogany. The term board is very often applied to a piece of 9 inches wide and 3 inches thick; but, strictly speaking, it ought not to be applied to a greater thickness than 1½ inch. It is also used as a compound word; as, barge-*board*, floor-*board*, &c.

"With the saw they sundered trees in *boards* and planks." *Raleigh.*

—A table; dining-table, &c.; as, a well-spread *board*.

"I'll follow thee in fun'ral flames; when dead,
My ghost shall thee attend at *board* and bed."—*Sir J. Denham.*

—Food; entertainment; victuals; generally as supplied for payment at hotels, &c.; as, to owe for a month's *board*.

—A table at which a council, court, or committee is held; as, to be elected to a seat at the *board*.—Applied also to the collective body of individuals who are convened to deliberate on, and control, the operations of some public or private department of business, or who form a court of jurisdiction over certain official matters; as, a *Board* of Guardians, the *Board* of Trade, &e.

"I wish the king would be pleased sometimes to be present at that *board*; it adds a majesty to it."—*Bacon.*

—A table whereon a game is played; as, a bagatelle-*board*.

—A thick mass of compressed paper, used for book-covers, and various other purposes; as, paste-*board*, card-*board*, mill-*board*, &c.

—(*pl.*) The stage in a theatre is technically called the *boards*.— *To go upon the boards.* To enter upon a theatrical career.—*To leave the boards.* To abandon the stage as a profession.

(*Naut.*) The deck of a ship; also, the interior of a vessel; as, on *board*, to go on *board*, &c.—The side of a ship.—*Board and board*, or *board to board*; side by side, *i. e.*, one vessel alongside of another.

To make short boards. To tack about often.—*To board a ship.* To go on board. See BOARDING.—*By the board.* To be wrecked or shattered so as to fall over the side; as, the main-mast went *by the board*.—*Overboard.* Over the vessel's side; as, a man is *overboard*.—*To make a good board.* To sail close-hauled, avoiding lee-way.

Board, *v. a.* To lay, spread, or cover with boards; as, to *board* a floor.—To go on board a ship; to enter a ship, whether as friend or enemy; as, the pilot *boarded* us off Sandy Hook.

"He, not inclined the English ship to *board*,
More on his guns relies than on his sword."—*Waller.*

—To supply with food for pecuniary recompense; as, to *board* one's mother-in-law.

—To place at board for payment; as, to *board* a ship's company.

Board, *v. i.* To live in a house at a certain rate for meals; to be furnished with food for a money consideration; as, he *boards* at the Astor House.

"That we might not part,
As we, at first, did *board* with thee,
Now thou wouldst taste our misery."—*Herbert.*

Board'able, *a.* Liable to be boarded, as a ship.

Board'er, *n.* One who receives board at the table of another, at a certain rate of compensation.

(*Naut.*) One who boards a ship in action. (Generally in the plural.)

Board'ing, *n.* Covering with boards; also the covering itself.—Board; food; diet.

(*Naut.*) In naval tactics, the art of attacking a hostile ship by the introduction of armed men upon its decks. The operation is always attended with risk, from the confined nature of the theatre of action, ignorance of the enemy's dispositions, &c. Unless the *B.* is in the shape of a surprise, and therefore conducted by boats, it is essential as a preliminary that the ships should be laid alongside or athwart each other.

Board'ing-floors, *n. pl.* (*Building.*) Those floors that are covered with boards. The operation of boarding floors should commence as soon as the windows are in, and the plaster dry.

Board'ing-house, *n.* A house in which boarders are kept.

Board'ing-joists, *n. pl.* (*Building.*) Joists in naked flooring, to which the boards are fixed.

Board'ing-nettings, *n. pl.* (*Naut.*) Strong nettings placed over the sides of a ship, when in action, to repel a boarding-party.

Board'ing-pike, *n.* (*Naut.*) A pike formed of an iron spike, sharpened and fixed on an ashen pole, used by sailors in boarding an enemy's ship. It is sometimes called a *half-pike*, from its having a much shorter staff than the whole pike.

Board'ing-school, *n.* A school where the scholars receive board and lodging, in addition to education.

"A blockhead, with melodious voice,
In *boarding-schools* can have his choice."—*Swift.*

Board'less, *a.* Without a board or table.

Board'man, in *Iowa*, a township of Clayton co., containing El Kader, the county seat.

Board'man, in *Ohio*, a post-township of Mahoning co., 6 m. E. of Canfield.

Board'man, in *Wisconsin*, a post-village of St. Croix co.

Board'-rule, *n.* A kind of figured scale with which the number of square feet contained in a board may be found without calculation.

Board'ville, in *New Jersey*, a village of Passaic co., on Ringwood River, 21 m. N.W. of Hackensack.

Board'-wages, *n. pl.* Wages allowed to servants to keep themselves in victuals; as, they are placed on *board-wages*.

"And not enough is left him to supply
Board-wages, or a footman's livery."—*Dryden.*

Boar'ish, *a.* Like a boar; swinish; brutal; cruel.

"Nor thy fierce sister
In his anointed flesh stick *boarish* fangs."—*Shaks.*

Boar'-spear, *n.* A spear or javelin used in the chase of boars.

Boast, (*bōst,*) *v. i.* [W. *bostian*, to brag; Gael. *bosd*, a boast, vainglory.] To vaunt; to glory; to brag; to talk ostentatiously; to enlarge or magnify. (Generally with *of*.)

"The spirits beneath
Whom I seduc'd, *boasting* I could subdue
Th' Omnipotent."—*Milton.*

—*v. a.* To vaunt or brag of; to speak ostentatiously of.

"Neither do the spirits damn'd
Lose all their virtue, lest bad men should *boast*
Their specious deeds."—*Milton.*

—To exalt; to magnify; to indulge in self-exultation.

"They that trust in their wealth, and *boast* themselves in the multitude of their riches."—*Psalms* xlix. 6.

(*Masonry.*) To pare or dress a stone with a broad chisel.

(*Sculp.*) To cut out with a chisel, &c., the rough outline of a statue or ornament.

—*n.* Expression or exhibition of ostentation; a vaunt; a vainglorious speech.

"The *boast* will probably be censured, when the great action that occasioned it is forgotten."—*Spectator.*

—The cause of boasting; the thing or person boasted.

"The *boast* of heraldry, the pomp of power."—*Gray.*

Boast'er, *n.* A braggart; one who boasts or vaunts in an ostentatious manner.

"No more delays, vain *boaster!* but begin;
I prophesy beforehand I shall win."—*Dryden.*

Boast'ful, *a.* Given to boasting; inclined to brag.

"*Boastful* and rough, your first son is a squire;
The next a tradesman, meek, and much a liar."—*Pope.*

Boast'fully, *adv.* In a boastful, vaunting manner.

Boast'fulness, *n.* Ostentation; state of being boastful.

Boast'ing, *n.* Act of boasting, or making boasts.

"When *boasting* ends, then dignity begins."—*Milton.*

(*Masonry.*) The paring of a stone with a broad chisel and mallet.

(*Sculp.*) The rough cutting of a stone to form the outline of a statue, &c.

Boast'ingly, *adv.* In an ostentatious manner; with boasting.

Boast'less, *a.* Without boasting.

Boast'on, *n.* (*Games.*) See BOSTON.

Boat, (*bōt,*) *n.* (*Naut.*) [A.S. *bat;* Swed. and Goth. *baot;* Icel. *bátr;* W. *bad;* Sansk. *pot.* Etymology uncertain.] A small open vessel, or water-craft, usually impelled by oars, or a sail; in a generic sense, any vessel of whatsoever size, class, or description;—as, she is a good sea-*boat*. Boats proper are of various different forms of construction, according to the different purposes they are intended to serve.—See ADVICE-BOAT; BARGE; BUSS; CUTTER; GIG; JOLLY-BOAT; LONG-BOAT; PACKET-BOAT; PINNACE; QUARTER-BOAT; STEAM-BOAT; WHALE-BOAT; WHERRY; YAWL, &c.

"Vessels large may venture more,
But little *boats* should keep near shore."—*B. Franklin.*

—*v. a.* To transport in a boat; as, to *boat* passengers across a river.

—*v. i.* To go in a boat; to take a boat; as, "I *boated* over."—*Tennyson.*

Boat'able, *a.* Navigable for boats or small craft; as that stream is *boatable*.

Boat'-bill, *n.* (*Zoöl.*) The *Cancroma*, a genus of birds of the *Ardeidæ* family. They are distinguished by their very remarkable bill, the form of which by some is likened to a boat with its keel upwards, and by others to the bowls of two spoons, the concave sides of which are placed in contact. The mandibles are very stout and sharp-edged, and the upper one has a projecting point at the extremity. The feet have four toes, all of them long, and without a connecting membrane; for which reason these birds perch on the branches of trees by the sides of rivers, so that they may pounce upon the fish as they swim beneath. The species *Cancroma cochlearia* is the size of a domestic fowl. In the male, the forehead, and upper parts of the neck and breast, are dirty white; and from the head depends a long crest of black feathers. The female has the top of the head black, without the elongated crest. It inhabits Guiana, Brazil, and other parts of South America.

Fig. 378.—BOAT-BILL. (*C. cochlearia.*)

Boat'-fly, *n.* (*Zoöl.*) See ŒSTRIDÆ.

Boat'-hook, *n.* (*Naut.*) An iron hook with a sharp point, fixed on the extremity of a short pole, and used for impelling boats, or hauling them to.

Boat'-house, *n.* A house or structure used for the shelter and safe-keeping of boats.—The house or tavern from which a ferry-boat starts with passengers.

Boat'ing, *n.* The act of transporting in a boat or boats.

(*Aquatics.*) The pastime of sailing boats; as, a *boating*-club, to go a-*boating*.

—A kind of capital punishment practised in Persia, by fastening offenders in a covered boat, and leaving them to perish.

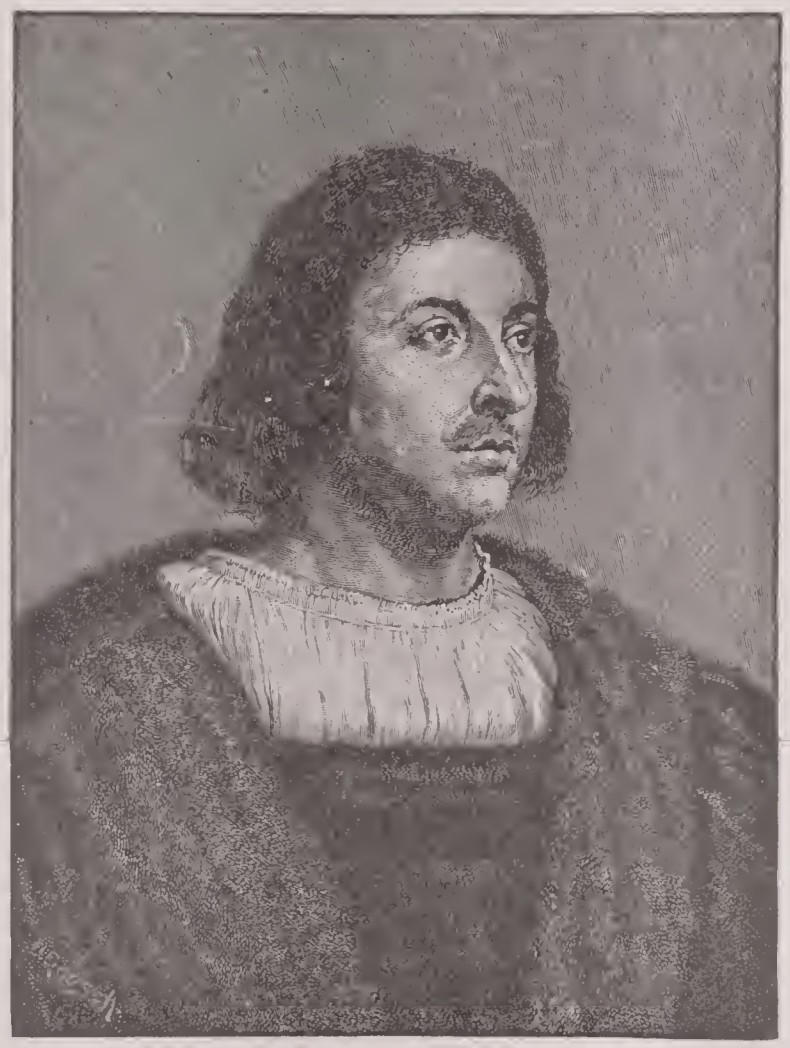
Boat'land, in *Tennessee*, a post-office of Fentress co.

Boat'man, Boats'man, *n.* (*Naut.*) A man who works or manages a boat.

"That hoohy Phaon only was unkind,
An ill-bred *boatman*, rough as waves and wind."—*Prior.*

Boat'-rope, *n.* (*Naut.*) A rope used to secure a boat to anything; technically called a *painter*.

Boatswain, (colloquially, *bō'sun,*) [A.S. *batswan*—*bat*, boat, and *swan*, a servant.] (*Naut.*) A warrant officer in a ship, who has charge of the boats, sails, rigging, colors, anchors, cables, and cordage. It is the business of this officer to summon the crew to their duty, and to assist with his mates in the working of the ship.—



Giovanni Boccaccio

1313–1375

The *B.'s mate* is an assistant to the *B.*, in all the above-mentioned duties, with the disagreeable addition of having to inflict all punishments awarded to the men.

B.'s Call. The whistle suspended by a cord from the neck of the *B.*, by which he issues his calls and commands.

Boavis'ta, the most easterly of the CAPE DE VERD ISLANDS, *q. v.*

Bo'az, a wealthy citizen of Bethlehem, and descendant of Judah, through whom is traced the regular succession of Jewish kings, (*Matt.* i. 5.) His conduct in the case of Ruth proves him to have been a man of fine spirit and of strict integrity. He admitted the claim which Ruth had upon him as a near kinsman: under the obligations of the Levitical law, he married the poor gleaner, and thus became one of the ancestors of David, and also of David's Son and Lord. He was the father of Obed, who was the father of Jesse, and Jesse of David. The whole narrative is a beautiful picture of the simplicity of the age, and one of the most charming idyllic passages in the Bible.

Bo'az, in *Wisconsin*, a post-village of Richland co., 8 m. W. of Richland Centre.

Bob, *n.* [Icel. *bobbi*, a knot; Gael. *bab*, a tuft, a tassel.] Any little round thing that plays loosely at the end of a string, &c.; an ornament hanging from the ear; a pendant.

"The gaudy gossip when she 's set agog,"
In jewels drest, and at each ear a *bob*." — *Dryden.*

—The ball of a short pendulum, being the metallic weight which is attached to the lower extremity of a pendulum-rod. — Also, the weight at the end of a plumb-line.

—A bait of worms, &c., fastened on a hook to entice fish: as, "yellow *bobs*." *Lawson.* — A short, jerking motion; as, a *bob* of the head. — The refrain, or repeated words at the end of a song; a stanza. (R.)

"To hed, to hed, will he the *bob* of the song." — *L'Estrange.*

—A slight blow; a jog, or push; as, to give one a *bob* on the mouth.

"I am sharply taunted, yea, sometimes with pinches, nips, and *bobs*." — *Ascham.*

—A bob-wig or peruke; as, "A plain brown *bob* he wore." *Shenstone.*

—In Campanology, a peculiar method of ringing bells; as, a *bob*-major; *bob*-minor, &c.

(*Mining.*) A miner's engine-beam.

—*v. a.* (*imp.* BOBBED; *ppr.* BOBBING.) To move with a short, jerking motion; as, "seeing a blow coming, he *bobbed* his head a little aside." — To beat with a quick blow; to bang.

"Those bastard Britons, whom our fathers
Have in their own land beaten, *bobb'd* and thump'd." — *Shaks.*

—To cheat; to fraudulently obtain.

"Of gold and jewels that I *bobb'd* from him,
As gifts to Desdemona." — *Shaks.*

—To mock; to make sport of.

—*v. i.* To play backward and forward, or up and down; to oscillate loosely.

"They comb, and then they order ev'ry hair,
A birthday jewel *bobbing* at their ear." — *Dryden.*

—To angle or fish for eels, &c., as with a *bob* for bait.

"He ne'er had learned the art to *bob*
For anything but eels." — *Saxe.*

Bob'bery, *n.* A vulgarism to express a row, wrangle, squabble, or tumult.

Bobbin, (*bob'bin.*) [Fr. *bobine*, from Gr. and Lat. *bombyx*, a silk-worm.] A small wooden pin, with a notch, to wind the thread about in weaving lace. — The spool upon which sewing-thread is wound. — A quill for a spinning-wheel. — A round lace.

Bob'binet, *n.* (*Manf.*) See LACE MANUFACTURE.

Bob'bin-work, *n.* Work woven with bobbins.

"Not netted nor woven with warp and woof, but after the manner of *bobbin-work*." — *Grew.*

Bob'bio, a walled town of N. Italy, prov. Genoa, on the Trebbia, 34 m. N.E. of Genoa; *pop.* 4,983.

Bob'by, *n.* A cant term for a policeman. (Used in England.)

Bob'-cherry, *n.* (*Pastimes.*) A children's play, in which a cherry is suspended at the end of a string, when they attempt to seize it with their teeth, having their hands secured behind them.

"*Bob-cherry* teaches at once two noble virtues, patience and constancy." — *Arbuthnot.*

Bob'-o-link, BOB-LINCOLN, RICE-BUNTING, or RICE-BIRD, *n.* (*Zoöl.*) An American bird, genus *Dolichonyx*, family *Icteridæ*. The specific characters of this bird are, tail-feathers very acute; adult male, in spring dress, black, the hind head yellowish-white; scapulars, rump, and tail-coverts, white, tinged with ash. The Rice-bunting migrates over the continent of America from Labrador to Mexico, and over the Great Antilles, appearing in the southern extremity of the United States about the end of March. Their food is insects and worms, and the seeds of the grassy meadows. In the autumn they sometimes attack the crops of oats and barley. The song of the male continues, with little interruption, as long as the female is sitting, and is singular and pleasant; it consists of a jingling medley of short, variable notes, confused, rapid, and continuous. The relish for song and merriment is confined to the male; but he generally loses his musical talent about the end of the first week in July, from which time, or somewhat earlier, his plumage begins to lose its gay colors, and to assume the humble hue of that of the female. About the middle of August they enter New York and Pennsylvania, on their way to the south. There, along the shores of the large rivers lined with floating fields of wild rice, they find abundant subsistence, grow fat, and their flesh becomes little inferior in flavor to that of the European ortolan; on which account the *B.* are shot in great numbers, and sold in the markets.

Fig. 379. — BOB-O-LINK. (*Dolichonyx oryzivorus.*)

Bo'brov, a town of Russia in Europe, govt. Voroneje, on the Bitiong, 52 m. S.E. of Voronetz; Lat. 50° 5′ N., Lon. 40° 10′ E. This place derives its name from the number of beavers (*bobry*) formerly found in its vicinity. *Pop.* about 4,000.

Bobru'isk, a town of European Russia, govt. Minsk, on the Bobruia, where it falls into the Berezina, 90 m. S.E. of Minsk. This town effectually resisted the French in 1812.

Bob'stay, *n.* (*Naut.*) A rope used to confine the bowsprit downwards to the stem or cutwater, and to counteract the force of the stays of the foremast, which it draws upwards. It is fixed by passing one of its ends through a hole bored in the fore part of the cutwater, both ends being spliced together, so as to make it two-fold, or like the link of a chain. A dead-eye is then fixed in it, and a lanyard passed through, which communicates with another dead-eye upon the bowsprit. This is then drawn extremely tight by the help of mechanical power.

Bob'tail, *n.* A short, or docked tail; as, a *bobtail* nag. —A vulgarism, used in speaking contemptuously of the rabble; as, "tag, rag, and *bobtail*."

Bob'tailed, *a.* Having the tail docked, or cut short.

"There was a *bobtailed* cur cried in a gazette." — *L'Estrange.*

Bob'town, in *Massachusetts*, a thriving village of Pittsfield township, Berkshire co., 30 m. W.N.W. of Northampton.

Bob-white, *n.* (*Zoöl.*) See PERDISIDÆ.

Bob'-wig, Bob'tail-wig, *n.* A short wig.

"A young fellow . . . with a *bob-wig* . . . stopt short at the coach, to ask us how far the judges were behind." — *Spectator.*

Boca, (*bō'ka.*) [Sp., mouth.] A term often applied to the mouths of rivers, &c., as *Boca* (or *Bocca*) Tigris.

Bo'ca Chi'ca, in *New Granada*, the channel leading up to the port of Carthagena.

Bo'ca del To'ro, ("mouth of the bull,") in Costa Rica, Central America; Lat. 9° 20′ N., Lon. 82° W.

Bo'ca de Na'vios, ("passage for ships,") in S. America, the principal mouth of the Orinoco River.

Bo'ca Grande, ("chief entrance,") a bay of Central America, in Costa Rica, at the mouth of the Zucar River, on the Caribbean Sea.

Bocai'na, in Brazil, a mountain-chain of the prov. of Rio de Janeiro, being a spur of the Organ Mountains.

Bo'cal, *n.* [Fr.] A cylindrical glass vessel with a large and short neck, used for preserving solid substances.

Bocar'do, *n.* (*Logic.*) A syllogism in which the first and last propositions are particular negatives, and the middle is a universal affirmative.

Bocasine, (*bok'a-seen,*) a sort of linen cloth; a fine kind of buckram.

Bocato'rium, *n.* [Lat.] The ancient name for a slaughter-house.

Boc'ca, *n.* [It., mouth.] In glass-manufacture, a term signifying the round aperture of the furnace, through which the glass, in a state of fusion, exudes.

Boccaccio, GIOVANNI, (*bok-kat'cho,*) a celebrated Italian novelist, was the son of a Florentine merchant, but B. in Paris, 1313. His passion for literature led him to abandon, first, commerce, and next the study of law. He spent some years at Naples, and while there, in 1341, fell in love with a beautiful girl, a natural daughter of the King of Naples, for whom he wrote several of his works, and whom he named "Fiammetta." He was afterwards patronized by Queen Joanna, and for her, as much as for his "Fiammetta," is said to have written his chief work, the *Decamerone*. On his father's death he returned to Florence, where he was greatly honored, and was sent on several public embassies. Among others, he was sent to Padua to communicate to Petrarch the tidings of his recall to Florence. He gained the friendship of the illustrious poet, and enjoyed it through life. Boccaccio, like Petrarch, contributed greatly to the revival of the study of classical literature, spent much time and money in collecting manuscripts, and was the first to bring into Italy, from Greece, copies of the *Iliad* and the *Odyssey*. A solemn message from a dying monk, about 1361, deeply impressed Boccaccio, and led to a remarkable reformation in his manner of life. He was chosen by the Florentines to occupy the chair which was established in 1373 for the exposition of the "Divina Commedia." In the following year he had to mourn the loss of his master and friend, Petrarch; and, after some months of broken health, he D. at Certaldo, in Dec., 1375. The *Decamerone*, on which his fame rests, is a collection of a hundred tales, full of liveliness and humor, but often licentious and indecent. The book was published about 1352, and, after two centuries, was condemned by two popes and by the Council of Trent. *B.* wrote *La Teseide*, imitated by Chaucer, and other poems and romances, besides many works in Latin. See *Life and Works of B.*, by Dr. M. Landau, 3 vols. (Stuttgart, 1869-75-77).

Boccanera, (*bok-ka-nair'a,*) the name of a noble Italian family, who figured in Italian history during the 13th and 14th centuries. One of them, SIMON *B.*, was the first doge or duke of Genoa, being elected in 1339. D. of poison, 1362.

Bocchetta, (*bok-ket'ta,*) a celebrated pass of the Apennines, the key of the route from Novi to Genoa, and from which a magnificent view may be had of the surrounding scenery. Redoubts were raised here by the Imperialists in 1746, and the French passed the defile in 1796.

Boc'cius Light, *n.* A form of gas-burner invented by Boccius, in which two concentric metal cylinders are so placed over the flame, and within the usual lamp glass, as to modify the combustion and increase the proportion of light.

Boc'cold, JOHN. See LEYDEN, (JOHN OF.)

Bocce, *n.* (*Zoöl.*) See SPARUS.

Bochim, (*bo'kim,*) (*Anc. Geog.*) a place near Gilgal, where the angel of God reproved Israel for their remissness. (*Judg.* ii. 1-5.)

Boch'nia, a town belonging to Austria, in Galicia, near the Raba, 25 m. E.S.E. of Cracow. Extensive salt mines are in the vicinity. *Pop.* about 6,000.

Boch'old, or **Bock'holt,** a town of Prussia, prov. Westphalia, on the Ahé, 15 m. E.N.E. of Cleves. *Manf.* Cotton and silk. Rich iron mines are adjacent.

Boch'um, a town of Prussia, prov. Westphalia, 25 m. N.E. of Düsseldorf. *Manf.* Carpets, iron and steel, armor plating for ships, machinery, &c.

Bock'elet, Bock'erel, Bock'eret, *n.* (*Zoöl.*) See HAWK.

Bock'ey, *n.* A term used in New York, for a bowl or vessel made from a gourd.

Bock'ing, *n.* A coarse description of drugget. Named from the village of Bocking, in England, where it was first made.

Boc'land, BOOK'LAND. [A.S.] (*Feudal Law.*) A term to denote land held by *book* or charter. Lands so held were estates of perpetual inheritance, as distinguished from *folcland*, which, as being the property of the community, might be granted to persons in the "folcgemote," but which, at the expiration of a given term, reverted to the community. Folcland was subject to many burdens from which *B.* was exempt. The latter obliged the owner to contribute only to military expeditions, and the repair of castles and bridges — an obligation expressed by the term *Trinoda necessitas*. The word "folcland," falling into disuse, was replaced by the term *terra regis*, or "crown land."

Bod'can Bayou, in *Arkansas* and *Louisiana*, a stream rising in the S.W. part of the first-named State, and passing S. into Louisiana, falls into Red River in Bossier parish.

Bode, JOHANN ELERT, a German astronomer, was born at Hamburg, in 1747. At an early age he became assistant to Bush, and in 1772 was called to Berlin by Frederick II. One of his best works is the *Anleitung zur Kenntniss des gestirnten Himmels*, which appeared in 1768, and has passed through more than twenty editions. He published also a *Celestial Atlas*, *Astronomical Annals*, &c., and was a member of the principal scientific societies of Europe. The so-called law of the planetary distances, usually called "Bode's Law," was first suggested by Professor Titius, of Wittenberg. D. 1826.

Bode, *v. a.* [A.S. *bodian, bodigean, gebodian*, from *bod*, a command, message, or edict; radically the same as *bid*; Ger. *gebot*, a command, from *bieten*, to offer.] To utter; to tell; to announce; to portend; to foreshow; to presage; to be the omen of.

"This *bodes* some strange eruption to our state." — *Shaks.*

—*v. i.* To foreshow; to presage.

"Sir, give me leave to say, whatever now
The omen prove, it *boded* well to you." — *Dryden.*

Bode'ga, in *California*, a post-village and township of Sonoma co., on Bodega Bay, 62 m. N.W. by N. of San Francisco.; *pop.* 1,407.

Bode'ful, *a.* Ominous; foreshadowing; portending.

Bode'ment, *n.* Portent; omen; prognostic. (o.)

"This foolish, dreaming, superstitious girl,
Makes all these *bodements*." — *Shaks.*

Bo'denham, in *Tennessee*, a post-village of Giles co., about 70 m. S.S.W. of Nashville.

Bode's Law of the Distances. (*Astron.*) This law, as it is termed, expresses a very curious relation among the distances of the several planets of our solar system from the sun; and of the satellites from their primaries. It is wholly empirical, *i. e.*, we know no physical origin or cause for it; nevertheless, and notwithstanding the existence of exceptions or irregularities, it assuredly does point to some conditioned arrangement in our system. — I. With regard to the planets and the sun, the law may be presented as follows: Write the names of the planets in a line and under each place the number 4. Beneath the 4 under Mercury place 0; beneath the 4 under Venus write 3; beneath the 4 under the Earth write twice 3; beneath the 4 under Mars four times 3; then eight times 3, and so on. Add their several columns as below:

Mer.	*Ven.*	*Earth.*	*Mars.*	*Ast.*	*Jup.*	*Sat.*	*Uran.*	*Nep.*
4	4	4	4	4	4	4	4	4
0	3	6	12	24	48	96	192	384
4	7	10	16	28	52	100	196	388
3·9	7·3	10	15·2	27·4	52	95·4	192	300

The numbers in the lower line are the actual distances of the planets from the sun, on the scale that the earth's distance is 10. The general conformity is too great to result from accident. The existence of the Asteroids at distance 27·4 was predicted by Olbers, through consideration of Bode's Law, because of the gap between Mars and Jupiter. The grand breach of the Law is in the case of Neptune, a breach which might be explained if we knew the cause or physical origin of the Law itself. II. A principle of order quite corresponding, although in its indices somewhat different, may be traced

in the only two groups of satellites with which we are yet fully acquainted. First, with regard to the satellites of Jupiter. The constant number here is 7; the number to be multiplied, 4; and the multiplier, 2½. Notice the correspondence as below; the Roman letters indicate the satellites:

	I	II	III	IV
	7	7	7	7
	0	4	10	25
	7	11	17	32
True dist.	6.9	11	17·5	31

Secondly, as to the satellites of Saturn. The constant number in this case is 4, and the other parts of the series very simple, viz.: —

	I	II	III	IV	V	VI	VII	VIII
	4	4	4	4	4	4	4	4
	0	1	2	4	8	16	32	64
	4	5	6	8	12	20	36	68
True dist.	4	5·1	6·2	7·9	11·1	25·7	33	74

There is considerable irregularity in case of the last three satellites; but is it not some compensation, that the lately discovered satellite, *Hyperion* or the *Seventh*, might have been suspected to exist as well as the Asteroids, because of the gap between the sixth and eighth as indicated by this Law?—Of the satellites of Uranus it would be premature at present to conclude anything.

Bodice, Boddice, (*bod'dis,*) *n.* Something worn round the body or waist; specifically, a woman's corset or stays.

"Her *bodice* half-way she unlac'd."—*Prior.*

—*v. a.* To lace or fasten a bodice, or stays.

"Round her little waist was,
Comfortably *boddiced.*"—*Thackeray.*

Bo'die, or **Bo'die's Bluff,** in *California*, a mining village of Mono co., 9 m. W. of Aurora, Nevada.

Bodied, (*bod'id,*) *a.* Having a body; as, a full-*bodied* wine.

Bod'iless, *a.* Having no body; incorporeal.

"They *bodiless* and immaterial are."—*Davies.*

Bod'iliness, *n.* State of having a body; corporeality.

Bod'ily, *a.* Corporeal; real; actual; containiug a body.

"A spirit void of all sensible qualities and *bodily* dimensions."
South.

—Relating, or pertaining to the body, as apart from the mind.

"Virtue atones for *bodily* defects."—*L'Estrange.*

—*adv.* In the form of a body; corporeally; entirely.

"It is his human nature, in which the godhead dwells *bodily.*"
Watts.

Bo'dinesville, in *Pennsylvania*, a post-office of Lycoming co.

Bod'ing, *p. a.* Foreshowiug; presaging.

"Well had the *boding* tremblers learned to trace
The day's lisasters in his morning face."—*Goldsmith.*

Bod'ing, *n.* An omen; prognostic; prevision.

Bod'ingly, *adv.* In a boding, or ominous manner.

Bod'kin, *n.* [Scot. *brod*, prov. Eug. *brode*, a sharp-pointed instrument, and term. *kin*; Icel. *brodde*, from *bryddi*, to sharpen; Dan. *brod.*] Originally, a dagger; whence, a small, sharp-pointed instrument of steel, bone, &c., used for piercing holes.

"Each of them had *bodkins* in their hands, wherewith continually they pricked him."—*Sir P. Sidney.*

—A kind of needle used to draw a ribbon, cord, &c. through a loop.

"Or plung'd in lakes of bitter washes lie,
Or wedg'd whole ages in a *bodkin's* eye."—*Pope.*

—A rich kind of cloth. See BAUDKIN.

(*Printing.*) A sharp instrument employed for picking out letters when making corrections in type.

Bo'dle, *n.* A Scotticism for a peuny Scots; a coin worth about an English farthing.

Bodlei'an (or BODLEYAN) **Library,** the celebrated library of the University of Oxford, was founded by Sir Thomas Bodley, an eminent diplomatist of the days of Queeu Elizabeth, in 1610. It was completed in 1613, aud enlarged in 1634. It contains upwards of 400,000 vols. of printed books, and 22,000 vols. of MSS.

Bod'min, a borough of England, co. Cornwall, 25 m. W. by N. of Plymouth. It is an ancient town and has heen partially rebuilt. *Manf.* Shoes.

Bod'y, *n.* [A. S. *bodig*; O. Ger. *bolah*; Gael. *bodhaig*, the body.] The frame or material substance of an animal, dead or living; as contradistinguished from the *spirit.*

"And her soul saw a glimpse of happiness through the chiuks of her sickness-broken *body.*"—*Fuller.*

—The trunk of an animal; main stem of a tree; principal part of any matter or collective mass, in distinction from the members, branches, and connecting parts; as, the *body* of a speech; the *body* of au army; the *body* of a coach, &c.

"Rivers that run up into the *body* of Italy."—*Addison.*

—A person; a human being; whence *somebody* and *nobody.*

"A demd, damp, moist, unpleasant *body.*"—*Dickens.*

—Any collective mass; joint power; general system; as, a *body* of laws.

—A corporation; an organized company of individuals united for some common purpose; as, a legislative *body.*

'Nothing was more common, than to hear that revereud *body* charged with what is inconsistent."—*Swift.*

(*Geom.*) A term synonymous with *solid:* thus we say, the five regular *bodies*, or five regular *solids.* A body has three dimensions, length, breadth, and thickness; and it is either hard, soft, or elastic.

(*Phy.*) A term applied to any portion of matter of which the existence can be perceived by any of our senses. According to the Peripatetics, body is composed of *matter, form*, and *privation.* In modern physics, body is regarded as an agglomeration of material particles. According to the different forms in which matter exists, bodies may be *solid, liquid*, or *gaseous.*

(*Painting.*) A thick consistency of color; body-color.

—Strength; substance; reality; governing quality; as, port-wine of a good *body.*

—*v. a.* To give a body to; to produce in some form; to incarnate; to embody; (followed by *forth.*)

"As imagination *bodies forth*
The form of things unknown, the poet's pen
Turns them to shape.'—*Shaks.*

Body Camp, in *Virginia*, a post-office of Bedford co.

Bod'y-clothes, *n. pl.* Clothing for man or horse. (Specifically applied in the latter sense.)

"I am informed that several asses are kept in *body-clothes*, and sweated every morning upon the heath."—*Addison.*

Bod'y-coat, *n.* A gentleman's dress-coat.

Body Colors, *n. pl.* (*Paint.*) Pigments employed in executing heraldic paintings and illuminated work, in which the color is required to be laid on in such a manner that it may form a thick uniform coating over the paper or vellum on which the outline is traced, utterly devoid of transparency. Body-colors for these purposes are generally sold in the form of powder, and require to be mixed with a little gum-water. They can be made, however, by the mixture of any simple water-color with flake-white or Chinese white; thus, the heraldic azure is obtained by mixing ultramarine or cobalt-blue with either of these pigments. Body-colors prepared in this manner are used by painters to produce brilliant effects in water-color drawings, and form high lights, such as those reflected from armor, which cannot be obtained so clearly by putting on the coloring shade by shade, or by wiping out with rag or chamois-leather.

Bod'y-guard, *n.* The guard that protects or defends the person; as, the king's *body-guard.*

Body of the Place, *n.* (*Fortif.*) See ENCEINTE.

Bod'y-plan, *n.* (*Naval Arch.*) A drawing in sectional parts, showing the fore and after parts of a vessel.

Bod'y-pol'itic, *n.* The collective body of a people under a civil government.

Bod'y-snatcher, *n.* One who surreptitiously disinters a human body in a church-yard, for the purpose of dissection; sometimes called a *resurrectionist.*

Bod'y-snatching, *n.* The act of despoiling a grave of its tenant for the purpose of dissection.

Boece, HECTOR, (or **Boethius,**) (*bo-e'the-us,*) a Scottish historian, B. at Dundee, about 1465. He was educated at Aberdeen and the University of Paris, held the chair of Philosophy at the latter, and was afterwards principal of King's College, Aberdeen. He was a correspondent of Erasmus. He wrote a *History of Scotland*, in Latin, which appeared in 1526, aud obtained him a pension from the king; and *Lives of the Bishops of Aberdeen.* The history is praised more for its style than for its matter, the author sharing in the credulity of his age. D. about 1536.

Bœhmeria, (*be(r)-meer'i-a,*) *n.* (*Bot.*) A genus of plants, order *Urticaceæ.* From several species valuable fibres are obtained. *B. frutescens*, or *puya*, a plant growing wild in Nepaul and Sikkim, is the source of the celebrated Pooah fibre, which rivals the best European flax for tenacity. This species attains the height of six or eight feet; but the stem is usually very slender. It is cut down for use when the seed is formed; the bark is then peeled off, dried, boiled with wood-ashes, and beaten with mallets, to separate its component fibres. *B. speciosa*, the wild rhea, also yields a very strong fibre, which is much used in the East. *B. nivea*, the Tchou Ma of the Chinese, is now known to yield the fibre used in the manufacture of the beautiful fabric called Chinese-grass-cloth. The most important species, *B. nivea* or *tenacissima*, will be examined under its common name. RAMIE.

Bœotia, (*be-o'shah,*) a region of anc. Greece, now forming the N. part of the nomarchie of Attica and Bœotia, between Lat. 38° 9′ and 38° 41′ N., Lon. 22° 53′ and 23° 49′ E.; shape triangular, having N.W. Phocis, N. the Opuntian Locris, N.E. the channels of Talanda and Egripo, and S. Attica and the Corinthian Gulf; length, E. to W. about 42 m.; greatest breadth 27 m. Its mountains, the most celebrated of which is Zagora (anc. *Helicon*), mostly surround or divide it into two principal basins, those of the Cephisus and Thebes. Its chief rivers are the Gayrios (*Cephisus*) and the Asopo (*Asopus*). It contains three lakes, one of which, Topolias, is the largest in Greece. It is a high but well-watered region; and as many of the streams find their way, and the lakes their outlets, to the sea only by means of subterraneous courses, marshes abound; and the atmosphere is damp, foggy, oppressive, and unhealthy in some places, as at Livadia, where intermittent fevers are prevalent. *B.* is, however, fertile, and well cultivated, especially with wheat, rice, madder, cotton, maize, hemp, and tobacco. The lake Topolias still produces the reeds anciently so celebrated for the construction of rustic flutes, and Bœotian pipers are still in high repute. Most of the cottages are built of these reeds. Many spots in *B.* present striking scenery. It forms two governments or *eparchies*, those of Thebes (*Thiva*), and Livadia, which are its two principal towns. — In antiquity, the inhabitants of *B.* were noted for their natural dulness and stupidity, even to a proverb (*Boiōtiasus*); yet it will be found that no single province in Greece, save Attica, could furnish a list of poets and other writers in which are included such names as Hesiod, Corinna, Pindar, and Plutarch.

Bœotian, (*be-ō'shan.*) *n.* A native of, or one who inhabits, Bœotia.

—*a.* Pertaining, or relating to Bœotia, or to its inhabitants; hence the proverbial deduction, — stupid, obtuse, rude. — See BŒOTIA.

Boerhaave, HERMANN, (*boor'hav,*) the great physician, was B. near Leyden, 1668. He was educated at the University of Leyden, and was destined by his father for the church; but at the age of 22 he applied himself to the study of medicine under Drelincourt. He began lecturing in 1701, and was, eight years later, appointed Professor of Medicine and Botany. The chairs of Practical Medicine and Chemistry were afterwards assigned to him, and he filled them with the greatest distinction. He became rector of the University, and was admitted to the French Academy of Sciences, and, in 1730, to the Royal Society of London. He enjoyed a reputation almost unparalleled; his system was generally adopted, and patients went, or wrote, to him from all parts of Europe. His character was without a stain, and the esteem of his fellow-townsmen was strikingly shown on his recovery from a serious illness, in 1723, by a general illumination. His fame rests principally on his *Institutiones Medicæ*, published in 1708, translated into all European languages and into Arabic, and commented on by Haller; and his *Aphorismi de Cognoscendis et Curandis Morbis*, also translated by Van Swiéten. D. 1738.

Boers, [Dut. *boer*, a countryman.] The descendants of the Dutch colonists of S. Africa. In 1880–81 they made themselves conspicuous by their successful resistance to British domination. See SOUTH AFRICAN REPUBLIC.

Boethius, ANICIUS MANLIUS TORQUATUS SEVERINUS, (*bo-e'the-us,*) a Roman philosopher, whose virtues, services, honors, and tragical end, all combine to render his name memorable, was born A. D. 470; he studied at Rome and Athens; was profoundly learned, and filled the highest offices under the government of Theodoric the Goth. He was three times consul, and was long the oracle of his sovereign and the idol of the people; but his strict integrity and inflexible justice raised him up enemies in those who loved extortion and oppression, and he at last fell a victim to their machinations. He was falsely accused of a treasonable correspondence with the court of Constantinople, and after a long and rigorous confinement at Pavia, was executed in 524. His *Consolations of Philosophy*, written in prison, abounds in the loftiest sentiments, clothed in the most fascinating language. This treatise was one of the most widely-read books in the Middle Ages, and has been translated into many languages. Alfred the Great translated it into English.

Bœttcher, or BÖTTGER, (*but'ker,*) ADOLPH, a German poet, B. at Leipzig, 1815, was educated there, and, in 1836, entered its university, where he devoted himself to philological pursuits, particularly in the modern languages, and to the study of the German and English poets. Among his numerous poetical productions, his translations of the English poets occupy a conspicuous place. In addition to the works of Shakspeare and Byron, he has translated the poems of Goldsmith (1843), of Pope (1842), of Milton (1846), and of Ossian (1847). Among this author's general works are, *Agnes Bernauer*, a drama (1845); *Songs of Midsummer* (1847); *On the Watch-Tower* (1847); *A Tale of Spring* (1849); *Till Eulenspiegel* (1850); *The Pilgrimage of the Flower-Spirits* (1851); and *Shadows* (1856). He also published a collection of smaller lyrics. Died in 1870.

Bœttiger, KARL WILHELM, (*boot'e-zher,*) Professor of Literature and History in the University of Erlangen, born at Bautzen, Aug. 15, 1790, studied successfully at Weimar, Gotha, and Leipzig, where he applied himself particularly to history. In order to attend Heeren's lectures, and have the benefit of the library there, he resided a year (1815–16) in Göttingen, and, in 1817, qualified himself for a professorship in the University of Leipzig, to which he was appointed in 1819. In 1821 he accepted a call to Erlangen, where, in 1822, he was appointed to the second place in the library of the University. His most important historical works are, *Universal History* (1849); *German History* (1838); *History of Bavaria under its Old and New Constitution* (1837); *History of Germany and the Germans* (1845); *Abridged History of the Electoral State and Kingdom of Saxony*, for Heeren and Ukerts's *European History;* and *Universal History in Biography.* Died Nov. 26, 1862.

Bœuf Bayou, in *Arkansas* and *Louisiana*, takes rise in the former State, and traversing Louisiana, falls into the Washita River, 10 m. from Harrisonburg.

Bœuf Creek, in *Mo.*, a twp. of Franklin co.

Bog, *n.* [Gael., W., and Ir. *bog*, soft, penetrable; A. S. *bugan*, to bend, to give way; O. Ger. *bingan*, to bend; Ar. *bawgha*, soft earth.] Soft ground which bends or yields to pressure; a quagmire; a marsh; a morass; as, the *Bog* of Allen.

"He walks upon *bogs* and whirlpools; wheresoever he treads he sinks."—*Shaks.*

—A term confined to the U. States, specifying an elevated hillock of earth found here and there in swamps, &c.

—*v. a.* To plunge or flounder, as in mud or mire.

Bog'-beau, *n.* (*Bot.*) See MENYANTHES.

Bog'-berry, *n.* (*Bot.*) The name of the cranberry.

Bo'gands, in *Missouri*, a village of Carroll co., 100 m. N.W. of Jefferson City.

Bo'gard, in *Indiana*, a township of Daviess co., 24 m. E.N.E. of Vincennes.

Bog'-butter, *n.* (*Min.*) A variety of *hartite* or *guayaquilite*, found in the peat-swamps of Ireland.

Bog'-earth, *n.* (*Min.*) The name given to a collection of peat earth and vegetation, or to an accumulation of peaty soil under the influence of rain or of running waters. The soil thus collected is composed principally of silica and vegetable fibre. On the continent of Europe, *B.* is worked for peat under the names of *lager veen* and *hoog veen*, the lower or the higher peat, according as the mass may occur with respect to the water-line

of the country; the *hoog veen* is usually considered to be the more valuable of the two, on account of the smaller quantity of water it contains. Many human remains and relics of animals have been discovered in bogs, which possess a strange antiseptic power.

Bo'gey, Bo'gy, Bo'gle, Bog'gle, *n.* [Scot. *bogle*, spectre; W. *bwgan*, a hobgoblin.] A spectre; a hobgoblin; a ghost; an apparition; a bugbear.

"Whiles glow'ring round wi' prudent cares,
Lest *bogles* catch him unawares." — *Burns.*

"I am *Bogey*, and I frighten everybody away." — *Thackeray.*

Bog'gle, (*bog'l,*) *v. i.* [From Bog.] To stop or stick like one in a bog; to stop, as if afraid, unable, or unwilling to proceed; to hesitate, waver, doubt, or dissemble.

"Nature, that rude, and in her first essay,
Stood *boggling* at the roughness of the way." — *Dryden.*

—*v. a.* Used in the U. States in the sense of to confound or confuse with embarrassments, trials, or difficulties.

Bog'gler, *n.* One who boggles, or makes a difficulty.

"You have been a *boggler* ever." — *Shaks.*

Bog Grove, in *Illinois*, a township of Kendall co.

Boggs, in *Pennsylvania*, a flourishing township of Centre co.

—A township of Clearfield co.

Boggs'town, in *Indiana*, a post-office of Shelby co.

Boggs'ville, in *W. Virginia*, a post-office of Roane co.

Bog'gy, *a.* Containing bogs; full of bogs.

Bog'gy Depot, in *Indian Territory*, a post-office of the Choctaw Nation.

Bog'head-coal, *n.* (*Min.*) A highly bituminous variety of the Parrot or Cannel coal of Scotland, from the higher part of the Scotch coal-field worked at Boghead, in Lanarkshire. — The bituminous varieties of cannel pass into bituminous shale by insensible gradations, so that it is impossible to draw a line of separation which shall properly limit the use of the term *coal*. The *B.* is one of those substances much more valuable for gas-making and for the oils and paraffin obtained from it on slow distillation, than for fuel in the ordinary sense of the word. Dr. Andrew Fife found a picked specimen to yield in analysis, 70 per cent. of volatile matter and 30 per cent. of ash.—See Bituminous Shale; Cannel Coal.

Bog Iron-ore, *n.* (*Min.*) A hydrous oxide of iron, common in flat marshy localities. It is of variable composition, containing from 20 to 70 per cent. of peroxide of iron; the protoxides of iron and manganese are often present, and sometimes as much as 10 per cent. of phosphoric acid and organic matter. Large quantities of the skeletons of Infusoria (*Gaillonella ferruginea*) have been found by Ehrenberg, in the *B.*-ores of Prussia, the Ural mountains, and New York State. The infusoria of this ore are stated by the same authority to be only one-thousandth of an inch in diameter, or half that of a human hair; consequently, a cubic line would contain 1,000,000,000 of these minute organisms.—See Lake Ore.

Bog'land, *a.* Belonging to a boggy country; as, "*bogland* captive." — *Dryden.*

Bo'gle, Bog'gle, *n.* See Bogey.

Boglipoor', in *Hindostan.* See Bhaugulpore.

Bog-manganese, *n.* (*Min.*) See Wad.

Bog'nor, a maritime town and sea-bathing resort of England, co. Sussex, 56 m. S.W. by W. of London; *pop.* about 3,000.

Bogod'onkhof, or Bogoduchow, a town of European Russia, govt. Kharkov, on the Merlc, 60 m. N.E. of Pultowa; Lat. 50° 2′ N., Lon. 35° 50′ E. *Manf.* Leather and shoes. *Pop.* 11,660.

Bog'-ores, *n. pl.* (*Min.*) See Limonite.

Bogoroditsk', a town of Russia in Europe, govt. Tula, at the confluence of the Lesuoi-Oupert and the Viarkova, 40 m. S.S.E. of Tula. There is an imperial castle here. Agricultural produce forms the chief trade. *Pop.* 4,954.

Bogota', (formerly *Santa Fè de Bogota,*) a city and cap. of the republic of Colombia, on an elevated plateau at the foot of Mt. Chingasa, 8,958 feet above sea level, 225 m. E. of the Pacific Ocean, and 50 E. of the river Magdalena; Lat. 4° 35′ N., Lon. 74° 10′ W. The first appearance of the town from the N.W. is very imposing; being built on rising ground, it forms a sort of amphitheatre, and the white towers of the cathedral and the monasteries of Montserrat and Guadalupe are seen seated on lofty peaks behind it. Nearly half the city is occupied by religious structures, which, however, are unattractive in appearance. The streets are narrow, but regular, and the houses are built low, on account of the frequency of earthquakes. *B.* contains the palace of the former Spanish viceroys of New Granada, and a university, colleges, schools, and a public library. The market is well and cheaply supplied with provisions, but all European and American goods are extravagantly dear. The city is badly lighted and undrained, and there are no vehicles of any description to be seen. *B.* was founded by the Spaniards, in 1538, and in 1548 created a city and the seat of a royal *audiencia*. *Pop.*, in 1897, about 100,000.

Bogota, (Rio De,) a large river of S. America, rising near the city of Santa Fé, and running through a narrow glen of 40 m. long, forms the cataract of Teqnendama, 900 feet high.

Bog'-rush, *n.* (*Bot.*) See Schœnus.

Bog'-spavin, *n.* (*Farriery.*) An encysted tumor in the inside of a horse's hough.

Bog'-trotter, *n.* A dweller among bogs. (Formerly applied, as a name of contempt, to the Irish turf-cutters.)

Bog'-trotting, *a.* Living among bogs.

Bogue, in *N. Carolina*, a vill. of Columbus co.

Bogue Chit'to, in *Mississippi*, a P. O. of Lincoln co.

Bogue Homo (*bōg ho'mo*) **Creek,** in *Mississippi*, emptying into Loaf river, in Perry co.

Bo'gus, *a.* Anything counterfeit; spurious; not genuine. (American.)

Bogwango'la, an inland town of Hindostan, pres. Bengal, 8 m. N.E. of Moorshedabad; Lat. 24° 21′ N., Lon. 88° 29′ E. It is built entirely of bamboo, mats, and thatch, but possesses a considerable trade in grain.

Bog'-wort, *n.* (*Bot.*) See Vaccinium.

Bohain, (*bo-ang'*,) a town of France, dep. Aisne, 16 m. N.N.E. of St. Quentin. *Manf.* German clocks, shawls, and ganzes. *Pop.* 5,556.

Bohea, (*bō-hē'*,) *n.* [From a mountain in China called *Vou-y* or *Voo-y.*] (*Com.*) A sort of coarse or low-priced black tea from China, including *Souchong*, *Pekoe*, and *Congou.*

Bohe'mia, (Kingdom of,) [Ger. *Böhmen;* Boh. *Czech,*] an inland country, occupying the centre of Europe, and forming an important division of the Austrian empire, between Lat. 48° 33′ and 51° 3′ N., and Lon. 12° 5′ and 16° 46′ E.; having N.E. Prussian Silesia, N. and N.W. Saxony, S.W. Bavaria, and S. and S.E. the arch-duchy of Austria and Moravia. In shape it is an irregular rhomboid; its greatest length E. and W. 200 m.; and breadth, N. to S., 170 m. *Area*, 20,285 sq. m.—*Desc. B.* is a basin surrounded on every side by mountain ranges, which in some parts rise to upwards of 5,000 ft. in height. The principal of these chains are the Fichtelgebirge, Erzgebirge, (highest point, the *Schwarzwald*, about 4,000 ft.,) Mittelgebirge, Riesengebirge, and Sudetengebirge, the loftiest elevation of which, the *Snow Cap*, is from 5,200 to 5,400 feet high. The S.W. border is formed by the *Böhmerwald*, or Bohemian Forest mountains, which are wild and precipitous, and contrast remarkably with the Moravian chain in the S.E., which is of gentle ascent, and separates the affluents of the Elbe from those of the Danube. *B.* is drained by the Elbe, and its affluents the Moldau, Adler, Iser, Eger, &c.—*Min.* Coal, iron, and occasionally silver, are found. The mineral springs of Töplitz, Carlsbad, and Seidlitz, have a European reputation.— *Clim.* Healthy, and, generally, inclining to cold. *Soil and Agric.* Very fertile, producing the cereals, hops, and flax and hemp, which latter articles form the staple industry of the country. Agriculture is, however, generally in a backward state. The forests are extensive, and yield annually above 2,000,000 cubic fathoms of wood.—*Manf.* Linens, yarns, lace, woollens, paper, glass, beet-root sugar, metals, &c. Owing to the want of capital, many of the great landed proprietors were obliged to engage in manufactures. Thus, Prince Kinsky, and Counts Harrach and Boucquoy, were the greatest glass manufacturers; Prince Auersperg manufactured sulphur, vitriol, and colors; Count Urbna and Prince Windischgrätz, tin-plates; Count Thun, porcelain; Prince Lobkowitz, earthenware; Prince Wallenstein, beet-root sugar, &c.—*Inhab.* About ⅔ of the inhabitants are Czechs of Slavonic origin; the remainder are Germans and Jews. The German population is more industrious, enterprising, and intelligent, than the Slavonic. Both German and Bohemian are spoken by all classes of society. The people are handsome, gay, fond of music and dancing, and generally of more attractive manners than their Saxon neighbors. There is absolutely no middle class, and with the exception of Prague, there are no great towns, as *foci*, whence intelligence and civilization are diffused over a country. The Bohemian character is, for morality, quite on a par with other countries.— *Religion.* Roman Catholic, but entire toleration prevails. Education is well diffused, and a native literature is springing up.— *Govt. B.* is governed by an Austrian viceroy, and the country has its own representative diets. *Pop.*, 1890, 5,843,094. *Cap.*, Prague. *B.* is more densely populated than any other part of the Austrian empire.—*Hist.* After innumerable mutations, *B.*, with Hungary and Transylvania, fell, in 1526, under the dominion of Ferdinand of Austria, brother of Charles V., who had married the sister and heiress of Louis, King of Bohemia and Hungary, killed at the battle of Mohacz. *B.* was at this period in the enjoyment of a comparatively free constitution, and three-fourths of the people were attached to the reformed faith. The attempts of the Austrian sovereigns to undermine the free institutions of the country, provoked a desperate contest, which continued till 1620, when the Austrian troops totally defeated the Bohemians at the battle of Weissenberg, near Prague. The persecution which followed has seldom or never been surpassed for atrocity. Many of the best and noblest Bohemian citizens lost their lives on the scaffold, and thousands were exiled, and had their estates confiscated. The free constitution of the country was annihilated; the Protestant religion all but extirpated; and such was the combined influence of massacre and exile, that in 1637, the pop. did not exceed 780,000. Subsequently, German emigration into this country received the sanction of the government, and in the reigns of Maria Theresa and Joseph II. a new era began; and the milder and more liberal system of government which they introduced has since been followed up. *B.* was, in 1867, the theatre of the brief but decisive war between Austria and Prussia. See Boii.

Bohe'mia, in *Wisconsin*, a village of La Crosse co.

Bohe'mia Creek, in *Maryland*, emptying into Elk river.

Bohe'mia Mills, in *Maryland*, a village of Cecil co.

Bohe'mian, *a.* Belonging, or relating to, Bohemia.

Bohe'mian, *n.* A native or inhabitant of Bohemia.

—(*pl.*) The name generally given in France to the *Zingari*, or Gipsies, from their supposed advent into that country from Bohemia.

—A term often applied to a struggling and obscure literary man, artist, &c. — Also, (in a lower sense,) to one who wanders about without any osteusible means of livelihood; analogous to the American *loafer.*

Bohemian Brethren. See Moravian Brethren.

Bohemond, or **Boëmond,** (*bo'he-mond,*) first sovereign of Antioch, was son of Robert Guiscard, and distinguished himself in the first crusade, in 1096. He besieged and took Antioch, of which he was made Prince by the Crusaders, and established there a little kingdom, which existed nearly 200 years. Besieged by the Saracens, he completely defeated them; but was soon after captured, and remained their prisoner two years. He subsequently visited Europe, married a daughter of the King of France, and got the emperor to acknowledge his title. Died in Italy, 1111. — Six princes of his name succeeded him in the sovereignty of Antioch, the last, *B.* VII., being dethroned in 1288.

Bohermeen', a village of Ireland, co. Meath, 5 m. W.N.W. of Navan.

Bo'hoe, a parish of Ireland, co. Fermanagh.

Boho'la, a parish of Ireland, co. Mayo.

Bo'hon, in *Kentucky*, a post-office of Mercer co.

Bo'hun Upas, *n.* (*Bot.*) A variety of the *Upas.*

Boi'ar, *n.* [Russ. *bójarin.*] A title of distinction in Russia, &c. — See Boyar.

Boiardo, Matteo Maria, (*bō-yar'do,*) Count of Scandiano, and Governor of Reggio; author of *Orlando Innamorato*, one of the most celebrated poems in Italian literature, the first of a new class,—the romantic epic,—and the model of Ariosto's greater sequel, "Orlando Furioso." The poem was recast by Berni. Boiardo was author of several other poems in Italian and Latin, and made some translations from the Greek and Latin classics. B. 1430; D. 1494.

Boi'arin, *n.* [Russ.] A person of mark and distinction. See Boiar.

Bo'idæ, *n. pl.* (*Zoöl.*) A family of large serpents, including the genera *Boa* and *Python.* Of all the reptiles that exist, none equal the *B.* in size and power; some of them being occasionally met with from 30 to 35 feet in length, and of a strength so prodigious as to be able to destroy deer, oxen, and other large and powerful animals, by enveloping them in their ample folds, crushing them to death, lubricating their bodies with their saliva, and swallowing them at their leisure. In this tribe the branches of the upper and lower jaw, throughout the whole length, as well as the palate bones, are armed with pointed, recurved, solid, and permanent teeth, forming four nearly equal rows above, and two below. They have the tympanic bone or pedicle of the lower jaw movable, which is itself almost wholly suspended to another bone, analogous to the mastoid, and attached to the skull by muscles and ligaments, which contribute to its mobility. The branches of this jaw are not united, and those of the upper jaw are attached to the intermaxillary bone only by ligaments, so that these animals can dilate the mouth sufficiently to swallow bodies much larger than themselves. They are further distinguished by having the *scuta* on the other part of the tail, single; a hook on each side of the vent; the tail prehensile; the body compressed, and largest in the middle, and with small scales, at least on the posterior part of the head. Enormous as the size and power of such animals must be, according to the latest and best authenticated statements of eye-witnesses, yet, *if we may rely* on the accounts of ancient writers, there was a time when serpents far more terrific committed their hideous ravages and kept whole armies in dismay. One of this kind is described as having had its lair on the banks of the Bagradas, near Utica, and to have swallowed many of the Roman soldiers in the army of Regulus, to have killed others in its folds, and to have kept the army from the river; till at length, being invulnerable by ordinary weapons, it was destroyed by heavy stones slung from the military engines used in sieges; but, according to the historian Livy (quoted by Valerius Maximus), the waters were polluted with its gore, and the air with the steams from its corrupted carcass, to such a degree that the Romans were obliged to remove their camp, taking with them, however, the skin, 120 feet in length, which was sent to Rome. That none of such frightful dimensions now infest the inhabited parts of the earth we have abundant evidence; and there is good reason to believe, that, as cultivation and population have increased, the larger species of noxious animals have been expelled from the haunts of mankind, and driven into more distant and uncultivated regions. Some species of the genus Boa are found in the vast marshes and swamps of Guiana, and other hot parts of the American continent; others are natives of India, Africa, and the larger Indian islands. They are at once pre-eminent from their superior size and their beautiful colors; and though destitute of fangs and venom, nature has endowed them with a degree of muscular power which seems to defy resistance. The ground-color of the whole animal, in the younger specimens, is a yellowish gray, and sometimes even a bright yellow, on which is disposed along the whole length of the back a series of large chain-like reddish-brown variegations, leaving large open oval spaces of the ground-color at regular intervals; the largest or principal marks composing the chain-like pattern above mentioned are of a squarish form, accompanied by large triangular and other shaped spots, the exterior of the larger ones being generally of a much darker cast, and the ground-color immediately next to them considerably lighter than on other parts, thus constituting a general richness not easily described. We cannot reflect upon the history of these great reptiles without being struck with their peculiar adaptation to the situations in which they are commonly most abundant. In regions bordering on great rivers, which annually inundate vast tracks of country, these serpents live securely among the trees with which the soil is covered, and are capable of enduring very protracted hunger,

without much apparent suffering, or diminution of vigor. Noxious as such districts are to human life, they teem with a gigantic and luxuriant vegetation, and are the favorite haunts of numerous animals, preyed upon, and, to a certain degree, restricted in their increase, by the *boæ*. In such situations the Boa Constrictor lurks, or winds itself round the trunk or branches of a tree, until some luckless animal approaches; then, suddenly relinquishing his position, swift as lightning, he seizes the victim, and coils his body spirally around his throat and chest, until, after a few ineffectual cries and struggles, the animal is suffocated and expires. The prey is then prepared for being swallowed, which the creature accomplishes by pushing the limbs into the most convenient position, and then covering the surface with a glutinous saliva. The reptile commences the act of deglutition by taking the muzzle of the prey into its mouth, which is capable of vast extension; and, by a succession of wonderful muscular contractions, the rest of the body is gradually drawn in, with a steady and regular motion. The *Boa canina* is a beautiful snake, about 4 feet in length, with a large head shaped like that of a dog. Its general color is a bright Saxon green, with transverse white bars down the back, the edges of which are of a deeper green than the ground-color of the body; the belly is white. This species belongs to S. America.

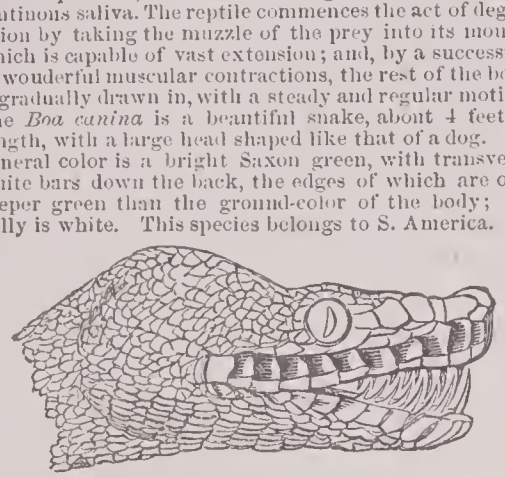


Fig. 380. — HEAD OF BOA CANINA.

Boieldieu, FRANÇOIS ADRIEN, (*bwoild'yu'r,*) a French musical composer, B. 1775; author of numerous well-known operas: *Le Calife de Bagdad*, *Jean de Paris*, &c.; *La Dame Blanche* is, however, esteemed his *chef d'œuvre*. His style is characterized by a sweet and natural melody, much imaginative gayety, and simple but pleasing accompaniments. *B.* was a member of the Institute. D. 1835.

Boi'i, (*Hist.*) a nation of ancient Gaul, which made various emigrations into Italy and Germany. The district whence they originally came is not ascertained, but it would appear that they were near the Lingones and the Helvetii. They are mentioned as forming part of the first Gaulish emigration recorded by Livy, Justinus, and others, which set off in quest of new lands, and under two chiefs, Bellovesus and Segovesus, both nephews of Ambigatus, king of the Bituriges. Bellovesus went over the Alps into Italy, while Segovesus crossed the Rhine into Germany, and penetrated to the skirts of the great Hercynian Forest. The Boii would appear to have followed Segovesus, and to have settled in the heart of Germany, in the country called after them *Boiohemum* (Bohemia), from which they were afterwards driven away by the Marcomanni, a German nation, and withdrew south of the Danubius, to the banks of the Œnus (Inn). The Boii are mentioned also as having emigrated into Italy, together with the Lingones and other tribes, by passing over the Penuine or Helvetic Alps. The Boii were often engaged in war with Rome, and they obtained at times advantages over the Roman arms, but they were finally subjugated by Scipio Nasica, and part of their lands was taken from them. As they still continued restless, they were altogether removed by the Romans and sent across the Noric Alps, when they settled on the banks of the Dravus, near the Scordisci. Having afterwards engaged in wars with the Getæ, they were almost entirely destroyed: and we find in Pliny (iii. 24) a vast tract between the Dravus and the Danubius called "Deserta Boiorum." We find the Boii engaged in the Helvetian emigration into Gaul in the time of Cæsar. Whether these were from some part of their tribe which had remained in Gaul, or whether they came back from Germany into Helvetia, is not known. The Boii, from Bohemia, who had settled on the banks of the Œnus, became subject to the Roman empire, and formed part of the province of Vindelicia. During the decline of the empire they were exposed to the irruptions of the Marcomanni, the Thuringii, and other tribes who occupied their country, which afterwards took the name of Boioaria, or Boiaria.

Boil, *v. i.* [Fr. *bouillir;* Lat. *bullio*, from *bulla*, a bubble.] To swell, heave, or be agitated by the action of heat, as a liquid; to bubble; to rise in bubbles from the surface; as, the water *boils*.

"He saw there *boil* the fiery whirlpools." — *Chapman.*

—To be disturbed or agitated by other causes than heat: to effervesce; to move like boiling water.

"Then headlong shoots beneath the dashing tide,
The trembling fins the *boiling* waves divide." — *Gay.*

—To be hot, ardent, or fervid; as, it makes my blood *boil*.

"That strength with which my *boiling* youth was fraught,
When in the vale of Balafor I fought." — *Dryden.*

—To be cooked by boiling; to suffer boiling heat in a liquid.

"Fillet of a fenny snake,
In the cauldron *boil* and bake." — *Shaks.*

To boil over. To bubble over the edge of a vessel by violent effervescence of heat.

To boil away. To cause to evaporate by continued boiling.

—*v. a.* (*imp.* BOILED, *ppr.* BOILING.) To heat to a boiling state; as, to *boil* water.

"But if you *boil* them in water, the new seeds will sprout sooner." *Bacon.*

—To prepare or form by boiling and evaporation; as, to *boil* preserves.

—To dress or cook in boiling water; to seethe; as, to *boil* a piece of beef.

"In eggs *boiled* and roasted, . . . there is scarce any difference to be discerned." — *Bacon.*

Boil, *n.* [Ger. *beule;* A. S. *bile, byl;* Icel. *bola*, a bubble, a pustule.] (*Med.*) A tumor of the skin and the adjacent cellular tissue, professionally called *Furunculus*. This painful disease is a circumscribed, hard, inflammatory swelling, of a deep red color from the beginning, exceedingly painful, and almost always terminating, after a tedious process, in suppuration. A boil generally commences with a small red pimple, uncommonly tender and angry-looking, which, after a time, enlarges, having a white point, and a broad, hard, well-defined base spreading under the skin. As the swelling advances, the point or apex sinks, till the whole assumes the form of a flat, elevated cake, with a puckered centre. The suppuration is always slow, and never perfect, for the discharge, or *pus*, is tinged or mixed with blood and fibres of the cellular tissue. — *Causes.* Boils nearly always arise from constitutional causes, and are, in reality, efforts of nature to throw off, or relieve the body of, some impurity, that, retained in the system, would be prejudicial to health; hence they have been popularly called healthy, as after them the system usually feels lighter and better. Boils generally occur in full-bodied, free-living persons, in robust health and the prime of life, though they occasionally take place in weak, emaciated individuals. The parts most liable to boils are the neck, between the shoulders, the fleshy part of the arm and the hip, or upper part of the thigh, rendering the sitting posture almost impossible. — *Treatment.* They all take their rise in some disordered state of the digestive organs; and hence it is necessary that the bowels be at first freely opened, and then regulated by gentle nuirritating laxatives. The diet should be plain and simple, and stimulants ought to be avoided. In delicate constitutions, a course of sarsaparilla will be found of great use. In dealing with the boil itself, suppuration is to be hastened and perfected by means of linseed-meal poultices; and as soon as the prominent part of the swelling becomes soft, a free opening should be made into it with a lancet, and as much matter as can be pressed out of it by tolerably firm pressure should be removed, together with the core; or the poultices should be continued until the core is drawn out, when the wound will speedily heal.

Boil'ary, *n.* (*Salt Manuf.*) A place in salt-works where the salt is boiled.

Boileau-Despréaux, (*bwaw'lō-da-pra-o',*) NICOLAS, a French poet and satirist, B. 1636. His father was one of the registrars of the Parliament of Paris. *B.* was educated at the College d'Harcourt (afterwards College Royal de St. Louis), and early showed a talent for verse, which his family in every way discouraged. For a while he studied law, and became a lawyer; next, he turned to theology, and obtained a benefice, which he held until his father's death, from which event he derived a small independence, and thenceforward gave the reins to his poetic fancy. His earliest poetical attempts were in satire, by which he nullified a prediction made by his father, who, when comparing the genius of each of his three sons, used to say, "that as for Colin, he would never speak ill of anybody." But the seven *Satires* which *B.* published in 1666, with a preliminary address to the king (a formula not to be omitted by any author who courted popular notice), were playful and sportive, not rabid and virulent; they showed, as he used to observe of himself, neither fang nor talon. They excited considerable attention among the lettered circles of the capital, by a terseness of language and a polish of versification to which the public ear had not heretofore been accustomed. Nevertheless, they evince intimate acquaintance with his Roman predecessors, and an accurate estimate of the demerits of his own contemporaries, rather than any vein of originality or any intrinsic poetical superiority. The number was increased from time to time till they amounted to twelve. Of these, the tenth, on *Women*, perhaps cost most elaboration; but to us it appears to possess neither the deep-marked indignation with which the censor of Aquinum has lashed the vices of the sex, nor the light and airy grace with which the bard of Twickenham has touched their foibles. These were followed by the *Art of Poetry*, and, in 1674, his *Lutrin* appeared, — to our apprehension, *B.'s* best work. The general admiration of his poems led to his introduction at court, where he read some cantos of the *Lutrin* to Louis XIV., who granted him a pension of 2,000 livres (about $500 per annum), and the royal privilege to print his works. He was at the same time appointed joint historiographer with his friend and fellow-poet Racine. Besides the latter, Moliere and La Fontaine were among his most intimate friends. In the ecclesiastical disputes of his day, *B.* sided with the Jansenists. His latter years were passed in retirement. He refused to listen to those who would praise his verses. "I prefer," he said, "being read to being praised." *B.* was a man of real benevolence. Hearing that Corneille's pension was withdrawn, he instantly tendered the resignation of his own, saying, that, were Corneille's cancelled, he could not receive one without a feeling of shame. *B.* died in 1711. A large number of persons attended his funeral. "What a number of friends he had," said a woman in the crowd to Louis Racine, "and yet this is the man said to have spoken ill of all the world!" *B.* is one of that scanty number of poets who have left behind them

"No line which, dying, they would wish to blot."

Pope is sometimes called the *English Boileau.*

Boiled, (*boild,*) *p. a.* Dressed or cooked by boiling; subjected to the action of boiling heat or liquor.

Boil'er, *n.* A person who boils.

"That notable practice of the *boilers* of saltpetre." — *Boyle.*

(*Mech.*) A vessel in which water is boiled for the purpose of raising steam for the machinery of a factory; or a closed vase of wrought iron, or copper, in which water is vaporized, and employed in the gaseous form to impress movement upon steam-engines or other machines. In this case the effect of the machine is dependent upon the conversion of the water into vapor, and this power is the only one used. The *B.* must then satisfy certain conditions which are of the highest interest. Thus, as the motive power of the engine depends upon the excess of the pressure of the steam in the *B.*, it is necessary that the latter should be of sufficient strength to resist it; and as the heat applied is always more or less costly, it is important that the fireplace should be constructed so as to employ the whole of it. The danger of allowing the *B.* to sink so low as to let the metal come in contact with cold water admitted suddenly, must also be carefully guarded against, and this necessity gives rise to many contrivances of a complicated nature. The parts of a *B.*, ordinarily, are: the *furnace*, consisting of the *fire-bars*, the *ash-pit*, and the *bridge;* the *B.*, properly speaking, with its *steam-chest*, and *pipe*, and its *safety-valves;* the apparatus for ascertaining the level of the water and its pressure in the *B.*, which consists in the *steam-gauges*, and the *pressure-gauge* or *manometer;* the *float* and *tubes;* and the *chimney*. Each of these parts has a separate use, and it requires a special adaptation to the class of engine under consideration; for the purposes of ordinary commerce, some of the parts may be omitted, but they must all be present in steam-engines, and must be modified according to whether the *B.* is intended to work at high or low pressure. Many varieties have been proposed in the manner of heating the water contained in the *B.*, and as the heat developed in the furnace acts more by the extent of the surface to which it is applied than by its intensity, every form has been recommended for this purpose in its turn; but, after all, it seems that local considerations are of more weight in deciding the kind of furnace than any abstract ones, and the style which might suit at one place would not suit at another. The principal forms of furnaces are referred to in other parts of this work, and the same remark may be extended to the other details: because there are no universal principles regulating their construction, which would admit of being laid down authoritatively. *B.* are known by names indicating shape, as: *Cylindrical, Hay-stack, Kettle, Spherical, Wagon;* or position, as: *Horizontal, Portable, Stationary, Upright,* or *Vertical;* or use, as: *Locomotive, Marine;* or construction, as: *Flue, Return-flue, Tubular, Water tube, Drop tube, Sectional, Flathers. Internal fire, Two-stack. Turn-over, Superheaters.* The principal causes of the too frequent explosion of *B.* will be examined under INCRUSTATIONS.— For heating water for the purpose of warming buildings, the boilers are very frequently made of copper, or of cast-iron, when the quantity of water to be heated is small, or of wrought-iron when it is greater: the latter material is, however, so generally used that it is alone worthy of notice.

Boil'er-plate, *n.* (*Metal.*) The description of wrought-iron which is wrought expressly for the purpose of boiler-making, though by common error it is made to apply to the plates which are used for ship-building, bridges, or girders; all of which are now said to be constructed in boiler-plates. The average resistance of boiler-plates is taken at about 20 tons on the square inch, and the safe weight to which it may be loaded is usually taken at 5 tons on the square inch; the effect of riveting upon the structure is considered to be equivalent to a reduction of strength corresponding to that of the area occupied by the rivets. The Board of Trade, in England, require that the strength of wrought-iron structures should be at least equal to the above quantity of 5 tons per square inch.

Boil'ery, *n.* (*Salt Manuf.*) See BOILARY.

Boil'ing, *p. a.* Bubbling; heaving in bubbles; being agitated; as, *boiling* liquor. — Dressing or preparing for some purpose by hot water. — Swelling with heat, ardor, or passion; as, to *boil* with rage.

—*n.* Act or state of boiling or swelling by heat; ebullition.

Boil'ingly, *adv.* With boiling.

Boil'ing-point, *n.* (*Chem.*) A liquid is said to boil when it is made to assume a constant state of ebullition by the formation of bubbles of its vapor by means of heat. The boiling-points of liquids differ according to their chemical constitution; in many instances, in direct ratio to the differences in their composition. The boiling-point of the same liquid may vary under different circumstances; such as the pressure on its surface, the amount of attraction exerted by the vessel containing it, or by salts held by it in solution. Boiling, or the emission of steam in bubbles, consists in the formation of a vapor of equal elasticity to that of the atmosphere, which exerts its pressure on the surface of the liquid. It therefore follows, that any lessening or increasing of the pressure of the air is accompanied by a corresponding depression or elevation of the boiling-point. This fact is made evident by the familiar experiment of placing warm water under the receiver of an air-pump, when, on exhausting the air, ebullition takes place, from the diminished pressure. Liquids, in general, boil from 60° to 140° lower than their ordinary boiling-point when heated *in vacuo*. This property is made use of in the manufacture of certain medicinal preparations, the properties of which would be destroyed by exposure to a temperature of 212°. Advantage has been taken of

this property of fluids in the measurement of heights. M. Saussure found that on the summit of Mont Blanc, which is nearly 3 miles above the level of the sea, water boiled at 185° Fahr.; and M. Wisse observed the boiling-point of water to be 185° Fahr. on Mount Pechincha, while the barometer stood at 17 inches. From these facts it has been calculated that for every difference in height of 596 feet, a variation of 1° Fahr. in the boiling-point is produced. It has also been ascertained that a variation of one-tenth of an inch in the barometer produces a difference of more than a twentieth of a degree Fahr. in the boiling-point. The contrary property of increase of pressure causing elevation of the boiling-point, is evident from the above considerations. Pepin's digester is an example of this. By confining water in an air-tight vessel, it may be heated to a temperature only limited by tho strength of the vessel. This property is taken advantage of in the preparation of gelatine from bones, which are heated to a temperature much higher than 212° Fahr. By this means the gelatine is easily separated from the earthy matter, although the bones might be boiled for hours at 212° Fahr. without any such effect taking place. The attraction of a fluid for the surface of the vessel in which it is boiled has a great influence on the boiling-point. Water boils at 212° in a metallic vessel, in a glass vessel at 214°, while in a vessel varnished inside with shell-lac, the heat may be raised to 220° without ebullition taking place. The influence of salts held in solution is very marked. A saturated solution of chlorate of potash, *i. e.*, containing 61·5 per cent. of the salt, boils at 220° Fahr.; a saturated solution of chloride of calcium, containing 325 per cent. of the salt, boils at 355° Fahr.; while a saturated solution of acetate of potash, containing 798 per cent. of the salt, boils at 336° Fahr. It will be seen from these examples that the quantity of salt contained in the liquid does not directly influence the boiling-point. From the experiments of Kopp and others, it has been discovered that an exact ratio exists between the chemical constitution of certain liquids and their boiling-points at the same pressure. Thus methylic, ethylic, propylic, and butylic alcohols differ from each other by an increment of C_2H_2, and their boiling-points differ by an increment of 31·4° Fahr. Another example of this is shown in the hydrocarbons benzole, toluole, xylole, and cumole, tho difference in their composition being C_2H_2, while the difference of their boiling-points is 41° Fahr. The same relation runs through the acids, ethers, aldehydes, and salts of these bodies.—See EBULLITION.

Boil'ing Springs, in *Pennsylvania*, a post-village of Cumberland co., 25 m. W. of Harrisburg.

Boils'ton, in *N. Carolina*, a post-office of Henderson co.

Boipera-Velha, (*bo-e-pa'ra-vail'ya,*) a town of Brazil, prov. of Bahia, 65 m. S.W. of Bahia.

Bois Blanc Island, (*bwa-blong',*) situate on Lake Huron, 10 m. S.E. of Mackinaw. It is about 10 m. in length, by 3 in breadth, and has a light-house; Lat. 45° 45′ N., Lon. 84° 55′ W.

Bois d'Arc, (*bwa-dark',*) in *Ark.* a twp. of Hempstead co.

Bois d'Arc, Corrupted into *Bodock*. See OSAGE ORANGE.

Bois d'Arc, in *Missouri*, a village of Green co., 130 m. S.W of Jefferson City.

Bois d'Arc Creek, in *Texas*, flows through Ellis co., E into Trinity River.

Boise (*bwah'sā*), in *Idaho*, a S.W. county, watered by the Fayette river and other streams. *Surface*, mountainous and heavily wooded. Gold mining is the leading industry *Cap.*, Idaho City. *Pop.* (1890), 3,350.

Boise Basin, in *Idaho*, a mining region, situate near the Boisé river, contains some of the richest gold placers in the State. Idaho City, Pioneer City and Placerville are included within its limits.

Boise City, a flourishing town, capital of *Idaho*, and the county seat of Ada co., on the Boisé river, 30 m. W. S. W. of Idaho City, and 370 from Carson City, Nevada. Lat 43° 34′ N., Lon. about 116 W. Boisé City now commands much of the trade of the miners on the W slope of the Rocky Mountains. *Pop.* (1890), 2,311.

Bois-le-Duc, or HERTOGENBOSCH, (*bwaw-la(r)-dook,*) a fortified town of Holland, cap. prov. N. Brabant, 28 m. S.S.E. of Utrecht. The town is 5 m. in circumference, and is defended by a citadel and two forts. It is a well-built, handsome place, possessing fine public buildings, and manuf. of linen, thread, cutlery, glass, &c. *Pop.* 25,850 *B.* was founded, in 1184, by Godfrey III., Duke of Brabant. In 1629 it was taken by the Dutch, after a lengthened siege. It was held by the French, from 1794 to 1814, when it surrendered to the Prussians, who restored it to Holland.

Boissy d'Anglas, FRANÇOIS ANTOINE DE, (*bwois-se-dawng'gla,*) a French statesman, B. 1756. In 1792, he was elected by the department of Ardèche a member of the Convention, in which assembly he distinguished himself by his moderation, powers of application, and by his heroic firmness He was president on the 1st Prairial (1795), when the mob, invading the Assembly, wished to force the Convention to establish the reign of terror. Boissy was insulted and menaced; and to terrify him, the head of representative Férand, who had just been beheaded before his eyes, was shown to him. He uncovered himself, and saluted this relic of his unfortunate colleague: then, resuming his seat, remained unmoved in that scene of disorder and anarchy He took a part in all the affairs of his country during the Republic and the Empire, and, at the Restoration, was made a peer. D. 1826.

Bois'terous, *a* [Swed. and Goth. *baesta*, to knock; Du. *byster;* Dan. *bister*, furious, raging; W. *bwyst*, wild, savage.] Loud; roaring; raging; turbulent; stormy; as, a *boisterous* sea.

"And with a *boist'rous* sound
Scatter his leaves, and strew them on the ground."—*Waller.*

—Violent; noisy; rough; as, a *boisterous* laugh.

"Lucia, I like not that loud *boisterous* man."—*Addison.*

—Excessive; extreme; impetuous; forcible. (R.)

Bois'terously, *adv.* In a boisterous manner.

"A sceptre, snatch'd with an unruly hand,
Must be as *boisterously* maintain'd as gain'd."—*Shaks.*

Bois'terousness, *n.* State or quality of being boisterous or turbulent.

Boist'fort, in *Washington*, a post-village of Lewis co., 10 m. S.W. of Claquato.

Bo'jador, (Cape,) a celebrated promontory of the W. coast of Africa, Desert of Sahara; Lat. 26° 7′ 10″ N., Lon. 14° 29′ 5″ W. This headland forms the W. extremity of a rocky ridge called the *Geb-el-khal*, or Black Mountains. It was long the limit of navigation towards the S., and was first passed by the Portuguese in 1433.

Bojano, (*boj'a-no,*) a town of S. Italy, 13 m. S.W. of Campobasso, on the Biferno, in a deep gorge at the foot of the mountain-peak of Matese. The site of *B.* has been identified as that of the famous Samnite city of *Bovianum*, which played so conspicuous a part in the Samnite, Punic, and Social wars. Unsuccessfully besieged by the Romans in 314 B. C., it was taken by them in 311, and yielded immense spoils. Passing out of their hands, it was retaken by them in 305 B. C.; and once more reverting to its original owners, was a third time captured by the Romans, in 298 B. C. During the second Punic War, it formed the head-quarters of the Roman army on more than one occasion: and in the great Social War, the confederates, on the fall of Corfinium, made it their capital and the seat of their general council. Surprised by Sulla, it was retaken by the Marsic general, Pompædius Silo. Actual *pop.* 5,773.

Bo'ker, GEORGE HENRY, an American poet and dramatic writer, B. at Philadelphia, 1824. He graduated at Nassau Hall, Princeton, and, in 1847, published *The Lesson of Life and other Poems*, and, in 1848, *Calaynos*, a tragedy. The latter met with a favorable reception, and in the following year was brought out at Sadlers' Wells Theatre, London. He afterwards produced *Anne Boleyn*, and other stage-pieces, all of which proved successful. *B.* is also the author of *War Lyrics*. In 1871, he was nominated U. S. Minister to Turkey, and, in 1875, succeeded Mr. Jewell as American envoy at St. Petersburgh. *Francesca da Rimini*, is considered as his best production. D. 1890.

Boke's Creek, in *Ohio*, a township of Logan co.

—A post-office of Union co.

Bokha'ra, or UZBEKISTAN, a country of Central Asia, comprising considerable portions of the anc. *Sogdiana* or *Transoxiana*, and *Bactria*, forming the most powerful state of what is named by the moderns Independent Tartary, or Turkestan. It lies between the 36th and 41st degrees of N. Lat., and the 63d and 70th degrees of E. Lon., having N. the Desert and the Khanat of Khokan; E. the mountainous regions of Hissar and Koondooz; S. Cabul; and W. the Khanat of Khiva or Kharasm. *Area*, about 235,000 sq. m. *Desc. B.* is mountainous only on the E., where its mountains are northern spurs from the Hindoo Coosh, and on the S. where they seem to belong to the Ghoor range. The plain region which comprises all the rest of the country is nothing but a sandy desert with a few *oases* stretching for a few miles on either side the banks of rivers, in which are planted the chief cities and towns; and which constitute the only cultivable lands, and are densely peopled. The rivers are the Jihon or Amoo (*Oxus*), Kohik, Kurshee, Zourhab, and Balkh. The lake Denghiz, or "*the sea*," 60 m. S.S.W. of Bokhara, is 25 m. long, salt, and very deep. *Clim.* Very hot in the summer; equally cold in winter. *Min.* Gold, and sal-ammoniac. *Veget.* Fruits; but little timber, and few important plants. *Zoöl.* Wild hogs, asses, bears, wolves, and varieties of the smaller feline species; eagles and waterfowl are plentiful; other

Fig. 381.— BOKHARIAN LADIES TRAVELLING.

game, scarce; fish, abundant. *Inhab.* Usbecks, Tadjiks, Kalmucks, Turcomans, Arabs, Zinguenes (gipsies), &c. *Prod.* Agriculture forms the staple industry of the country; cereals, as wheat, rye, &c., being extensively cultivated, and also rice, maize, moong, melons, beans, &c.: cattle and horses are found in great numbers. All the traffic is, however, carried on by dromedaries and camels. *Manf.* Silk-stuffs, cutlery, fire-arms, jewelry, &c. *B.* is the centre of an extensive commerce carried on with India, Russia, &c. *Govt.* Despotic. *Army.* A regular force exists of about 20,000 horse and 4,000 foot, but without discipline; there is, besides, a militia of 50,000 horse. *Religion and Educ.* The people are all Soonite Mohammedans, intolerant, and believers in magic and astrology. Education is at a standstill. *Chief towns.* Bokhara, Samarcand, Balkh. *Pop.* estimated at 2,000,000. *Hist.* This country was conquered by the Saracens about 710 A. D. It was overrun by Jenghis Khan in 1219; by Timour, in 1361; and by the Usbeck Tartars in 1505, under whose sway it has since remained. Two English officers, sent on a mission to the Khan, in 1843, were murdered by him; their fate was ascertained by the celebrated traveller, Dr. Wolff, who, in 1843, made a journey to Bokhara, was imprisoned there, but subsequently released, and who has written perhaps the most authoritative work extant on this country. In 1865, war broke out between *B.* and Russia, in which the latter was victorious. A new war between the Ameer of *B.* and the Russians began in May, 1868. In the early part of that month, the Ameer, deceived by the apparent weakness of the Russian garrisons on the frontier, formed a strong coalition with other and neighboring rulers, and declared war. Russia, however, speedily massing against the allies a great force, utterly defeated them in a battle near Samarcand, and took possession of the latter city. They (the Russians) then advanced toward the city of *B.*, but were routed by the enemy, who then proceeded to gain re-possession of Samarcand, which they succeeded in doing, with the exception of the citadel, which held out until reinforced by the Russians, who finally held the place, and declared it an annexation to Russia. In July, a treaty of peace was effected, by which the Ameer ceded Samarcand, and authorized the Russians to build cantonments within the Khanat. Towards the end of the year, the Russians aided the Ameer in putting down a rebellion headed by his son and other chiefs, who sought to have the treaty rescinded. The Khan of Bokhara, though nominally independent, is in reality subject to Russia.

BOKHARA, ("the treasury of sciences,") a celebrated city and cap. of the above Khanat and seat of the Khan, 130 m. W.S.W. of Samarcand, and 250 N.W. of Balkh; Lat. 39° 48′ N., Lon. 64° 26′ E. The town is 8 m. in circumference, is walled and fortified, and when seen from a distance, embosomed in trees as it is, it presents a charm of appearance that vanishes upon a closer survey. The streets are so narrow that a laden camel fills up even the widest; the houses are small, clay-built, and one-storied; canals intersect it; and everywhere are seen mosques, minarets, colleges, bazaars, and fruit-stalls. The inhabitants are passionately fond of tea, ices and fruits, which is almost the only noticeable thing to be said about them. Baths are numerous, and the police is an efficient institution. *Pop.* estim. at 160,000.—Interesting particulars of *B.* are found in Burnes's *Travels in Bokhara;* Khanikoff's *Reisen in Bukhara;* Vambery's *Travels in Asia* (1865); Schuyler's *Turkistan* (1876)

Bolabo'la, BONABO'NA, or BORABO'RA, one of the Society Islands, about 200 m. N.W. of Tahiti; Lat. 16° 32′ S., Lon. 151° 52′ W. It is about 24 m. round, and has a *pop.* of about 2,000.

Bo'lan Pass, a remarkable and dangerous defile in W. Asia, traversing the province of Sarawan, in the N.E. corner of Beloochistan. The pass gradually ascends from the plain a length of 55 m., rising in its progress at the rate of 90 feet every mile, till it reaches the summit, which is 5,793 feet above the level of the sea. It is

Fig. 382.—THE BOLAN PASS. (Doozan defile.)

in many places walled in by stupendous rocks, where a few hundred resolute men might hold the passage against an army. A small stream flows down the pass, which, after any fall of rain, swells suddenly into a resistless river. The pass was formerly, before its occupancy by the British in 1877, infested by bands of lawless Belooches. See BELOOCHISTAN.

Bola'nos, a town of Mexico, prov. Jalisco, 65 m. N.N.W. of Guadalaxara, remarkable for the rich silver mines in its vicinity; *pop.* about 1,500.

Bo'lary, *a.* Belonging, relating to, or consistiug of, bole or clay.

"A weak and inauimate kind of loadstone . . . chiefly consisting of a *bolary* and clammy suhstance." — *Browne.*

Bol'bec, a town of France, dep. Seiue Inférieurc, on a river of the same uame, 18 m. E.N.E. of Havre. This is a haudsome thriving town, and in it and the neighboring country are employed about 20,000 people in cotton-spiuning, producing goods of an annual valuation of $5,000,000. It has also tauncries and dye-works. *Pop.* 10,531.

Bol'chow, or BOLK'HOV, a town and circ. of Russia in Europe, prov. Orel, at the confluence of the Bolchowka with the Nugra. *Manf.* Leather, soap, and hosiery. *Pop.* about 20,000.

Bold, *a.* [A. S. *bald, beald;* O. Ger. *bald,* strenuous; Goth. *baltha,* bold; Sansk. *bala,* strength.] Strenuous; daring: courageous; dauntless; intrepid; brave; fearless; as, Charles the *Bold.*

"But a *bold* peasantry, their country's pride,
When ouce destroyed, cau never be supplied." —*Goldsmith.*

—Planned with courage; executed with spirit and vigor; as, a *bold* undertaking.

"These nervous, *bold*; those, languid and remiss."—*Roscommon.*

—In a depreciativo sense, audacious; over-confident; impudent; wanting modesty or restraint; as, "This *bold,* bad man." *Shaks.* — Exceeding the usual limits, as in inventiou or composition; overstepping the latitude of anything; presuming too much on forbearance, &c.; as, a *bold* handwriting; a *bold* request.

"The figures arc *bold* even to temerity." — *Cowley.*

—Striking to the sight; standing out prominently to the view; conspicuous; as, a *bold* outline.

"Used . . . as shadows in painting, to make the figure *bolder,* and cause it to staud off to sight." — *Dryden.*

—Steep and abrupt; prominent; as, a *bold* headland.

"Her dominions have *bold,* accessible coasts." — *Howell.*

To make bold. To take a freedom with; to venture to use a liberty.

"*Making* so *bold,*
My fears forgetting manners." — *Shaks.*

Bold'en, *v. a.* To mako bold; to embolden; to give coufidence.

"I am much too vent'rous
In tempting of your patience, but am *bolden'd*
Under your promis'd pardon." — *Shaks.*

Bol'derberg Beds, *n.* (*Geol.*) A typical group of tertiary sands and gravels occurring in the Bolderberg hill, about 40 m. from Brussels.

Bold'-face, *n.* Impudence; sauciness; a term used in a reprehensory sense; as, "How now, *bold-face?*"—*L'Estr.* (*Printing.*) Type having a heavier and broader outline thau common type.

Bold'-faced, *a.* Impudent; over-bold.

"I have seen enough to confute all the *bold-faced* atheists of this age." — *Bramhall.*

Bold'ly, *adv.* In a bold or venturesome manner; with spirit or confidence.

"I speak to subjects, and a subject speaks,
Stirr'd up by heav'n, thus *boldly* for his king." — *Shaks.*

—Impudently; obtrusively; saucily.

Bold'ness, *n.* Quality of being bold; courage; intrepidity; bravery; confident trust; assurance; impudence.

"*Boldness* is the power to speak or do what we intend before others, without fear or disorder." — *Locke.*

Bold Spring, in *Georgia,* a post-office of Frauklin co.

Bole, (*bōl.*) [Swed. and Goth. *bol,* the trunk of a tree: W. *bola,* the belly, tho rotundity of the body.] That which is rounded or rises out in a round form; specifically, the body or stem of a tree.

"View well this tree, the queen of all the grove:
How vast her *bole,* how wide her arms are spread,
How high above the rest she shoots her head." — *Dryden.*

—A measure of quantity. See BOLL.

Bole, *n.* [Gr. *bolos,* a mass.] (*Min.*) An earthy argillaceous mineral chiefly consisting of hydrated bisilicato of alumina, reddened by peroxide of iron; as is the case in *Armenian bole,* which is used in tooth-powder, and as a coloring material. It is found in Saxouy, Silesia, Bohemia, Sicily, &c.

Bolechow, (*bo-lĕ'kov,*) a town of Austrian Galicia, 14 m. S. of Stry. *Pop.* 2,500.

Bolec'tion-mouldings, *n. pl.* (*Joinery.*) Mouldings projecting beyond the surface of tho framing.

Bole of Blois, *n.* (*Min.*) A yellow kind of bole, which contains carbonate of lime, and effervesces with acids.

Bolero, (*bo-lair'o.*) *n.* [Sp.] (*Pastimes.*) A national dance of Spain and Spanish America, usually accompanied with the castauets, and the *cithern* (guitar), and sometimes with the voice. The dance is intended to represent a love story, commencing with coyness and diffidence, and gradually rising to the expression of passionate ecstasy. It is in the time of a minuet, aud has a marked and singular rhythm.

"And when beneath the evening star,
She mingles in the gay *Bolero,*
Or sings to her attuned guitar
Of Christian kuight or Moorish hero." — *Byron.*

Boles, in *Missouri,* a post-office of Franklin co.

Boleslas, (*bo-les'la,*) the name of five kings of Poland, who reigned at different periods between 992 and 1279.

Bole'tic, *a.* (*Chem.*) Belonging, or relating, to the BOLETUS, *q. v.*

Boletic Acid, *n.* (*Chem.*) An acid contained in the juice of tho *Boletus pseudo-igniarius.*

Bole'tus, *n.* (*Bot.*) A gen. of *Fungi,* of the ord. *Hymenomycetes,* which may be distingnished from *Agaricus* by the absence of gills, the under-side of the cap or pileus being covered by a porous layer composed of innumerable short tubes united together. Some of the species are edible, though they aro all set down as mere toad-stools by tho mushroom-gatherers of this country. *B. edulis,* the *Ceps ordinaire* of the French markets, is much used throughout the Europeau continent. It grows in woody situations, and attains a considerable size, the cap being usually six or seven inches across. The color of the cap ranges from light brown to brownish black, while that of the layer of tubes beneath is at first white, then yellow, and fiually yellowish-greeu. The stem is thick, solid, and beautifully reticulated. To prepare the fungus for the table, the layer of tubes, the skiu, and the stem, must be thrown away, for nothing but the firm and delicate flesh of the cap is to be eaten. This may be either eaten raw with salt and pepper, or cooked like a commou mushroom.

Fig. 383. — BOLETUS EDULIS.

Boleyn, ANNE, (*bool'en.*) wife of Henry VIII., king of England, and mother of Queen Elizabeth, was the daughter of Sir Thomas Boleyn, of Hever Castle, in Kent, where she was born, iu 1507. On her returu from France, where she spent her youth in the service of the Freuch queen, she was attached to the household of Catherine of Aragon as one of her maids of honor; it was in this capacity that she first enconutered the notice of the voluptuary Henry, who, if he had not before thonght of the divorce, hastened it on after this iuterview with all the expeditiou he was able to commaud; but, uuable to wait for all the legal formalities, he married her privately, publishing the fact some months after, aud when the divorce was officially promulgated. About a year after her coronation as queen of Englaud, and little more than 15 months from the birth of her child — the future Queen Elizabeth — she was accused of criminal conversatiou with some of the gentlemeu of her train, brought to trial, found guilty, and, that Henry might the sooner marry the third object of his sensual passion, beheaded a few days after in front of the Tower, 1536, her husband watching impatieutly on the highest turret of Windsor Castle for the signal that proclaimed tho fall of the axe.

Bo'li, a city of Asiatic Turkey, in Natolia, cap. of a sandjak, 85 m. N.W. of Angora; Lat. 40° 35′ N., Lon. 31° 19′ E. It stands on the site of tho Roman *Hadrianopolis.*

Bo'ligee, in *Alabama,* a village of Greene co.

Bolina'o, a seaport of the island of Luzon in the Eastern Archipelago, N. Lat. 16° 20′, E. Lon. 119° 50′.

Boli'nas, in *California,* a post-village and township of Marion county, situated 10 miles west of San Rafael.

Bolingbroke, HENRY ST. JOHN, VISCOUNT, (*bol'ingbrook,*) a celebrated English statesman aud political writer, B. 1678. He became secretary of war in 1704; resigned in 1707; but, in 1710, he was again one of the ministry. For the next four years he assisted in goveruing tho country, and, by the inglorious treaty of Utrecht, in April, 1713, brought the war with France to a close. In 1712 he was created Viscount Bolingbroke; and, in 1714, Queen Anne died. This was a fatal blow to Bolingbroke, who had quarrelled with his old friend Harley, the Earl of Oxford, and beeu commissioned to form a new cabinet. The death of the queen disarranged all his measures, and, in the followiug year, he was compelled to make his escape to France, in disguise, to evade the vengeance of his enemies. On the accession of George I., he was impeached, by Walpole, at the bar of the House of Lords, and, not appearing to take his trial, he was attainted by Act of Parliament. Meauwhile he had entered the service of Charles Stuart, the Pretender, who appointed him his prime minister, but who, after his return from Scotland, dismissed him. In 1723 he was permitted to return to England, but he was not readmitted to the House of Lords. This excited his animosity, and he began to writo against the ministry with considerable effect, and finally succeeded in overthrowing Sir Robert Walpole. In 1735 he once more withdrew to Frauce, where he resided until the death of his father, which event enabled him to take possession of the family estates at Battersea. Here he passed the remainder of his days, employing his pen upon other subjects besides such as had political tendencies. His works are now little read, notwithstanding the many charms which his style possesses. D. 1751.

Bo'lington, in *Virginia,* a post-office of Loudoun co.

Bo'lis, *n.* [Lat.] (*Astron.*) A fire-ball, or meteor.

Bol'ivar, SIMON, (named *El Libertador,* from his having rescued Cent. S. America from the Spanish yoke,) was B. at Caracas, 1783. He descended from a noble and wealthy family, received his university education at Madrid, travelled extensively on the European continent, married, and returned to S. America, where, shortly after his arrival, his wife died, when he once more visited Europe, and did not return till the following year, when he dedicated himself to the freedom of his country, and, at Venezuela, entered upon his military career as a colonel in the service of the newly founded republic. In June, 1810, we find him in London, endeavoring to induce the British cabinet to assist the indepeudent party against the Royalists, and in the following year he was acting as governor of Puerto Cabello, the strougest fortress of Venezuela. He was uow fairly committed to the revolutionary cause, serving under General Miranda, whom he afterwards accused as a traitor, and who subsequently died in a duugeon iu Spain. The war continued to rage, and after many reverses and changes, he gradually won his way to that goal for which he had heroically and disinterestedly fought. At length, in 1821, the independeut troops were successful in the battle of Carabobo, where the Royalists lost upwards of 6,000 men, and which decided the cause against Spain. Ou the 20th of August of the same year a republican constitution was adopted, and decreed to continue, as then defined, till 1834. Bolivar was choseu president, and he turned his attention to the internal admiuistration of the country. Iu 1823 he assisted the Peruvians to obtain their independence, and was declared their liberator, and invested with supreme authority. On the 10th of February, 1825, however, he couvoked a congress, and resigned his dictatorship in the following words: "I felicitate Peru on being delivered from two things which, of all others on earth, are most dreadful —war, by the victory of Ayacucho, and despotism, by this my resiguation." He uow visited the upper provinces of Peru, which, calling a convention at Chuquisaca, gave the name of Bolivia to their country, in honor of their liberator, and appointed him perpetual protector, and to draw up a constitution. On the 25th of May, 1826, he presented his Bolivian code to the congress of Bolivia, which was afterwards adopted, with some dissatisfaction, however, although it was also subsequently adopted by the congress of Lima, where, under its provisions, he himself was elected president for life. He now set out for Colombia, where disaffection and party strife were at their height. His conduct here was misconstrued, and he was supposed to be assuming the powers of a dictator. These suspicions seem to have deeply affected him, for he wrote to the senate, iu February, 1827: "Suspicions of tyrannous usurpation rest upon my name, and disturb the hearts of Colombians. I desire to be made only a private citizeu." In 1829 new disturbauces arose, and, in 1830, a conventiou was called for the purpose of framing a new constitution for Colombia. The proceedings were begun by Bolivar, who once more teudered his resignation. He was pressed to retain his position; but his resolution was already formed, and he bade adieu to public life, broken in mind and body. He retired to Carthagena, whence he sent an address to the Colombians, viudicating his conduct, and complaining of their ingratitude. This was his last act which had relation to public affairs; for by the end of another week he was no more. Died at San Pedro, near Carthagena, Dec. 17, 1830.

Bol'ivar, in *Arkansas,* a township of Jefferson co.

—A village, the former cap. of Poinsett co., 147 m. N.E. of Little Rock.

Bol'ivar, in *Maryland,* a post-office of Frederick co.

Bol'ivar, in *Mississippi,* a W. county, separated from Arkansas on the W. by the Mississippi. *Area,* 860 sq. m. *Surface,* level. *Soil,* fertile, producing quantities of cotton. *Pop.* (1890) 30,000. *Cap.* Rosedale.

Bol'ivar, in *Missouri,* a city, the cap. of Polk co., 110 m. S. W. of Jefferson City. *Pop.* (1890) 1,485.

Bol'ivar, in *New York,* a post-village aud township of Alleghany co., 285 m. W.S.W. of Albauy.

Bol'ivar, in *Ohio,* a post-village of Tuscarawas co., 111 m. N.E. of Columbus.

Bol'ivar, in *Pennsylvania,* a post-village of Westmoreland co., 24 m. E.N.E. of Greensburg.

Bol'ivar, in *Tennessee,* a handsome and prosperous twp. and post-town, cap. of Hardeman co., near the Hatchee River, and 170 m. S.W. of Nashville.

Bol'ivar, in *Texas.* See POINT BOLIVAR.

Bol'ivar, in *West Virginia,* a village of Jefferson co., in the vicinity of the Shenandoah River, 1 m. S.W. of Harper's Ferry.

Bolivar City, (*Ciudad Bolivar,*) in Venezuela. See ANGOSTURA.

Bolivar Heights, in *West Virginia,* lying on the S. bank of the Potomac, near Harper's Ferry.

Boliv'ia, a republic of South America, formed in 1825, named in honor of Simon Bolivar, to whom it owed its independence. It was previously known as UPPER PERU, and formed, until 1825, part of the vice-royalty of Buenos Ayres. This country, as at present constituted, extends between 8° and 23° S. Lat., and 57° 30′ and 73° W. Long., and is entirely inland, being surrounded by Peru, Brazil, Paraguay, the Argentiue Republic and Chile. Formerly it had a sea-coast region, a small and narrow strip of rainless desert, but lost this in consequence of its war with Chile, its area being reduced from 842,730 to 567,240 sq. miles. *B.* is divided into fourteen provinces, and has a populatiou of 2,300,000, of whom tho civilized portion dwell in the highlands, three-fourths of them being Aymará and Quichua Indians, the latter direct descendauts of the Inca race, whoso language and manners they preserve. The Aymará are devout Catholics, mild and apathetic, who aro mostly engaged as *arrieros,* or drivers of llama trains, aud also in llama and sheep raising and agriculture. In the northeastern llanos are some partly civilized tribes, inhabiting mission villages formed by the Jesuits, but now in a state of decadence, while on the eastern plains are several nomadic tribes, quite wild in habits. In addition there is a considerable half-breed population.—*Desc.* This country consists of two regions differing in surface, elevation, and climate—a magnificent stretch of mountains and plateau country full of lofty peaks, and a wide plain spreading out for miles to the frontiers of Brazil, Paraguay, and the Argeutiue Republic. Two

lateral ridges of the Andes penetrate into *B.* and form transverse Cordilleras, one of which, the Bahama chain, in the W., attains a maximum elevation of 22,000 feet, while many of the passes across both chains possess an altitude of 15,000 and 19,000 ft. The watershed of the Pilcomayo, Madeira, Beni, and Mamore rivers, forms a fertile region, almost covered with vast primeval forests. The principal valley is that of Desaguadero, between the two Cordilleras, having an area (including the Lake of Titicaca, in its N part—the largest lake on the S. American continent) of 18,500 sq. m. Besides this great sheet of water, other lakes are numerous and of considerable size, as those of Ubahy and Grande.—*Clim.* In the plains E. of the Andes, the rainy season, which is identical with summer, lasts from October to April, during which time the rains are almost continuous, and the rivers inundate the country to a great extent. In the region of the great plains the weather is often excessively hot and unhealthy, but in the Desaguadero valley (13,000 ft. above the sea), the climate is temperate, and snow falls in Nov. and April. Earthquakes are frequent.—*Min.* Gold is largely found; to the proverbially rich silver-mines of Potosi others have been added in recent times; indeed, next to the U. S. and Mexico, *B.* ranks as the greatest silver-producing country in the world; copper, lead, tin, and sulphur are also found.—*Vegetation.* The mighty forests of *B.* abound in the finest timber for ship-building, carpentry, &c. The cocoa is superior even to that of Guayaquil; while the richest fruits, cascarilla, indigo, cotton, rice, coffee, cinchona, copaiba, sarsaparilla, gums, dye-woods, tobacco, sugar-cane, &c., are raised in extraordinary abundance.—*Zoöl.* Jaguars, tapirs, leopards, various descriptions of monkeys, guanacos, alpacas, singing-birds, turkeys, several specimens of *Amphibia*, and myriads of noxious reptiles and insects have their habitat here. Vast herds of horned cattle, horses, asses, and mules are indigenous.—*Industries.* Agriculture and stock-raising have never received the attention they deserve in Bolivia, but the development of its mineral resources has been actively prosecuted, and for centuries its great yield of gold, silver, copper, and tin has proved highly profitable, despite the cost of transport. The mines of Potosi, above mentioned, since 1545 have yielded over $3,000,000,000 worth of silver. Mining has gone on actively since the securing of independence, being fostered by the government, though hampered seriously by the lack of good roads and want of proper fuel. This latter the discovery of good coal in several provinces promises to remove, while the building inland of railroads has yielded easy access to the sea. Since 1883 mining enterprise has strongly revived, many abandoned workings being reopened. Potosi still yields about 2,800,000 ounces annually, Oruro as much, and Huanchaca more than twice as much, the value of the total annual yield being over $15,000,000. Silver is the principal product mined, and gold mining has been abandoned, except by the Indians. *Manf.* Cottons, woolens, vicuña hats, glass, fans, ostrich-plumes, &c.—*Com.* The commerce of *B.* is, as yet, inconsiderable, owing to the undeveloped state of the country. Within the Brazilian dominions, not very far from the Bolivian frontier, a short break of 3 m. only separates a tributary of the Amazon from one of the Plata River; were these streams connected by a canal, there would be a continuous water communication, for the most part navigable, through the heart of S. America, from Buenos Ayres, in Lat. 35° S., to the mouth of the Orinoco, in nearly 9° N. Lat. The Bolivian govt. is endeavoring to promote internal traffic, by offering grants of land to persons settling, and considerable premiums for the establishment of steam navigation on the S. affluent of the Amazon.—*Chief towns:* Chuquisaca or Sucre, La Paz, (the cap.), Cochabamba, and Potosi.—*Hist. and Govt.* Bolivar, the liberator of *B.*, drew up a constitution, which was adopted in the year 1827. This constitution, which was exceedingly complicated, vested the executive power in a president for life, with the privilege of naming his successor; and the legislative function in three bodies, a senate, tribunes, and censors. The code and constitution of Bolivar were soon after abandoned. By the existing constitution the executive consists of a president and two vice-presidents, elected every four years, and a ministry, divided into five departments, while the legislature is composed of two chambers, the Senate and House of Representatives, elected by universal suffrage. But the constitution has rarely been allowed to assert itself peacefully, the history of Bolivia, from the presidency of Gen. Santa Cruz (1828–39), being a record of military insurrections, the victor for the time being making himself supreme. In 1836 a federal republic was formed, consisting of three states, North Peru, South Peru, and Bolivia, with Santa Cruz as supreme protector, but the protector was overthrown in 1839, and the confederation dissolved. In 1841 Peru made war upon Bolivia, but the Peruvian president was defeated and killed at the Battle of Yugavi, and peace was soon after restored. During the succeeding period, up to the war with Chile, only two presidents were regularly elected, Dr. Linares, in 1858, and Col. Ballivian, in 1873. In 1879 began the disastrous war with Chile, its cause being the disputed possession of the rich nitrate region of Atacama, on the Pacific coast, Bolivian territory, but which had been seized, and its deposits worked, by Chile. In the war that followed *B.* and its ally, Peru, were decisively beaten, and as a result of the war the nitrate region was annexed to Chile, and *B.* deprived of her coast territory. During the war Gen. Hilarion Daza, the Bolivian president, was deserted by his own troops on account of his evident cowardice, and was succeeded by Campero. Since the war *B.* has settled into a quiet stage of its existence, the military revolutions with which it was formerly distracted seeming to have ceased. Its development proceeds very slowly, but must be greatly quickened by the several railroads which now traverse the country and connect it with the coast. The common roads have also been much improved.

Boliv'ia, in *Miss.*, former *cap.* of Bolivar co.

Boll, (*bōl*,) *n.* [W. *bwl*, the husk that encloses the seed of flax; A. S. *bolla*, a bowl.] The round pod, capsule, or pericarp of a plant.

(*Com.*) An old dry measure in Scotland, varying in quantity according to locality and the article measured. It is enough to say that a *B.* of oats is equal to 6 bushels, or 6-8ths of an imperial quarter. Although legally superseded by imperial measure, the *B.* is still in common use.

—*v. i.* To form into a pericarp, or seed-vessel.

"For the harley was in the ear, and the flax was *bolled*."
Exod. ix. 31.

Bol'landists, *n. pl.* See ACTA SANCTORUM.

Bol'lards, *n. pl.* (*Naut.*) Large posts set up on either side of a dock or basin, for the purpose of having attached to them the blocks through which are received the hawsers used in hauling vessels into and out of dock.

Bol'lard-tim'bers, *n. pl.* (*Naut.*) Same as KNIGHT-HEADS, *q. v.*

Bollène, a town of France, dep. Vaucluse, 24 m. N. of Avignon. *Manf.* Silks and dye-stuffs. *Pop.* 5,507.

Boll'ing, *n.* A pollard-tree; a tree deprived of its branches.

Boll'inger, in *Missouri*, a S.E. county, *area* about 500 sq. m., watered by the Whitewater or Little River, and Castor Creek. *Surface*, hilly. *Soil*, fertile. Iron and immense beds of kaoline are found; also extensive deposits of pipe- and fire-clay. *Cap.* Marble Hill. *Pop.* in 1890, 13,120.

Boln, *v. i.* To swell; to puff out; to inflate.

Boln, Bollen, *a.* Inflated; bellied out; swelled out: as, "*boln* out like a sail." — *Ben Jonson.*

Bologna, (*bo-lōn'ya.*) [Anc. *Bononia.*] A famous walled city of N. Italy, cap. of a prov. of the same name, between the rivers Reno and Savena, at the foot of the hills commencing the Apennine chain, 24 m. S.E. of Modena, 27 S.W. of Ferrara, and 399 feet above the level of the Adriatic. The city is 4 m. in circuit, and indifferently built in a palace style of architecture with arcades. In the middle of the city stand the two celebrated leaning towers, inclining in different directions: that of Asinelli, 320 feet high, inclines about 3½ feet: Garisenda, 145 feet in height, 8 feet. It is said that from the top of the former 103 cities may be seen. The cathedral, built A. D. 432, possesses the *Annunciation*, the last work of Ludovico Caracci. The university, one of the oldest and most celebrated in Italy, was founded by the Emperor Theodosius, A. D. 425, and has a library of 200,000 vols. *Manuf.* Crape, silk, glass, musical instruments, *mortadelle* sausages (celebrated all over the world), &c.—No Italian city, Florence excepted, has produced so many celebrated men in science and the fine arts. *B.* always assumed the title of "learned," and had the motto *Bononia docet* on its money and public buildings, as well as the word *libertas*. It has given birth to 8 popes (including Benedict XIV.), nearly 200 cardinals, and to more than 1,000 scientific and literary men, and artists,—among them the eminent naturalists Galvani and Aldini; the anatomists Mondino and Malpighi; the astronomer Marsigli; the mathematicians Manfredi and Canterzani; the brothers Zanotti, Ghedini, and Guercino: and the painters Francia, Guido, Albano, Barbieri, Domenichino, the three Caracci, Aldini, and Zambeccari.—*B.*, as *Bononia*, received a Roman colony, A.U.C. 653. It was besieged fruitlessly by Alaric, and escaped the clutch of Attila. Pepin afterwards gave it to the Holy See, to which it belonged during the Carlovingian dynasty; next it was governed by its own magistrates; next by feudal nobles; and finally became a republic, until the 13th century, when it again fell under the Holy See, who finally annexed it in 1506. The city and province (*Legation*) remained under the Papal government until 1860, when it was absorbed into the new kingdom of Italy.

Bologna-phials, *n. pl.* Small phials or flasks of unannealed glass which fly into pieces when their surface is scratched by a hard body, as by dropping into them a fragment of flint; whereas, a bullet may be dropped into them without injury.

Bologna-sausage, (*bo-lōn'ya.*) *n.* [From *Bologna*, in Italy.] (*Cookery.*) A large description of sausage, first made at Bologna, and consisting of various kinds of meat seasoned with herbs, and enclosed in a thin skin or membrane.

Bologna-stone, *n.* (*Min.*) See BOLOGNIAN-STONE.

Bolognese, Bologn'ian, (*bo-lōn-yēz'.*) *a.* (*Geog.*) Relating, or belonging to, Bologna, or its inhabitants.

—*n.* A native, or inhabitant, of Bologna.

Bolognese School, *n.* (*Painting.*) There were three periods of the *B. S.*: the *Early*, the *Roman*, and the *Eclectic*. The first was founded by Marco Zoppo in the 15th century, and its great master was Francia. The second was founded in the 16th by Bagnacavallo, who spread the Roman style in Bologna; the masters of this period were Primaticcio, Pellegrino Tibaldi, and Niccolo dell' Abate. The third was founded by the Caracci at the close of the 16th century; its object was to unite all the excellences of the preceding schools: hence it is called the *Eclectic School*. Among the principal painters which it numbered were Domenichino, Lanfranco, Guido, Schidone, Guercino, Albani, and the three Caracci. Their merits were purely technical, and their style academic. — See PAINTING, and the particular names of the painters above quoted.

Bolognian-stone, (*bo-lōn'yan,*) *n.* (*Min.*) A kind of sulphate of baryta found near Bologna. After having been heated with charcoal, and then exposed to the light of the sun, it becomes strongly phosphorescent, and remains so for some time.

Bolor-Tagh, (*bo-lor-tah,*) a mountain-chain of Central Asia, extending from Lat. 35° to 45° N., and from Lon. 70° to 75° E., and separating China on the E. from Koondooz and Kafiristan on the W. The highest points, between 35° and 40° N., are said to exceed 19,000 feet in height. The *B.* is crossed by 3 passes — one from Badakshan, leading into Little Thibet, and two W., starting respectively from Kashgar and Yarkand.

Bol'sas, a river of Mexico, which, after flowing W., enters the Pacific Ocean, 225 m. S.W. of Mexico city.

Bolse'na, (anc. *Vulsinium.*) a walled town of Central Italy, prov. Viterbo, 11 m. W.S.W. of Orvieto, on a lake of the same name. It is only noticeable for the ruins of the Etruscan goddess Nortia, a granite sarcophagus, ornamented with bas-reliefs, and other remains of antiquity. This was anciently a place of great wealth and luxury, and Pliny says (*Hist. Nat.* lib. xxxiv. § 7) that when taken by the Romans, 266 B. C., it contained no fewer than 7,000 statues. *Pop.* 2,387.

Bol'ster, (*bole'stur.*) *n.* [A. S. *bolster*; O. Ger. *bolstar*; from the root of *boll.*] A long pillow or cushion, used to support the head of persons lying on a bed; — usually placed beneath the pillows.

"This arm shall be a *bolster* for thy head;
I'll fetch clean straw to make a soldier's bed." — *Gay.*

—A pad or quilt; something in the shape of a bolster used as a support, or to hinder pressure.

"Up goes her hand, and off she slips
The *bolsters* that supply her hips." — *Swift.*

(*Saddlery.*) The padded or cushioned part of a saddle.

(*Naut.*) A piece of timber adjoining the hawse-hole, intended to prevent the chafing of the hawser against the cheek of a ship's bow.— A small pad of painted or tarred canvas placed under the rigging to prevent friction when the spars strain in stormy weather. — A cylindrical iron block, with a hole through the middle, used as an anvil when holes are being punched in metal.

(*Mech.*) A tool used in punching holes, and for making bolts.

(*Building.*) That part in the construction of a bridge between the truss and the masonry.

(*Ordnance.*) A block of wood attached to a gun-carriage, upon which the breech of the gun rests, when being moved from one place to another.

(*Carpentry.*) The cross-beam of a railway-car or truck.

(*Arch.*) The rolls at the ends of capitals of the Ionic order.

(*Cutlery.*) That part of the blade of a knife which connects with the handle. — The metallic end of a knife-handle.

—*v. a.* To support with a bolster, pad, or cushion. — To hold up; to maintain; to support. (Used in a moral sense.)

"It was the way of many to *bolster* up their crazy doating consciences with confidences." — *South.*

—*v. i.* To afford a bed to; to lie on the same bolster.

"Mortal eyes do see them *bolster*,
More than their own." — *Shaks.*

Bol'stered, *a.* Swelled out. — Supported; maintained.

Bol'stering, *n.* A supporting, or holding up.

Bol'ster's Mills, in *Maine*, a post-office of Cumberland co.

Bolt, *n.* [Dan. *bolt*; A. S. *bolt*; from the root *bal*, as found in Gr. *ballō*, to throw.] That which shoots or darts forward; an arrow; a dart; a pointed shaft; that which darts like a bolt.

"Yet mark'd I where the *bolt* of Cupid fell;
It fell upon a little western flower,
Before milk-white, now purple with love's wound." — *Shaks.*

—A thunderbolt; a stroke of lightning.

"Sing'd with the flames, and with the *bolts* transfix'd." — *Dryden.*

—An iron or shackle to fasten the legs of a prisoner.

"Away with him to prison; lay *bolts* enough upon him." — *Shaks.*

—That which shuts or fastens a door, as a bar: anything which fastens or secures.

"'T is not in thee to oppose the *bolt*
Against my coming in.' — *Shaks.*

(*Joinery.*) An iron fastening for a door moved by the hand, and catching in a staple, or notch, to receive it. *The B. of a lock* is the iron part by which it is fastened into the jamb, in the act of turning it by the key. — In *Carpentry*, *B.* are those square, or cylindrical, iron pins, which pass through two or more pieces of timber, with a broad knob at one end, and a nut screwed to the other, for securing them together.

—*pl.* (*Naut.*) Short cylindrical pieces of iron or copper, varying in diameter from half an inch to three inches, and of various lengths, used for securing the timbers of a ship to the ribs, and for fastening the knees, beams, and various parts of the vessel together. These bolts differ in form according to the purpose for which they are designed, and are distinguished by shipwrights according to the form of the head.

Bolt of canvas. A piece of sail-cloth, measuring 28 ells in length.

Bolt, *v. a.* To fasten or secure with a bolt, pin, or other contrivance; as, to *bolt* a door.

"The *bolted* gates flew open at the blast;
The storm rush'd in, and Arcite stood aghast. —*Dryden.*

—To fasten; to shackle; to confine.

"To do that thing that ends all other deeds,
Which shackles accident, and *bolts* up change."—*Shaks.*

—To blurt out precipitately; to utter at random.

"I hate when vice can *bolt* her arguments,
And virtue has no tongue to check her pride."—*Milton.*

—To swallow anything precipitately, and without proper mastication; as, to *bolt* one's food.

Bolt, *v. a.* [O. Fr. *beluter, bluter,* from Lat. *apludare,* from *apluda,* chaff, husks, winnowings of corn.] To husk or winnow; to sift or separate bran from flour.

"I cannot *bolt* this matter to the bran."—*Dryden.*

—To examine, as if by sifting; (generally preceding *out.*)

"It would be well *bolted out,* whether great refractions may not be made upon reflections, as upon direct beams."—*Bacon.*

(*Law.*) To discuss the points of a case in private.

(*Sport.*) To start forth; to cause to leave their holes; as rabbits, hares, &c.

To bolt to the bran. To give anything a complete and perfect examination; as, "The report of the committee was examined and sifted and *bolted to the bran.*" *Burke.*

Bolt, *v. n.* To shoot or start forth suddenly, like a bolt; to move abruptly; to spring out precipitately.

"The birds to foreign seats repair'd;
And beasts, that *bolted* out, and saw the forest bar'd."—*Dryden.*

—To fall suddenly, like a bolt.

"His cloudless thunder *bolted* on their heads."—*Milton.*

—To make a sudden exit or departure without previous announcement; to desert or evade; as, he has *bolted* with the cash.

Bolt, *adv.* With abrupt or sudden collision; as, to come *bolt* up against a person.

Bolt'-anger, *n.* [*bolt* and *auger.*] An anger of large size, used by ship-builders for boring holes for bolts.

Bolt'-cutter, *n.* A machiue to cut bolts with.

Bolt'ed, *n.* (*Arch.*) See BOULT.

Bolt'er, *n.* Oue who bolts, or goes away abruptly; a horse which suddenly starts off.—An instrumeut or machiue for bolting or separating bran from flour.

"When superciliously he sifts
Through coarsest *bolter* others' gifts."—*Hudibras.*

—A kind of net or fishing apparatus.

"These hakes are taken . . . with the *bolter.*"—*Carew.*

Bolt'-head, *n.* (*Chem.*) A globular flask with a tubular neck, used in the laboratory for boiling and subliming.

Bolt'ing, *n.* Act of fasteuing with a bolt or bolts; blurtiug out; starting forth suddeuly; sifting or separating bran from flour.

(*Law.*) Discussion of legal cases in private.

Bolt'ing-cloth, *n.* A cloth of which bolters are made.

Bolt'ing-house, *n.* The place where flour, meal, &c. are bolted or sifted.

"The jade returned as white, and as powdered, as if she had been at work in a *bolting-house.*"—*Dennis.*

Bolting-hutch, *n.* The vat or tub which receives flour, &c., after being bolted.

Bolting-mill, *n.* An apparatus for sifting flour, &c.

Bolting-tub, *n.* Same as BOLTING-HUTCH. *q. v.*

Bol'ton, or BOLTON-LE-MOORS, a large manufacturing town of England, iu Lancashire, 175 m. N.W. of London, 31 E.N.E. of Liverpool, and 12 N.W. of Manchester. This is an opulent and important place, well-built, paved, and lighted, and possessing many fine public buildings.—*Manf.* Cotton goods, paper, machiuery, steam-engines, &c. This town lies in the midst of a great coal-field, and carries on an immense traffic. *B.* was the scene of desperate struggles during the civil war, and was taken by the Royalists under James Stanley, Earl of Derby, who was afterwards betrayed, and by order of Cromwell beheaded, in the market-place of this town, 1651. *Pop.* 108,959.

Bol'ton, in *Connecticut,* a post-township of Tolland co., 15 m. E. of Hartford.

Bolton, in *Illinois,* a post-village of Williamson co.

Bolton, in *Massachusetts,* a post-township of Worcester co., 27 m. W. by N. of Boston.

Bolton, in *Missouri,* a post-office of Harrison co.

Bolton, in *New York,* a post-township of Warren co., on Lake George, 68 m. N. of Albany.

Bolton, in *Upper Canada,* a village of York co., 28 m. N.N.W. of Toronto.

Bolton, in *Vermont,* a post-township of Chittenden co., 20 m. N.W. of Montpelier.

Bolto'nia, *n.* (*Bot.*) A genus of plants, order *Asteraceæ.* They are glabrous, branching, unimportant herbs.

Bol'tonite, *n.* (*Min.*) A kind of chrysolite, which differs from the other varieties of that mineral in being a silicate of magnesia, instead of a silicate of magnesia and iron. It is found at Bolton, Massachusetts, in granules and irregular masses disseminated through limestone, seldom with any traces of crystalline form, and of a color varying from ash-gray to yellowish-white; the darker colors change to yellow on exposure to the weather.

Bol'ton's Depot, in *Mississippi,* a post-village of Hinds co., 27 m. E. of Vicksburg.

Bol'tonville, in *Georgia,* a post-office of Cobb co.

Boltonville, in *Vermont,* a post-office of Orange co

Boltonville, in *Wisconsin,* a post-village of Washington co., 6 m. N.E. of West Bend.

Bolt'-rope, *n.* (*Naut.*) The rope bordering the sails of a ship, to strengthen the canvas and prevent its tearing. Up the sides of a sail it is called a *leech-rope;* aloug the top, a *head-rope;* and at the foot, a *foot-rope.*

Bolt'-screwing Machine, *n.* (*Mech.*) A machine for screwing bolts, by fixing the bolt-head to a revolving chuck, and causing the end which it is required to screw to enter a set of dies, which advance as the bolt revolves.

Bolt's Fork, in *Kentucky,* a P. O. of Lawrence co.

Bolt'sprit, *n.* (*Naut.*) An old spelling of BOWSPRIT, *q.v.*

Bolt-up'right, *a.* Perfectly erect, as a bolt or arrow placed on its end.

"As I stood *bolt-upright* upon one end, one of the ladies burst out."—*Addison.*

Bo'lus, *n.*: Eng. *pl.* BO'LUSES; Lat. *pl.* BOLI. [Lat.] (*Med.*) A pharmaceutical preparation, having a pillular shape, but larger; it can, however, be swallowed like a pill.

Bo'man's Bluff, in *N. Carolina,* a post-office of Henderson co.

Bom'arsund. (*Geog.*) See ALAND.

Bomb, (*bum,*) *n.* [Lat. *bombus;* Gr. *bombos;* formed from the sound.] (*Mil.*) A shell filled with explosive matter. See SHELL.

—A loud humming sound like that made by a bell. (o.)

"Which . . . would make a little flat noise in the room, but a *bomb* in the chamber beneath."—*Bacon.*

—The sound emitted by a bell upon being struck.

Bom'ba, *n.* [It., a bomb.] (*Hist.*) A title popularly conferred upon King Ferdinand II. of Naples, (of infamous memory,) and by which he will be recorded in history. This appellation he received from the violation of his solemn oath to the citizens of Palermo, which city he perfidiously bombarded, in 1849; thus outraging his own plighted word, the laws of humanity, and the constitutional policy he had sworn to observe.—See FERDINAND II.

Bombard, (*bum-bard',*) *n.* [Fr. *bombarde.* See BOMB.] A bombardment; an attack with bombs. (R.)

(*Mus.*) See BOMBARDON.

—*v. a.* To attack with shells or shot thrown from mortars, bombs, or pieces of ordnance; as, to *bombard* a fort.

"Whilst Villeroi . . . marches on secure,
T' *bombard* the monks, and scare the ladies."—*Prior.*

Bombardier, (*bum-bard-ēr',*) *n.* [Fr.] (*Mil.*) One who attends to the loading of shells, bombs, &c.—In England, the term applied to the lowest rank of non-commissioned officers in the Royal Artillery.

Bombardier-bee'tle, *n.* (*Zoöl.*) A name applied to many coleopterous insects of the tribe *Carabidæ.* They are divided into two genera,—the *Brachinus,* and the *Aptinus;* the latter has no membranous wings under the wing-sheath. Those found near the tropics are large and brilliantly colored, but those found in this country are generally small. They are called bombardier-beetles on account of a remarkable property they possess of violently expelling from the anus a pungent acrid fluid, which, if the species be large, has the power of producing discoloration of the skin, similar to that produced by nitric acid. It also changes blue vegetable colors to red, and then to yellow.

Bom'bard-man, *n.* One who supplies and carries liquors on board a bomb-vessel. (R.)

Bombard'ment, *n.* (*Mil.*) An attack with bombs. Specifically, the act of throwing shells and shot into a town, fort, or ship. Sometimes carcasses, stink-pots, rockets, hot-shot, and other incendiary missiles are used for this purpose. The *B.* of a town takes more effect upon the civilians than the garrison, as the latter, in any well-constructed fortified place, are lodged in bomb-proof buildings. Before bombarding a town, it is customary to give notice thereof, to allow women, children, and non-combatants to leave it.—See SIEGE.

Bombar'don, Bombar'do, *n.* (*Mus.*) A musical wind-instrument resembling the bassoon, and generally used as a bass to accompany the hautboy. It is sometimes called *bombard.*

Bombasine', *n.* See BOMBAZINE.

Bombast, (*bum'bast,*) *n.* [It. *bambagia,* cotton, from L. Lat. *bombax,* the cotton-tree.] Originally, a stuff of soft, loose texture, used to stuff garments; specifically, and in a figurative sense, high-sounding words; an inflated style of speech; fustian.

"Are all the flights of heroic poetry to be concluded *bombast,* . . . because they are not affected with their excellences?"—*Dryden.*

—*a.* High-sounding; big without meaning.

"He . . . evades them with a *bombast* circumstance,
Horribly stuff'd with epithets of war."—*Shaks.*

Bombas'tic, *a.* Distinguished by bombast; high-sounding; swelled; inflated; turgid; as, "A *bombastic* phraseology."—*Burke.*

Bombas'tically, *adv.* With an inflated turgid style.

Bom'bastry, *n.* Fustian; bombastic language.

Bom'bate, *n.* (*Chem.*) A salt resulting from the combination of bombic acid with a base.

Bom'bax, *n.* (*Bot.*) A genus of plants, order *Sterculiaceæ.* The species are native of S. America and India. They are usually large trees, with broad deep-green leaves, and flowers of considerable size. Technically, they differ from *Malvaceæ,* in having two cells to their anthers, which are often doubled down upon themselves; in their calyx opening in an irregular rather than a valvato manner, and in their stamens being usually collected into five parcels. Their anthers are often described as having only one cell; but this is an inaccurate mode of speaking of them, inasmuch as they are formed upon the common two-cell type, and merely have the cells united at the point of the connective. This group contains some of the most majestic and beautiful trees that are known, but nothing of much medical or economical importance is furnished by them. Their wood is light and spongy; the long cottony substance found within their fruit, and which has gained for some of them the name of *cotton-trees,* is too short in the staple to be manufactured into cloth; and the slightly acid or mucilaginous qualities that occur in the group are altogether inferior to those of many *Malvaceæ.* Several American species spread enormously near the ground, forming huge buttresses with the angles of their trunks. The American tree, *B. ceiba,* and the Indian tree, *B. pentandrum,* are remarkable for their prodigious height.

Bombay', formerly a *Presidency,* now a province, and one of the nine great divisions of British India, between Lat. 14° 18′ and 28° 30′ N., and Lon. 67° and 76° 25′ E. having W. the Indian Ocean and Beloochistan; N., Gundava and the Punjab; E., the Nizam's dominions; and S., Mysore and the pres. of Madras. *Area,* 142,043 sq. m. This presidency is divided into the four great territorial divisions of Poonah, Surat (or the N.), Scinde, and the S. division, (Belgaum, &c.) *Desc.* The N.W. parts are more level than the S.E. and E.; Ahmedabad, Kaira, and Baroach are well watered, and are, in some parts, among the best cultivated and peopled lands in Hindostan: Surat is more undulating, with its E. part hilly and jungly; Candeish is diversified with hills, fertile patches, and jangle; Ahmednuggur abounds in rocks, hills, and streams; Poonah is mountainous and irregular, but with many fertile valleys; Darwar is an elevated table-land, and the Khokan a large narrow tract stretching for 225 m. along the sea-coast. The principal mountain ranges are a spur of the W. Ghauts in the S.; the Sydaree and Sautpoora, in Candeish, and the Nerbudda in the N., a branch of the Vindhyan chain. *Chief Rivers.* The Nerbudda, Taptee, Mhye, &c., falling into the Gulf of Cambay, in the N.; in the central parts, the head waters of the Godavery and Beemah; and in the S. the Kistna and Toombuddra. *Min.* Basalt, amygdaloid, yellow porphyry, and green clay-stone. A black soil, well suited to the culture of cotton, is widely diffused throughout the centre of this presidency. *Clim.* The mean temp. at Bombay, about the centre of the pres., is between 81° and 83° Fahr. The climate of the N. district is reckoned among the worst in India; the thermometer in the hot season rises, sometimes, to 116° Fahr., and Europeans are affected with fever, ague, and other tropical complaints. *Zoöl.* Wild elephants, tigers, leopards, panthers, hyænas, buffaloes, boars, deer, &c., and many varieties of birds. *Veg. Prod.* Teak of very good quality is plentiful, and the dist. of Surat abounds with poon, wild dates, and babool. Cocoa palms are equally abundant. In the N. parts, a great variety of fruits flourish, and the mango is found in great perfection. *Agric.* Rice and cotton are the staple articles of culture, and the latter forms an important and yearly increasing object of export. Sugar, indigo, and the mulberry-tree, are also extensively cultivated; and wool is largely shipped to foreign countries. The cattle of Gujerat are of a remarkably large size, and command a good market throughout India. Sheep have been of late years imported into the pres., where they are reported to be doing well. *Inhab.* Besides Hindoos, Mohammedans, Parsees, Jews, and Europeans, many distinct tribes (for the greater part aboriginal) inhabit this country. Among these are found Bheels, Coolies, Ramooses, Catties, Dhooblas, &c. Nearly all the Parsees in Hindostan have settled within the limits of *B.* presidency. *Rev.* The revenue is principally derived from three sources, viz.: the land-tax, opium, and customs. *Com.* (See BOMBAY CITY.) In 1617, *B.* was created a regency, and made supreme over all the East India Company's establishments in India; but, in 1707, Calcutta was declared independent of it. In 1813, Baroach and Ahmednuggur districts were acquired by the English, and the latter, with Poonah and Ahmedabad, were formally ceded to them in 1817. Khokan, Darwar, Candeish, and the residue of the Peishwa's dominions, fell to the British in 1818. The seat of govt. was transferred from the city of Surat to that of Bombay, 1686. *Pop.,* 1891, 18,826,820.

BOMBAY, (Pg. *Buon Bahia,* "good harbor,") a maritime city prov. Aurungabad, and cap. of the above pres., is, after Calcutta and Canton, the greatest commercial emporium of the East. It is built at the S. extremity of a small island of the same name, contiguous to the Khokan coast, 650 m. N.W. of Madras, 150 S. of Surat, and 1,050 S.W. of Calcutta; Lat. 18° 56′ N., Lon. 72° 53′ E. The city consists of two portions, the old town, or fort, and the new town, or Dungaree. It bears no external resemblance to Calcutta or Madras, and its best streets scarcely equal their suburbs. There is no Asiatic magnificence to be seen; everything has an air of age and economy, though the shops and warehouses are built on an extensive scale. The government-house, arsenal, courts of law, cathedral, Elphinstone institute, college, and the town-hall are the leading public buildings. The most remarkable structure in the new town is a pagoda, the largest in *B.*, dedicated to the worship of *Momba Devi.* Ground in this city is very valuable, especially within the fortress. The Parsees (*q. v.*) form the most numerous, wealthy, and powerful section of the population. The harbor of *B.* is one of the largest, safest, and most commodious in India; and the rise of the tides here makes it the only port in Hindostan permitting wet-docks to be constructed. The commerce of *B.* is principally with Europe and China. The imports from the latter country consist principally of raw silk, silk piece-goods, sugar, treasure, &c.: on the other hand, the exports from *B.* to China are, raw cotton, opium, pearls, sandal-wood, &c. The leading exports to Europe comprise immense quantities of cotton, raw silk, pepper and spices, coffee and wool, and the total imports for the year 1891 were 653,716,000 rupees, or about $235,000,000. Exports nearly the same. *B.* is, next to Madras, the oldest of the British possessions in the East, having been ceded by the Portuguese in 1661 as a part of the dowry of Catherine, queen of Charles II. In 1668 the city and island were transferred by the crown to the East India Company. At present *B.* rules the whole N. W. coast of India, and its influence is felt along the shores of Persia and Arabia. *Pop.,* 1891, 804,670.

Bombay', in *New York,* a post-township of Franklin county, on Little Salmon River, 20 miles N.W. of Malone.

Bombazette', *n.* A thin woollen stuff.

Bombazine, Bombasine, (*bum-ba-zeen',*) *n.* [Fr. *bombasin;* Gr. *bombyx,* a silk-worm.] (*Manuf.*) A fabric

of which the warp is silk, and the weft (or shoot) worsted. It is chiefly made in black, and is an article of mourning for female dress.

Bomb'-chest, *n.* (*Mil.*) A chest filled with detonating materials, and buried under-ground, in order to be exploded with a lighted fuse when necessary.

Bom'bernickel, or PUM'PERNICKEL, *n.* A kind of German rye bread made of unsifted meal.

Bom'bic Acid, *n.* (*Chem.*) An acid formed by silk-worms, analogous to, and most likely identical with, that obtained from ants, and called FORMIC ACID, (*q. v.*)

Bom'bilate, *v. i.* [From Lat. *bombilare.*] To make a humming noise. (R.)

Bombila'tion, *n.* Sound; noise; report. (O.)

Bombil'ions, *a.* Having, or creating, a hollow, humming noise.

Bom'bite, *n.* (*Min.*) A mineral with all the characteristics of Touchstone, of which it is, probably, a variety. It is found in the environs of Bombay (India), whence the name.

Bomb'-ketch, Bomb-vessel, *n.* (*Naut.*) A strongly built vessel of war, carrying heavy metal for bombardment. See GUNBOAT; KETCH; MORTAR-BOAT.

Bomb-proof, *a.* (*Mil.*) Capable of resisting the force of bombs or shells; as, a *bomb-pròof* casemate in a battery.

Bomb-shell, *n.* (*Mil.*) See SHELL.

Bom'bus, *n.* [Gr. *bombos*, the humming of bees.] (*Zoöl.*) See APIDÆ.

(*Med.*) A kind of ringing or buzzing in the ears; — characterized by the perception of blows or beating repeated at certain intervals.

Bombyc'idæ, *n. pl.* (*Zoöl.*) A family of insects, order *Lepidoptera*, mainly comprising thick-bodied moths which have the head small and sunken, antennæ generally feathered or pectinated, mouth-parts short, thorax woolly, and the fore-legs very hairy. The caterpillars have 16 legs, and, with few exceptions, spin cocoons. Some genera are small; others are the largest of all the Lepidoptera. The members of this family supply the world with silk.

Bombycil'lidæ, *n. pl.* (*Zoöl*) The Wax-wing family of birds, order *Incessores*, comprising birds with the bill shut, broad, much depressed, and the gape opening to the eyes; both mandibles notched, the upper with a tooth behind the notch, the outer lateral toe the longest, and the head generally crested. The Cedar-bird (*Ampelis cedrorum*) of N. America is an example. See AMPELIDAE.

Bombycinous, (*bum-bis'e-nus,*) *a.* [Lat. *bombycinus.*] Of the color of the silk-worm.

Bom'byx, *n.* (*Zoöl.*) See SILK-WORM.

Bom-Fim, (*bong-feeng,*) a town of Brazil, prov. of Rio Janeiro, and 65 m. W. of the city of the same name. There are several places of this name in Brazil, which are of no importance.

Bomilcar, (*bo-mil'kar,*) a Carthagenian general, lived about 310 B. C. Not satisfied with enjoying the highest dignity the republic could bestow, he aspired to sovereign power; and, taking advantage of the public alarm occasioned by the invasion of Agathocles, he entered Carthage at the head of 1,000 mercenaries, about 308 B. C. After being proclaimed king, his hireling troops turned against him, made him prisoner, and put him to death by crucifixion.

Bomil'car, a Numidian adventurer, D. about 107 B. C. He was a favorite of Jugurtha, and the instrument of many of his cruelties. Having by his order murdered Massina, grandson of Massiuissa, he fled to Africa. Here he had an interview with Metellus, who promised him impunity for his crime if he would either kill or betray Jugurtha. To this condition *B.* consented; but the plot having been discovered by Jugurtha, he caused *B.* and his accomplices to be put to death.

Bom-Jardim, (*bong-jar-deen',*) a town of Brazil, prov. and 210 m. S. of Ceara; *pop.* abt. 6,000, chiefly Indians.

Bom-Jesus, (*bong-zha'soos,*) the name of several unimportant places in Brazil.

Bom-Successo, (*bong-soos-sā'so,*) or IBITURUNA, a village of Brazil, prov. Minas-Geraes, 250 m. N.E. of Villa Rica.

Bon, (*bong,*) *a.* [Fr., from Lat. *bonus*, good.] Good; legitimate; genuine.

Bon, *n.* (*Bot.*) A name applied, in Egypt, to the coffee-tree.

Bo'na, (anc. *Hippo-Regius,*) [called by the French *Bône*, and by the natives *Annabah, i. e.* "place of jujubes."] A fortified maritime city of N. Africa, in the French province of Algiers, dep. of Constantine, near the Gulf of Bona, 85 miles N. of Constantine city; Latitude 36° 53′ 58″ N., Lon. 7° 46′ 5″ E. *B.* has been much improved since its occupation by the French; the streets are narrow and crooked, but there are several good public buildings. *Manf.* Burnous, tapestry, and saddles. *Exp.* Corn, wool, ox-hides, and wax. *B.* is the principal seat of the coral fishery on this coast. It was taken by the French in 1832.

Bonac'ca, or GUANAJA, an island of Honduras Bay, Caribbean Sea, 30 m. N. of Cape Castilla; Lon. 16° 28′ N., Lat. abt. 87° 38′ W.

Bon Ac'cord, in *Iowa*, a post-office of Johnston co.

Bo'na De'a, [Lat., good goddess.] (*Myth.*) A name given to Ops, Vesta, Cybele, Rhea, by the Greeks; and, by the Latins, to Fauna or Fatua. This goddess was so chaste, that no man but her husband saw her after her marriage. Her festivals were celebrated only in the night, by the Roman matrons in their houses; and all the statues of the men were carefully covered with a veil where the ceremonies were observed.

Bo'nâ Fi'des. [Lat.] (*Law.*) Good faith; honesty, as distinguished from *mala fides* (bad faith). The law requires all persons in their transactions to act with good faith; and a contract, when the parties have not acted *bonâ fide*, is void at the pleasure of the innocent party.

Bon Air, in *Tennessee*, a village of White co.

Bon'ald, LOUIS GABRIEL AMBROISE, VICOMTE DE, a French political philosopher, B. 1754. During the revolution he joined the royalist army under the Bourbon princes. He returned to France under Napoleon; became co-editor of the *Mercure* with Chateaubriand and Fiévée, and, in 1808, was appointed Minister of Public Instruction. After the restoration — as the deputy for his department — he voted with the Ultramontane or Theocratic party in the Chambre Introuvable, and in his political career, as in his philosophical works, was the ardent advocate of absolutism, of the infallibility of the Pope, and of the Jesuits. In 1830, he refused to take the oath of allegiance to the new dynasty. D. 1840. His most important writings are: *Théorie du pouvoir Politique et Religieux*, 3 vols., 1796; *Législation Primitive*, 3 vols., 1802; *Recherches Philosophiques sur les premiers Objets des connaissances Morales*, 2 vols., 1818. — His 3d son, LOUIS JACQUES MAURICE DE *B.*, B. 1787, archbishop of Lyon, 1839, and cardinal in 1842, faithfully adhered to his father's political and religious principles, living, notwithstanding, on a footing of good intelligence and accord with the government of Napoleon III. D. 1870.

Bo'naparte, (originally BUONAPARTE.) the patronymic of the most remarkable dynastic family, or reigning house, of modern times. Its founder, CARLO BUONAPARTE, a lawyer of honorable descent, and the friend of Gen. Paoli, was B. at Ajaccio, Corsica, in 1756, and by Letizia (*Letitia*) Ramolino, his wife, was the father of the illustrious subjects of the following notices. He D. 1785.

B., JOSEPH, sometime KING OF NAPLES AND SICILY, afterwards of SPAIN, and, later, known as the COUNT DE SURVILLIERS, B. at Ajaccio, Jan. 7, 1768, was the eldest son of the above. He was educated at the college of Autun, France, and at Pisa University. He early entered upon the study of the law, and, in 1792, was made a member of the new administration of Corsica, under Gen. Paoli. Next year he emigrated to Marseilles, where he married one of the daughters of M. Clary, a rich banker, whose younger daughter married Bernadotte, afterwards King of Sweden. In 1796, Joseph was appointed commissary to the army of Italy, then commanded by his brother Napoleon. Next year, he was elected deputy from his native dep. in Corsica to the Council of the Five Hundred, and sent by the Executive Directory as ambassador to the Pope. He made but a short stay at Rome, returned to Paris to resume his legislative duties, and, in concert with his brother Lucien (*q. v.*), prepared the way for the subsequent elevation of his brother Napoleon, then commanding in Egypt. On the latter becoming First Consul, he appointed Joseph councillor of state, and employed him in Sept., 1800, to negotiate a treaty of peace and commerce with the United States. Having exhibited some diplomatic skill in this transaction, he was sent the following year to Luneville, where he concluded a treaty of peace with the Emperor of Germany, in 1801; and next year he was employed at Amiens to negotiate the treaty with England. Joseph was now made a senator; and on his brother attaining the imperial crown, he was recognized as an imperial prince, and created Grand Elector of the Empire. When the emperor sent an army to invade Naples, at the beginning of 1806, he appointed Joseph to lead the expedition as his lieutenant, Marshal Massena acting as military commander. Immediately afterwards, the emperor announced to Joseph, after his usual imperious fashion, but in a private letter dated 19th Jan., 1806, his intention to make him King of Naples. — "My will is that the Bourbons shall have ceased to reign in Naples. I intend to seat on that throne a prince of my own house. In the first place you, if it suits you; if not, another." But the intimation of his intention to make Joseph a king was followed in a few days by a plain announcement that he was to be only a subordinate king. "I intend my blood to reign in Naples as long as it does in France; the kingdom of Naples is necessary to me." Joseph, after a little hesitation, accepted the post, and in the following year he was appointed, by decree, King of Naples and Sicily. Joseph reigned in Naples, though not in Sicily, little more than two years. Acting as his brother's subordinate, he effected fundamental changes in the institutions of the country, the object being to assimilate its institutions to those of France. He caused many and great reforms, and had the disposition to act in the most beneficial manner to the country, but was constantly checked and overruled by the suzerain power. In 1808, the emperor transferred Joseph from the Neapolitan throne to that of Spain. In the latter country he met with much greater difficulties than at Naples. He tried mildness and conciliation, but even these failed to move the stern, unbending character of the people. During the five years of his Spanish reign, three times he was obliged by the success of the allied armies to leave his capital; the last time (1813) to return no more. More than once he offered to resign the crown, but he was induced by Napoleon to remain. After the battle of Vittoria (June, 1813), where he narrowly escaped being taken prisoner by the English, he returned to France. In Jan., 1814, when the emperor set off for the army, he appointed Joseph, head of the council of regency, and lieut.-general of the empire. After the events of 1814, he retired to his estate of Prangin, near Lake Leman, where he remained until the emperor's return from Elba in 1815, when he rejoined him. After Waterloo, and the emperor's second abdication, Joseph retired to the U. States, where he purchased an estate on the banks of the Delaware, near Philadelphia. Under the title of "Count de Survilliers," he there lived in a style of affluence, affording employment to many of the laboring population, and hospitality to the French emigrants who resorted to America. His wife remained in Europe with her two daughters, and resided at Brussels and afterwards at Florence. When the French Revolution of 1830 became known in the U. States, Joseph wrote a long address to the House of Deputies, in which he put forth the claims of his nephew, the late Napoleon III. The letter, however, was not read to the Chamber. He came himself to England soon after, and at last repaired to Italy, where he D. at Florence, July, 1844. Joseph was a man of considerable intelligence and good intentions, but he was too feeble of purpose to resist the imperious will of his brother, and was, of course, wholly unfitted to act independently in the elevated positions to which he was raised.

B., NAPOLEON. See NAPOLEON I., (EMPEROR OF THE FRENCH.)

B., LUCIEN, PRINCE DE CANINO and MUSIGNANO, the third son of Charles and Letizia Bonaparte, was B. at Ajaccio, in 1775. He emigrated to Marseille with the rest of the family, in 1793. He entered warmly into the revolutionary notions of the period, made speeches, and wrote pamphlets on liberty and equality. Soon after he obtained employment in the commissariat at St. Maximin, a small town of Provence, where he married the daughter of an innkeeper. Being one of the republican municipality of that place, he exerted himself laudably, and at his own imminent peril, to save several unfortunate individuals accused of royalism, whom an agent of Barras and Freron, the terrorist commissioners in the south of France, wanted to remove to the prisons of Orange, where the guillotine was in constant activity. By showing a bold front to the agent, whom Lucien charged with informality in his commission, he detained the intended victims under arrest at St. Maximin, until the fall of Robespierre put a stop to the reign of terror. In the reaction, however, which took place in the south of France, Lucien was arrested as a Jacobin, on account of his speeches; and a royalist, whom he had saved, proved most hostile against him. He was, however, liberated after a time. In 1796, Lucien was appointed commissary at war, probably through the influence of his brother, General *B.* In the following year he was elected Deputy to the Council of the Five Hundred, and he went to reside at Paris, where he took a house, of which his sister, Eliza Bacchiochi, did the honors. His drawing-room was resorted to by several men of note and literary acquirements. Lucien took the opposition side in the council, and allied himself to Sieyes and his party, who wished to try their hands at a new constitution. While Napoleon was in Egypt, Lucien wrote to him, complaining of the incapacity and misgovernment of the Executive Directory, and urging him to return to France, but the letters are said to have been intercepted by the English cruisers. After Napoleon's return, in 1799, Lucien, who was the president of the council, became the active leader of those who wished to overturn the Directory. In the stormy sitting of the 19th Brumaire (see NAPOLEON I.) he resisted the motion made by several members to outlaw General *B.*, and as the confusion and uproar increased in the hall, he left the chair, and addressing his brother's soldiers outside, told them to march in, and drive away the factions men who were no longer the representatives of France. After the accomplishment of that revolution, in which he rendered most material assistance to his brother, he was one of the members of the commission which framed the new or Consular constitution. Soon after he was appointed minister of the interior, but remained in office only a short time, having had some disagreement with his brother upon matters of administration; and, in October, 1800, after the campaign of Marengo, Napoleon sent him ambassador to Spain. His mission proved successful; he managed to ingratiate himself with Charles IV. and the favorite Godoy, and to re-establish French influence in Spain. He induced the weak Spanish government to join France in an attack upon Portugal, which ended by the latter country being obliged to sue for peace, for which it paid dearly. He also completed the arrangements concerning the new kingdom of Etruria, to be given to the young Infanta, son of the Duke of Parma, who had married a Spanish princess, in exchange for which Spain ceded to France her rights upon Parma and Piacenza. The cession of Louisiana to France was likewise confirmed. Having concluded these negotiations, Lucien returned to Paris in 1802. He was made a member of the Tribunate, and as such he supported with all his eloquence, the concordat with the Pope, and also the institution of the Legion of Honor. Lucien was made a senator, and his brother gave him the senatorship, or living, of Sopelsdorf, an estate of the former elector of Treves. His wife being dead, Lucien married, in 1803, Madame Jouberthou, the wife of a stockbroker, who had died at St. Domingo. Napoleon disapproved of this marriage, as he had disapproved of the marriage of Jerome, because he looked forward to royal alliances for his brothers. Lucien, however, supported the project of making his brother consul for life; but he says in his memoirs that he wished to have stopped there, and that he opposed from the first the idea of establishing an hereditary dynasty. When he saw his brother determined on assuming the imperial crown, he left France in the spring of 1804, and went to Italy. The Senatus Consultum, which fixed the hereditary succession in Napoleon's family, named his brothers Joseph and Louis as eventual heirs to the throne, but made no mention of either Lucien or Jerome. Lucien, after a time, fixed his residence at Rome, where he was very kindly received by Pope Pius VII. Being fond of literature and the fine arts, his house was much frequented. After the peace of Tilsit, Napoleon repaired to N. Italy

at the end of 1807, and sent to his brother Lucien to meet him at Mantua. The two brothers had there a conference, in which it seems that Napoleon offered to give Lucien a kingdom in Italy, at the same time telling him plainly that in such case he must be prepared to obey all his orders concerning the internal as well as the external policy of his administration. Lucien declined accepting a crown on these terms, and said that he preferred to remain in a private station. "Be it so," Napoleon replied; "you cannot have henceforth any ground of complaint against me." Lucien returned to Rome. Pope Pius VII. created him Prince of Canino and Musignano in 1808. Soon after, Napoleon began a course of vexatious proceedings towards the court of Rome, which ended in the arrest of the Pope, and the seizure of his dominions. When the French took possession of Rome in 1809, Lucien, who had expressed himself very freely against this part of his brother's policy, was advised to leave that city, and he retired to his country estate. In 1810 he resolved to go to the United States. With this view he embarked on board a vessel at Civita Vecchia, but was seized by an English cruiser, and carried to Malta, where, after a time, he obtained permission from the British government to reside in England under surveillance. Ludlow Castle was fixed upon as his residence. Some time after, he removed to a place in the neighborhood, where he remained till the end of the war, and employed himself in writing his poem of *Charlemagne*. After the peace of 1814 he returned to Rome. When Napoleon returned to France from Elba, in 1815, Lucien repaired to Paris for the purpose, as is said, of obtaining his brother's favor towards the Pope. It has been surmised by some that Lucien acted from a generous impulse, to tender to his brother his advice in the hour of danger, and to keep him also, if possible, within constitutional limits. However this may be, he went to live at the Palais Royal, assumed the style of an Imperial prince, and in the privy councils that took place, he advised Napoleon to offer to the Emperor of Austria, in order to detach him from the allies, to abdicate in favor of his son. His advice, after some hesitation, was rejected. Napoleon set off for the army, lost the battle of Waterloo, and returned to Paris without an army. Lucien, being appointed extraordinary commissioner of the emperor, to communicate with the representatives of the people, strove to revive in the Chamber of Deputies a feeling of sympathy for his brother; he spoke eloquently, he appealed to the gratitude of the nation, but was answered sternly by La Fayette, "The nation has followed your brother over fifty fields of battle, from the burning sands of Egypt to the frozen deserts of Russia, through disasters as well as triumphs, and it is for this that we mourn the loss of three millions of Frenchmen!" Lucien advised his brother to dissolve the chamber, since he could not manage them, and to assume the dictatorship. Napoleon hesitated, and at last refused; he said that he would not kindle a civil war. He most likely perceived what Lucien did not see, that the attempt would only lead to a short protracted struggle, attended by additional calamities to France and to himself. Lucien says that he was opposed to Napoleon's abdication; but when he saw his brother determined upon it, he insisted upon its being made at least in favor of young Napoleon. Napoleon smiled and shook his head incredulously, but at length inserted the clause in favor of his son. Lucien then proceeded to address the House of Peers, to induce them to proclaim at once Napoleon II., but in vain. After the entry of the allied armies into Paris, Lucien rejoined his family at Rome, where he afterwards spent many years in peaceful retirement. About 1833, he revisited England, where he published several of his works; and returning to Italy, D. at Viterbo, 1840. Lucien ranks as an author both in prose and verse. His published works are, *Charlemagne, ou l'Eglise délivrée*, an epic poem in 24 cantos, which has been translated into English by Dr. Butler, and the Rev. F. Hodgson, 2 vols. 4to, London, 1815; *La Cyrnéide, ou la Corse sauvée*, a poem in 12 cantos; *Mémoires de Lucien Bonaparte, Prince de Canino, écrits par lui-même*, 8vo., London, 1836, and *Réponse de Lucien Bonaparte aux Mémoires du Général Lamarque*, London, 1835.

B., Louis Count de St. Leu, and sometime King of Holland, the fourth son of Carl Bonaparte, and the father of the Emperor Napoleon III., was B. at Ajaccio, Sept. 21, 1778. At an early age he entered the French army, and accompanied his brother Napoleon to Italy and Egypt. He distinguished himself at Arcola, braving the enemy's fire, and shielding with his own body that of his brother and commander. On Napoleon becoming first consul, he sent Louis on a special mission to St. Petersburg, but, owing to the death of the Emperor Paul, he stopped short at Berlin. After remaining there for about a year, he returned to Paris, became general of brigade, a counsellor of state, and, afterwards, a general of division. In 1802, he married Hortense Eugénie de Beauharnais, (see Hortense,) the daughter of the Empress Josephine. When his brother became emperor, Louis was promoted to be governor of Piedmont, and afterwards commanded the army of the N. of Holland. After the Batavian republic had been converted into a kingdom, the States of Holland, in June, 1806, sent an embassy to Napoleon, requesting that Louis might be their king, which was granted, and he immediately assumed the title. He strenuously exerted himself to improve the condition of his people, and distinguished himself on several occasions by his personal humanity. His love for his people made him refuse without hesitation the offer made to him by his brother of the Spanish crown; but his opposition to Napoleon's plans, which he thought were prejudicial to the nation's welfare, gave great dissatisfaction at Paris. His wife was a most devoted adherent of Napoleon, and her inability to control her husband, the death of her eldest son in 1807, and the state of her health, induced her to return to Paris, where a third son was born. She was afterwards sent by Napoleon, in 1809, to induce her husband to comply with his wishes, but Louis refused. She then returned to Paris, where she resided in state as Queen of Holland, and Napoleon sent Oudinot with 20,000 men against Louis, who thereupon abdicated in favor of his son, which abdication the emperor rejected, and, 9th July, 1810, Holland was united to France. Louis retired to Gratz in Styria, where he lived under the title of Count de St. Leu, and his wife became wholly separated from him, though not divorced. In 1813, when the allies appeared about to fall upon France, Louis offered his services to the emperor, by whom they were accepted, and he proceeded to Switzerland, but he was not employed. On the downfall of Napoleon, when the Dutch threw off the French yoke, Louis addressed a letter to the provisional government, asserting his claims to the throne; but they were rejected. Louis ultimately retired to the Papal States, where others of his family had assembled, and there devoted himself chiefly to literature. He published *Marie, ou les Hollandaises; Documents Historiques sur la Hollande*, 5 vols. 8vo., 1820; *Mémoires sur la Versification*, &c., &c. D. at Leghorn, 15th July, 1846, and was buried at St. Leu, France.

B., Jerome, Prince de Montfort, and King of Westphalia, the youngest brother of Napoleon I., B. at Ajaccio, Dec. 15th, 1784. He was educated at the college of Juilly, France. On his brother's elevation to the first consulship, he placed Jerome in the naval service, who went as lieutenant, in 1801, to St. Domingo, with the expedition commanded by Gen. Leclerc; but he soon returned home as bearer of despatches. He was then appointed to the command of a frigate, and when, in 1803, hostilities broke out between France and England, Jerome cruised off the W. Indies, and U. States, but without accomplishing anything. In the latter country, he married Miss Elizabeth Patterson, a lady of Baltimore, Dec. 24, 1803. This union, contracted without his knowledge, gave great offence to Napoleon, who was now bent on forming high alliances for all the members of his family. In spite of Jerome's entreaties, Napoleon, as soon as he became emperor, annulled the marriage by a decree of the council of state, on the ground of his brother being a minor. The Pope, however, to whom Napoleon applied, refused to ratify the divorce. Jerome, in returning to Europe with his wife, narrowly escaped being captured by British cruisers. Not being allowed to enter France, the wife of Jerome proceeded to England, where, in July, 1805, she gave birth to a son, Jerome Napoleon Bonaparte, afterwards a citizen of the U. States. Jerome remained for some time in disgrace with his brother, as well on account of his want of success at sea as of his marriage; but he was ultimately sent as envoy to the Dey of Algiers, to obtain the liberty of a number of Genoese slaves. Having succeeded in his mission, he was appointed to the command of a squadron, sailed, in 1806, to Martinique, and on his return was created a prince of the empire, and promoted to the rank of general. In the campaign of 1807, Jerome received the command of a body of Bavarian and Würtemberg troops, with whom he attacked the Prussians and made himself master of Silesia; after which he was created general of division. On Aug. 12th, 1807, Jerome married Frederique Catherine, daughter of the King of Würtemberg; and on the 18th of the same month, the emperor erected Westphalia into a kingdom, and created Jerome King of Westphalia. Jerome directed all his energies to the performance of his new duties. He was compelled to act in a great measure as the deputy of Napoleon, but he did not hesitate to exercise his own judgment. He set about the restoration of the national finances, the removal of administrative abuses, the reformation of various institutions, and the establishment of religious freedom; and following the example, perhaps obeying the directions of the emperor, he commenced the embellishment of the capital, Cassel. But though he gained to a great extent the good will of his subjects, he failed to satisfy his brother, who, on several occasions, loaded him with reproaches, and more than once summoned him to Paris the better to enforce his instructions. In the Russian campaign, Napoleon gave Jerome the command of a German division of 70,000 men, with which he rendered good service on more than one occasion. But suffering himself to be surprised at Smolensk, he was summoned before the emperor, who, after angrily reproaching him with disconcerting his plans, dismissed him from his command, and sent him back to Germany. When in the following year the French were driven out of Germany, Jerome was compelled to abandon his kingdom, (Oct. 26, 1813,) and take refuge in France. On the abdication of Napoleon, Jerome and his wife settled in Italy. He was watched by the Austrian government, but by the aid of Murat (*q. v.*) succeeded, on his brother's return from Elba, in escaping surveillance, and joining the emperor at Paris. He afterwards distinguished himself by his gallant conduct at the battle of Waterloo, where he was wounded. After the emperor's final abdication, Jerome, proscribed from France, returned to Würtemberg, where his father-in-law gave him the title of Prince de Montfort, with a handsome estate. Later, he removed to Vienna, and afterwards to Trieste, where he erected a palace. When his nephew, Louis Napoleon, had become the ruler of France, Jerome was recalled to Paris, and was created Marshal of France, and President of the Senate, and (failing direct issue of the emperor) heir to the throne. By his second wife he had three children, Prince Napoleon Jerome, Princess Mathilde, and one who died young. Jerome D. in Paris, 1860.

B., Marie Elise, (Grand-Duchess of Tuscany.) See Bacchiochi.

B., Marie Pauline. See Borghese, (Princess).

B., Caroline, (Queen of Naples.) See Caroline.

B., Napoleon François, (Duc de Reichstadt.) See Napoleon II.

B., Charles Louis Napoleon. See Napoleon III.

B., Charles Lucien Jules, Prince de Canino, eldest son of Lucien *B.*, B. at Paris, 1803. He acquired great distinction as a naturalist; and in ornithology especially was considered one of the first authorities of his day. His chief works are, a continuation of Wilson's *Ornithology of America*, in 4 vols. folio; and *Iconografia della Fauna Italica*, a splendidly illustrated work in 3 vols. folio. He was always the zealous friend and patron of science, and for many years the chief promoter of the annual congresses of the scientific men of Italy. D. 1857.

B., Louis Lucien, (Prince,) brother of the above, B. in England, 1813. In 1848, he was returned to the French Constituent Assembly by the inhabitants of Corsica. In 1849, he was returned to the same body by the dep. Seine. On the re-establishment of the empire, in Dec. 1852, he was appointed senator. Prince Lucien was for many years engaged in superintending the translation of portions of the English version of the Scriptures into the various dialects spoken in England, Wales, and Scotland, and had the *Parable of the Sower* translated into 72 of the languages and dialects of Europe. Of these works the prince had printed only a very limited number of copies. He is said to have been greatly interested in chemical researches, wrote on chemical science, and was the author of several minor works in the Basque language. He had the reputation of being one of the most accomplished linguists of the day. D. Nov. 3, 1891.

B., Napoleon Joseph Charles Paul, (Jérôme.) — See Napoleon, (Prince.)

B., Mathilde, (Princess.) — See Mathilde, (Princess.) See *Bonaparte et Son Temps*, also *Lucien B. et Ses Mémoires*, by Jung, Paris, 1882.

Bou'aparte, in *Ill.*, a v. of Du Page co., 25 m. W. by S. of Chicago.—In *Iowa*, a post-village of Van Buren co.

Bonapar'tean, *a.* Treating of, or belonging to, Bonaparte, or his dynasty; as, *Bonapartean* relics.

Bo'napartism, *n.* The policy inaugurated by Napoleon Bonaparte, and continued by his imperial successor.

Bo'napartist, *n.* A person attached to the family, fortunes, or policy of the Bonaparte dynasty.

Bo'na Peritu'ra, *n. pl.* [Lat.] (*Law.*) Perishable goods. An executor, administrator, or trustee is bound to use due diligence in disposing of perishable goods, such as fattened cattle, grain, fruit, or any other article which may be the worse for keeping.

Bon A'qua, in *Tennessee*, a post-office of Hickman co.

Bona Ro'ba, *n.* [It. and Sp., "a fine robe."] A finely dressed woman of pleasure; a showy woman of loose morals; a courtesan.

Bonas'sus, *n.* A kind of Bison or Buffalo, q. v.

Bonaventu'ra, (St.,) an Italian friar of the order of St. Francis, B. in Tuscany, 1221. He was sent by his superiors to Paris, where he, as well as Thomas Aquinas, of the Dominican order, became involved in contentions with the university, which denied the academical honors to individuals of the mendicant orders. It was not till 1257 that he received his doctor's degree. He had already been elected general of his order, in which capacity he enforced a strict discipline, giving himself the first example of implicit adherence to the monastic rule. He retired to the convent of Monnt Alvernia in Tuscany, where he wrote *Vita Santi Francisci*, and also an ascetic work, *Itinerarium mentis in Deum*, for which last he received the appellation of the "Seraphic Doctor." He D. July 15, 1274, from sheer ascetic exhaustion. Dante, who wrote shortly afterwards, places him among the saints of his "Paradiso." In 1482, he was formally canonized by Sixtus IV., and in 1587 was ranked by Sixtus V. as the 6th of the great doctors of the church.

Bonaven'ture, in prov. of Quebec, an E. co., containing an area of 3,290 sq. m. *Cap.* New Carlisle. *Pop.* in 1895, abt. 20,000.

Bonavista, (*bo'na-vees'ta.*) One of the Cape de Verd Islands, *q. v.*

Bonavis'ta, a cape, telegraph station, and bay of Newfoundland, on the S.E. coast. Lat. of bay 48° 42′ N., and Lon. 53° 8′ W. — Also a district of Newfoundland.

Bon-bon, (*bong'bong,*) *n.* [Fr., goody-goody.] A sugar-plum; a confection of fruit, chocolate, &c., in crystallized sugar.

Bon'brook, in *Virginia*, a post-office of Franklin co.

Bonchamp, Charles Melchior Artus, Marquis de, (*bong-shan,*) B. at Jouverdeil, France, in 1759, was one of the bravest leaders of the Vendean party in the civil war consequent upon the French revolution. He received a fatal shot in the breast in the sanguinary encounter at Chollet, Oct. 17, 1793, and when his followers vowed to avenge his death on 5,000 republican prisoners, the dying hero exclaimed: "Spare your prisoners, I command it." This last command was obeyed.

Bon-chretien, (*bong-kret'yen,*) *n.* [Fr., good Christian.] A species of large French pear.

Bond, *n.* [A. S. *bond*, from *bindan*, to bind.] Anything that binds, fastens, or confines, or which holds things together; a band; a tie; a cord; a chain; a ligament.

—(*pl.*) Chains; imprisonment; captivity; durance.

> "Whom I perceived to have nothing laid to his charge worthy of death, or of *bonds*."—*Acts* xxiii. 29.

—Cementing influence; cause of union; link of connection; binding influence; as, the *bonds* of affection.

> "Love cools, brothers divide, and the *bond* is cracked 'twixt son and father." — *Shaks.*

—An obligation imposing a moral duty as by a pledge, promise, and so forth; as, my word is my *bond*.

(*Masonry.*) The connection established among the stones or bricks in a wall, by disposing them so as to overlap each other. — See BRICK-LAYING.

(*Law.*) A deed whereby the obligor or party binding himself, obliges himself, his heirs, executors, and administrators, to pay a certain sum of money, called the *penalty*, to another (the obligee), at a day appointed. There is a condition added, that if the obligor does some particular act, the obligation shall be void, or else remain in full force. In case this condition is not performed, the bond becomes forfeited or absolute at law, and charges the obligor while living, and after his death the obligation descends on the heir, who (in default of personal assets in the hands of the executor or administrator) is bound to discharge it, provided he has real assets by descent. The condition is usually (although not necessarily) included in the same deed, and at the foot of the obligation.—The bond without a condition is termed single (or *simplex obligatio*), and becomes single by forfeiture, on non-performance of the condition. At law, the whole penalty mentioned in the bond was recoverable on such non-performance. But by the interposition of equity, the obligee was discharged from paying more than the sum to which the obligor was reasonably entitled: viz., his principal, interest, and expenses, if the bond was for payment of a debt; or the damages accruing to him, if it was for the performance of a stipulated act. But by 4 and 5 Anne c. 16, it was enacted that in case of a bond conditioned for payment of money, the payment of the sum due, with interest and costs, even though the bond be forfeited and suit commenced thereon, shall be a full satisfaction and discharge; and on this footing the law now stands.— A bond on which neither principal nor interest has been demanded for twenty years will be presumed to have been satisfied; but length of time is not, strictly, a legal bar, but only a ground for the jury to presume satisfaction. In a bond where several are bound severally, the obligee may, at his election, sue all the obligors together, or each of them apart, and have several judgments and executions: but he shall have satisfaction but once; for if it be by one only, that is sufficient to discharge the debt.

Bend, *a*, (for BOUND.) Bound; in a state of servitude or captivity.

"Whether we be Jews or Gentiles, whether we be *bond* or free." 1 *Cor.* xii. 13.

—*v. a.* To give bond for; to secure payment of by giving a bond; as, to *bond* goods at the Custom House.

Bond, WILLIAM CRANCH, M A., an eminent American astronomer, and Director of the Astronomical Observatory in Harvard College, B. at Portland, Maine, 1789. At an early age he learned the business of watchmaking, and made the first chronometer in this country. His attention was first attracted to astronomy by an eclipse which occurred in 1806. He was one of the earliest discoverers, in the U. States, of the comet of 1811. In 1838 he was appointed by the U. S. Navy department to prosecute a series of observations in connection with an exploring expedition under command of Capt. Wilkes. In 1840 he became Astronomical director to the university. He is the author of the parts of the *Annals of the Observatory of Harvard College*, for 1855–56. Celestial photography was by him first recognized as a possible art, and conducted through its earlier stages. The connection of the sidereal clock with the galvanic circles was first used by Mr. *B.* in recording astronomical observations. D. 1859.

Bond, in *Illinois*, a S.W. central co. *Area*, 400 sq. m. It is drained by Shoal Creek, East and West forks, and the Kaskaskia River. *Surface.* Undulating prairie. *Soil.* Excellent. *Cap.* Greenville.

—A township of Lawrence co.

Bond'age, *n.* [See BOND.] State of being bound; state of restraint; durance; thraldom; slavery, or involuntary servitude; captivity; imprisonment; as, a house of *bondage*.

"A day, an hour of virtuous liberty
Is worth a whole eternity in *bondage*." — *Addison.*

—Tie of duty or obligation; moral restraint or influence; binding power.

"If she has a struggle for honour, she is in a *bondage* to love." *Pope.*

(*Old Eng. Law.*) Villenage, *q. v.*

Bond-creditor, *n.* (*Law.*) A creditor whose debt is secured by a bond

Bond-debt, *n.* (*Law.*) A debt secured by the protection of a bond.

Bond'ed, *p. a.* Secured by bond, as custom duties; that which lies under a bond to pay duty, as *bonded* goods.

Bond'ed-warehouse, *n.* A warehouse for the safe custody of bonded goods.

Bond, (English.) See BRICK-LAYING.

Bond'er, *n.* One who executes a bond on goods.

Bond'ers, *n, pl.* (*Building.*) See BOND-STONES.

Bond, (Flemish.) See BRICK-LAYING.

Bond'ing, *n.* The act of depositing goods, liable to duty, in a government bonded-warehouse, in which place they remain until the duty is paid.

Bond'-maid, *n.* A female slave, or servant whose labor is compulsory.

"Good sister, wrong me not, nor wrong yourself,
To make a *bond-maid* and a slave of me." — *Shaks.*

Bond'man, BONDSMAN, *n.* One who is in bonds; a male slave.

"Hereditary *bondsmen!* Know ye not,
Who would be free, themselves must strike the blow." — *Byron.*

Bondou (*bon'doo*), a little known country of West Africa, whose position was not until recent times ascertained. On Rennell's map to *Park's First Journey*, it is placed between the Lats. of 13½° and 14½° N., and between Lon. 11° and 13° W. Though deemed powerful by its barbarous neighbors, it is a small state, not exceeding in length, from E. to W., 78 m., nor in width, from N. to S., 70. It is, however, very compact in form, and has an area of about 5,000 sq. m. It is bounded E. by Bambouk; S.E. and S. by Tenda and the Simbani Wilderness (wooded, not desert); S.W. by the latter country and Woolli; W. by Foota Toria; and on the N. by Kujaaga. *Surface.* Generally mountainous, and watered by the rivers Fo-le-me (an affluent of the Senegal), and the Nerico (of the Gambia). *Prod.* Vegetation is vigorous, and the soil is not to be surpassed in the world. Corn is the principal article of industry: its other productions are the same as those of Bambarra, *q. v. Climate.* Tolerably healthy. *Inhab.* The natives differ essentially in complexion and manners from their immediate neighbors. They belong to the great Foulah family, next to the Mandingoes the most considerable of all the W. African nations. They have a tawny, or rather yellow skin, with small features, and soft, silky hair. They hold the negroes to be their inferiors, and when talking of different races, always class themselves among *white* people. Centrally situated between the Senegal and Gambia, *B.* has become a high-road for traffic. The native exports consist of coru, cotton cloths, and aromatic gums. The transit trade consists of slaves, salt, iron, Shoa butter, and gold-dust. *Govt. and Religion.* The government is monarchical. The Mohammedan religion is very generally, but not exclusively, professed.— Schools are established in the different towns, where children of all persuasions are taught to read and write. The character used is Arabic; and the instructors are Mohammedan priests. *Cap.* Bulibaui. *Pop.* about 1,500,000.

Bond-servant, *n.* A slave; a servant who has not the liberty to quit his master's service.

"Thou shalt not compel him to serve as a *bond servant*." *Lev.* xxv. 39.

Bond-service, *n.* Slavery; the condition of a bond-servant.

"Upon those did Solomon levy a tribute of *bond-service*." 1 *Kings* ix. 21.

Bond-slave, *n.* A person in a state of slavery; one whose servile condition deprives him of the action of free-will.

"Commonly the *bond-slave* is fed by his lord, but here the lord was fed by his *bond-slave*." — *Sir J. Davies.*

Bonds'man, *n.* (*Law.*) One who is surety by bond for another person; one who becomes bail for another. See BONDMAN.

Bond's Point, in *Illinois*, a village of Christian co.

Bond'-stone, *n.* (*Arch.*) A stone running through the whole thickness of a wall, at right angles to its face, for the purpose of binding the wall together in the direction of its thickness.

Bonds'ville, in *Mass.*, a post-village of Hampden co.

Bond'-timber, *n.* (*Arch.*) Timber worked in with a wall as it is carried up, for the purpose of tying it together in a longitudinal direction while the work is setting. — See BOND.

Bondu'el, in *Wisconsin*, a post-office of Shawanaw co.

Bond'ville, in *Vermont*, a post-office of Bennington co., 30 m. N.E. of Bennington.

Bond'woman, Bonds'woman, *n.* A woman slave.

"My lords, the senators
Are sold for slaves, and their wives for *bondswomen*."
Ben Jonson.

Bone, *n.* [A.S. *ban*; Ger. *bein*, a bone, the leg, the shank-bone; Frisian *bon, ban*; Du. and Dan. *been*; Swed. *ben*; allied to Gr. *bainō*, to go, as the legs are the natural instruments of going.] (*Anat.*) A firm, hard substance, composing the skeleton or framework of an animal body. (See below, § *Anat.*)

"A people who are still, as it were, but in the gristle, and not yet hardened into the *bone* of manhood."—*Burke.*

—A piece of such substance; an integral portion of the skeleton; as, the thigh-*bone*.

"An old man, broken with the storms of state,
Is come to lay his weary *bones* among ye."—*Shaks.*

—Something made of bone, as dice, tooth-picks, &c.

—*pl.* (*Mus.*) Castanets; as, to play the *bones*.

(*Gaming.*) Dice; as, to rattle the *bones*, *i. e.* throw the dice.

"And watch the box for fear they should convey
False *bones*, and put upon me in the play."—*Dryden.*

—A bone with a fragment of flesh adhering to it; as, a devilled *bone*.

"Like Æsop's hounds contending for the *bone*,
Each pleaded right, and would be lord alone."—*Dryden.*

A bone of contention. Object of contention or wraugling.

To make no bones. To make no scruple about anything; to offer no reluctance or difficulty. (Used vulgarly.)

A bone to pick. Something puzzling, or causing diversion.

To be upon the bones. To attack.

"Puss had a month's mind *to be upon the bones* of him, but was not willing to pick a quarrel."—*L'Estrange.*

(*Anat.*) A hard complex structure, forming the framework or skeleton of the body in man, and the higher orders of animals. It is confined to vertebrate animals; and even in the lowest order of this class, the cartilaginous fishes, it is entirely wanting. The *B.* form a framework for the moulding and adequate support of the soft parts of the body; cavities for the lodgment and protection of delicate organs; joints for locomotion, and levers for the action of the muscles. The first development of *B.* is commonly — though not always, as in the bones of the head — preceded by the formation of a cartilaginous structure, occupying the place which the *B.* is afterwards to take. It has commonly been said that the *B.* is formed by the ossification of the cartilage; but this, for various reasons, is thought not to be the case. The process of *B.*-formation always commences in the immediate neighborhood of blood-vessels, which pass down into canals excavated in the substance of the cartilage, and is lined by a continuation of its investing membrane. Hence, the spots where these vascular canals are especially developed are termed *centres of ossification*. Until the *B.* attains its full dimensions, the parts which contain distinct centres are not connected by osseous union, but only by cartilage, so as to allow an increase in the size of the *B.* by the growth of cartilage between its detached portions, which gives place to bony structure when there is no further need of increase. There exists a close correspondence between the number of ossific centres in the early condition of the skeleton of all vertebrate animals. The perfect reparation of bone after severe injuries, effected by the development of new osseous tissue in the substance of membrane or cartilage formed in the seat of injury, is one of the most remarkable features of its character. *B.* are so constituted that a constant process of deposition and absorption is carried on in them, as in the softer tissues, modelling the shaft into its requisite proportions during the successive stages of growth. It is much more actively carried on in youth than in middle life, and is greater in the vigor of manhood than in old age. *B.* are largely supplied with blood-vessels. The solid osseous texture, which forms the cylindrical shafts of the long *B.* and the thick external plates of the denser flat bones, is penetrated by a series of large canals, termed *Haversian* (after their discoverer), which form a network in its interior, and serve for the transmission of blood-vessels into the interior. These canals, in the long *B.*, run for the most part in a direction parallel to the central cavity, and communicate with this, with the external surface, and with each other, by frequent transverse branches. In the long *B.* of man and of most mammalia there is a central cavity, which is filled with the fatty substance known as *marrow*; and the space in which the marrow lies is called the *medullary canal*. This cavity does not exist in the *B.* in its early state, but is formed by the removal of the cancellated osseous tissue first developed in its interior. Among birds, however, the central cavity, instead of being occupied by marrow, is filled with air, and communicates with the lungs; so that the membrane lining it becomes an auxiliary organ of respiration; while the lightening of the bones thus produced diminishes their specific gravity. *B.* are covered externally by a strong fibrous membrane termed the *periosteum*, which serves to protect the blood-vessels entering them. The medullary canal is also lined by an extremely delicate membrane, termed the *medullary membrane*, which supports the marrow, and provides a stratum for the subdivisions of the medullary artery before they penetrate the contiguous osseous substance. Though *B.* possess little sensibility in health, yet, when diseased, they become highly sensitive, a manifest indication that they are supplied with nerves. These may, indeed, be traced into some of the minute foramina on the shaft of a long bone, but more easily into the articular ends. A nerve also enters the medullary canal with the nutrient artery of the medulla, and divides, like the artery, into an ascending and a descending branch. *B.* is composed of a basis of animal matter, impregnated with "bone-earth," or phosphate of lime. The first ingredient makes it tenacious and elastic; the second gives it the requisite hardness. These may be separated from each other: the latter may be entirely dissolved away, by soaking the bone in dilute nitric acid, when a substance of cartilaginous appearance is left; the former, by subjecting the *B.* to a heat sufficient to decompose the animal matter, when we obtain the whole calcareous substance *in situ*. The animal portion of a bone forms about one-third, the earthy about two-thirds; and the relative proportion of the two elements is said to differ little in different classes of animals. It is not yet a settled point whether the proportions vary at different periods of life; but the general opinion is that they do, the animal element predominating in early life, the earthy in old age. *B.*, when dried at 212° until they cease to lose weight, consist of one-third *ossein*, or organic matter, and two-thirds of phosphate and carbonate of lime and phosphate of magnesia. Ossein, when boiled in water, gradually dissolves, leaving a small quantity of fatty and vascular matter floating on the solution, which, on cooling, gelatinizes, forming a weak glue or size, consisting of nearly pure gelatine. The earthy matter may be separated from the ossein, either by means of an acid, or else by boiling in water in a Papin's digester, at a temperature over 300°, the gelatine being only dissolved at that heat. The mineral constituents of *B.* are used as manure, and in the manufacture of

Fig. 384.—TRANSVERSE SECTION OF BONE. (Showing its microscopic structure.)

cupels. When *B.* are distilled in close vessels, at a gradually increasing temperature, oily matters, mixed with carbonate of ammonia, pass over, leaving behind *bone-black*, or animal charcoal. The analysis of the human fore-arm, by Henitz. has given: Animal matter 31·11, Phosphate of lime 59·14, Carbonate of lime 6·32, Phosphate of magnesia 1·20, Fluoride of calcium 2·23 = 100. The great value of ground bones as manure depends upon the quantity of phosphate of lime contained in them; hence, battle-fields are notably fertile. Ground bones are now generally prepared for manure by adding a certain portion of sulphuric acid to them, by which means a superphosphate of lime is formed, which is soluble and easily absorbed by the plants to which it is applied. See SKELETON.

(*Manf.*) *B.* are used by turners and cutlers, but their oil must be previously extracted by boiling, and they are afterwards bleached in the sun or with chloride of lime. This, unfortunately, renders them more brittle and less easy to turn. The form and nature of most *B.*, with their large cavities for marrow, are also unfavorable to their being worked into common articles of domestic use, such as knife-handles, brushes, &c. The buttock and shin-bones of the ox and calf are the *B.* most generally used. Common *B.* articles, such as nail- and tooth-brushes, are often polished with slaked lime used wet on flannel or woollen cloth. *B.* are also used for making animal charcoal; and, when calcined, bone-ash. The scrapings, parings, and sawdust of *B.* are much used in making gelatine for the confectioner, and also in case-hardening small objects in steel. A very good liquid manure is made by digesting burnt *B.* in weak sulphuric acid. This affords a direct solution, containing superphosphate and sulphate of lime, which is useful for grass lands or fields of rising corn. If pearl-ash is added to this acid solution, and the mixture dried up by adding powdered charcoal or mould, an excellent top-dressing manure is formed. In the Pampas of S. America *B.* are used as fuel; and in Norway and Sweden, in times of scarcity, fish-*B.* are browned in a gridiron till they are friable, and, with salt and pepper, form palatable food.

(*Med.*) *B.* are subject to diseases like the softer parts of the body; more particularly to inflammation, ulceration, caries, exfoliation, and death, or NECROSIS, *q. v.*

Bone, *v. a.* (*Cookery.*) To take out bones from the flesh; as, to *bone* a turkey.

—To fit stays with whalebone.

Bône, a town of Algeria. See BONA.

Bone'-ace, *n.* [*bone* and *ace.*] (*Games.*) A game at cards, in which he who has the highest trump turned up to him, wins the *bone*, *i. e.*, one-half the stake.

Bone-ache, (*bon'āk,*) *n.* Ache, or pain in the bones.

Bone-ash, or BONE-EARTH, *n.* See ASHES.

Bone-beds, *n. pl.* (*Geol.*) Several deposits of different geological ages have been thus named. The most remarkable are two: first, a singular mass of scales, fins, jaws, teeth, and coprolites of fishes formed the upper Ludlow rocks (England); and secondly, a thin but well-marked accumulation of reptilian bones between the lias and new red sandstone at Aust in Gloucestershire. The latter is now recognized as belonging to the Triassic period.

Bone-black, *n.* (*Chem.*) The black carbonaceous substance obtained by heating bones to redness in a close vessel. When deprived by the action of hydrochloric acid of the phosphate of lime with which it is blended, it yields one of the most valuable forms of *animal charcoal*, as a decoloring and deodorizing material. When used for chemical or pharmaceutical purposes, it is digested with hydrochloric acid until nothing remains but pure carbon. This property is due to its very firm state of division.

Bone Camp, in *North Carolina*, a post-office of Madison co.

Bone Cave, in *Tennessee*, a P. O. of Van Buren co.

Bone Creek, in *W. Virginia*, a P. O. of Ritchie co.

Boned, (*bōnd,*) *a.* Having bones; as, strong-*boned*. (Used generally in composition.)

Boned, *pp.* (*Cookery.*) Deprived of bones. — See BONE.

Bone-dust, *n.* (*Agric.*) Ground bones, or *bone-dust*, has long been used with the best effect as a manure. It is usually applied to light or turnip soils, which it has rendered in no ordinary degree productive. *B.* is now used very generally after being subjected to the action of sulphuric acid. The *superphosphate of lime*, as it is then called, is more immediate in its fertilizing effect; and 3 cwt. of it will produce as great an increase in the current crop, as 12 to 20 bushels of the original *B.* formerly applied could do. It is generally applied to the turnip crop, to mangold-wurzel, and occasionally to grass lands.

Bou'efro, a town of S. Italy, 6 miles S.S.E. of Larino; *pop.* 5,146.

Bone Gap, in *Illinois*, a post-office of Edwards co.

Bone'less, *a.* Wanting, or without bones.

"I would...have pluckt my nipple from his *boneless* gums." *Shaks.*

Bone'-liquor, *n.* (*Chem.*) The aqueous portion of the distillate of heated bones. It is a very impure and dilute solution of various ammoniacal salts, resembling *spirits of hartshorn*. It is employed in the manufacture of the solutions and salts of ammonia.

Bone-set, *v. a.* To set a dislocated bone; to unite broken bones.

Bone-set, *n.* (*Bot.*) See EUPATORIUM.

Bone-setter, *n.* One who sets and restores broken and dislocated bones.

Bone-setting, *n.* Art or practice of setting broken or dislocated bones.

"A fractured leg set in the country by one pretending to *bone-setting*." — *Wiseman.*

Bone-spavin, *n.* [*bone* and *spavin.*] (*Farriery.*) A bony spavin, or hard swelling, found on the inside of the hock of a horse's leg.

Bonet'ta, *n.* (*Zoöl.*) See BONITO.

Bonfil's Station, in *Missouri*, a P. O. of St. Louis co.

Bon'fire, *n.* [Dan. *baun*, a beacon, and *fire;* W. *ban*, conspicuous, high, lofty; *banffagl*, a bonfire.] Originally, a *beacon-fire;* a large fire lighted up in the open air, as an expression of public joy and exultation.

Bon'grace, *n.* (*Naut.*) A frame of old ropes or junks of cables, laid at the bows, sterns, and sides of ships sailing in cold latitudes, to preserve them from damage by floating ice. Sometimes written *bowgrace*, q. v.

Bon'ham, in *Texas*, a fine town, cap. of Fannin co., 12 m. S. of Red river, and 270 N. by E. of Austin city, on Bois d'Arc Creek. *Pop.* (1890) 3,361.

Bon'hamtown, in *New Jersey*, a village of Middlesex co., 4 m. N.E. of New Brunswick.

Bon Har'bour, in *Kentucky*, a village of Daviess co., on the Ohio River, 3 m. from Owensboro, and 158 below Louisville.

Bonheur, ROSALIE, (*bon-her',*) (called ROSA,) an artist unrivalled among her own sex for the minute and spirited delineation of the various forms of animal life, was B. at Bordeaux, 1822. The daughter of a French artist of some distinction, she indulged her own particular tastes in the choice of objects for study, with some difficulty; deriving her early instruction from a study of such animal life as could be seen by her in the streets and *abattoirs* of Paris. In 1841 she entered upon her career by exhibiting two pictures, *Chèvres et Moutons*, and *Les Deux Lapins*, which established her reputation. These were followed by a succession of highly-finished compositions, among which may be cited the celebrated *Labourage Nivernais*, which was completed in 1849, and has been added to the collection in the Luxembourg. Her *Horse Fair* formed the chief attraction at the French exhibition of pictures in London during the season of 1855, and almost monopolized for a time the attention of artists and connoisseurs. In 1855 she sent to the Universal Exhibition in Paris a new landscape of large dimensions, the *Haymaking Season in Auvergne*. *B.* has evinced in her works a wonderful power of representing spirited action, which distinguishes her from other eminent animal painters of the day, and which endows her pictures as compositions with extraordinary interest. Several of her productions have been engraved, and are well known. Since 1849 she has directed the gratuitous School of Design for Young Girls at Paris. She was decorated with the cross of the Legion of Honor, in June, 1865. Died May 25, 1899.

Bon Homme, in *South Dakota*, a village of Bon Homme co., on the Missouri river, 36 m. E. by S. of Yankton.

Bon Homme, in *Missouri* a suburb of St. Louis.

Bon Hommes, or GOOD MEN, *n. pl.* (*Eccl. Hist.*) An order of friars established in England in 1283. They followed the rule of St. Augustine, and wore a blue habit. — The Paulicians called themselves "Good Men," or *Los Bos Homos*.

Boni, (*bo-nē',*) an independent State of the island of Celebes, in the South Pacific Ocean, with a town of the same name. This is the most powerful State in the island. *Pop.* Unascertained. Lat. between 4° 20′ and 5° 20′ S.; Lon. between 119° 35′ and 120° 30′ E.

Boni, (GULF OF,) separates the two S. peninsulas of Celebes, and is 200 m. in length, by from 40 to 75 in breadth.

Boniface I., (*bon'i-face,*) was elected pope after the death of Zozimus, 418, and was maintained in the pontifical chair by the Emperor Honorius, against his rival Eulalius. D. 422.

BONIFACE II. succeeded Felix IV. in 530. He was born at Rome, his father being a Goth. He compelled the bishops in a council to allow him to nominate his successor, and accordingly he named Vigil; but another council disavowed the proceedings of the first. D. 532.

BONIFACE III. succeeded Sabinianus in 607, and died a few months after his election; but he obtained from the Emperor Phocas the acknowledgment that the See of Rome was supreme over all other churches.

BONIFACE IV. was the son of a physician, and came to the tiara in 608. He converted the Pantheon into a church. D. 615.

BONIFACE V. succeeded Adeodatus in 617, and D. 625.

BONIFACE VI. succeeded Formosus in 896, and D. 18 days after his election.

BONIFACE VII., whose surname was Francone, assumed the chair after murdering Benedict VI. and John XIV. He was acknowledged sovereign pontiff in 974, and died in 984. His corpse was exposed in the public streets, and trodden under foot.

BONIFACE VIII., in 1294, terrified his predecessor Celestine into a resignation, by denouncing to him, at midnight, eternal damnation if he did not quit the pontifical chair. The credulous pope, thinking this a supernatural voice, obeyed the command next day, and the crafty cardinal was elected. He commenced his pontificate by imprisoning his predecessor, and laying Denmark under an interdict. He also behaved in a haughty manner toward the Colonnas, a distinguished Roman family, who protested against his election, and called a council to examine the charge. Boniface excommunicated them as heretics, and preached a crusade against them. He incited the princes of Germany to revolt against Albert of Austria; and also issued a bull, in which he asserted that God had set him over kings and kingdoms. Philip the Fair caused this bull to be burnt at Paris; on which Boniface laid France under an interdict. Philip appealed to a general council, and sent his army into Italy, which took Boniface prisoner. The pontiff's behavior on this occasion was bold enough; for, putting on the tiara, and taking the keys and the crosier in his hands, he said, "I am a pope, and a pope I will die." D. at Rome, a few months afterwards, in 1303. He wrote several works. His persecuting qualities are alluded to by Dante, in the 27th chapter of the "Inferno."

BONIFACE IX. was a Neapolitan by birth, and of a noble family. He was made cardinal in 1381, and pope in 1389. D. 1404.

Bon'iface, (ST.,) a saint of the Roman calendar, and a native of England, who was sent by Gregory II. to convert the Germans. Gregory III. made him an archbishop. B. in Devonshire, 680; slain by some peasants in Friesland, in 755. His letters were printed in 1616.

Bonifacio, (*bo-ne-fah'cho,*) a fortified seaport town of the island of Corsica, on the strait which bears its name, 45 m. S.S.E. of Ajaccio; Lat. 41° 23′ 11″ N., Lon. 9° 9′ 16″ E. — Its port is one of the best in the Mediterranean, but its entrance being not more than from 80 to 90 yards broad, it is rendered difficult of access. *Pop.* 3,798.

Bonifacio, (Cape,) the S E. point of the island of Corsica.

Bonifacio, (Strait of,) the *Fretum Gallicum* of the Romans, lies between Corsica and Sardinia. At the narrowest part it is only 7 m. wide. The navigation is difficult, owing to the great number of rocks, which, however, are favorable to the production of coral. The coral and tunny fisheries are actively prosecuted.

Bonifa'ti, a town of S. Italy, prov. Cosenza, 4 m. S.E. of Belvidere; *pop.* 3,661.

Bon'iform, *n.* [Lat. *bonus*, good, and *forma*, shape, form.] Of a good form or kind. (o.)

Bonin, or ARZOBISPO ISLANDS, (*bo'nin,*) three groups in the North Pacific, known individually as the Parry, the Baily, and the Peel and Kater Islands. On the Peel Islands there are a few English and other Europeans settled, engaged in the whale-fishery. Lat. between 26° 30′ and 27° 44′ N.; Lon. between 142° and 143° E.

Bon'ing, *n.* (*Masonry* and *Carp.*) The art of making a plane surface by the guidance of the eye; joiners try up their work by boning with two straight edges, which determine whether it be in or out of *winding;* that is to say, whether the surface be twisted or a plane.

Bonita, in *Minnesota*, a village of Otter Tail co., near Otter Tail Lake.

Bonito, (*bon'e-to.*) [Sp.] (*Zoöl.*) A name applied to several fishes belonging to the fam. *Scombridæ*. There are three varieties, — the *Thynnus pelamys*, the *Pelamys sarda*, or Belted Bonito, and the *Auxis vulgaris*, or Plain Bonito. The *T. pelamys* resembles the tunny, and is not unlike a large mackerel. In tropical climates it is found in large numbers, and is well known to sailors as one of the fishes constantly seen in pursuit of the flying-fish. It is a very pretty fish, of a rich blue color, with four dark lines stretching from the pectorals to the tail, on either side of the belly. Its average length is about two feet, and it is generally caught with an imitation flying-fish as a bait. The Belted *B.* is common in the Mediterranean and Black Sea. The plain *B.* is also found in the Mediterranean, where its flesh is salted or pickled and used for food; but it is never eaten when fresh.

Bon-mot, (*bŏng'mō,*) *n.* [Fr. *bon*, good, and *mot*, word, saying.] A good saying; a witty repartee; a jest.

Bonn, a very ancient and handsome town of Prussia, in the province of Rhine, on the left bank of that river, about 15 m. S. of Cologne. The principal celebrity of *B.* is derived from its university, founded in 1818, and intended to replace that of Cologne, suppressed by the French. Niebuhr, the historian of Rome, was one of its professors. There are, on the average, some 600 students. The university occupies the immense palace of the electors of Cologne. The library formerly belonging to Cologne University, comprising nearly 260,000 vols., is now at *B.* There are many fine buildings, and it is one of the most agreeable towns on the Rhine as a place of residence. Beethoven was born here. *Pop.* 1895, 40,000.

Bonn, in *Ohio*, a village of Washington co., 10 m. N. by E. of Marietta.

Bonne (*bony*). [Fr.] A governess; a female who takes charge of children.

Bonnean's Depot, in *South Carolina*, a post-office of Berkeley co.

Bonne-bouche, (*bon-bōōsh',*) *n.* [Fr. *bon, bonne*, good, and *mouche*, mouth.] A titbit; a delicious morsel or mouthful; a choice thing.

Bonnechose, (*bon'choze,*) FRANÇOIS PAUL EMILE BOISNORMAND DE, a French historian and miscellaneous writer, B. 1801. His principal works were, *A History of France*, which reached its 10th edition in 1855; *Sacred History; History of England* (1858–9). Died in 1875.

Bonne Femme Creek, in *Missouri*, traversing Howard co., and emptying into the Missouri river, 6 m. from Boonville.

Bon'ner, in *Louisiana*, a post-village of Lincoln parish, about 70 m. E. of Shreveport.

Bon'ner's Ferry, in *Texas*, a P. O. of Cherokee co.

Bon'ner's Mine, in *Georgia*, a village of Carroll co.

Bon'net, *n.* [Fr. *bonnet;* Gael. *boineid* — *beinn*, head, top, and *eide*, dress, clothing.] A head-dress; a dress or covering for the head worn by women.

—A cap or head-covering, much used before the introduction of hats, and still worn by the Scots Highlanders.

"Up with the *bonnets* o' bonnie Dundee." — *Scott.*

—See BLUE-BONNET; GLENGARRY; HIGHLANDERS.

(*Fort.*) The elevation of the parapet about the salient angle of a bastion or ravelin above the general level of the work. The name is also given in permanent defensive works to a little outwork with two faces, forming a salient angle, intended to protect the angle of a *ravelin*, the faces of which are defended by *tenaillons* or *lunettes*. An outwork of a similar kind, used in field fortification,

having three salient angles instead of one, is called a *bonnet de prêtre*, or priest's bonnet.

(*Mech.*) A cast-iron plate to cover the opening in the valve-chamber of a pump; the opening is made so that ready access can be had when the valves need repairing.

—A frame-work of wire-netting over the smoke-stack, or chimney, of a steam locomotive, to prevent the escape of sparks.

(*Naut.*) An additional piece of canvas attached to the foot of a jib, or to a schooner's foresail, by lacings, and taken off in bad weather.

Bonnet, CHARLES, (*bon'nai,*) a Swiss naturalist, B. at Geneva, 1720. His studies were chiefly directed to the consideration of the conditions of insect life. D. 1793.

Bonnetable, (*bonn'tab-el,*) a town of France, dep. Sarthe, on the Dive, 16 m. N.E. of Le Mans. *Manf.* Cottons. *Pop.* 5,451.

Bonnet Carré, (*bon'na-car-rā',*) in *Louisiana*, a post-village, cap. of St. John Baptist par., on the Mississippi, 45 m. above New Orleans.

Bon'neted, *a.* Wearing a bonnet.

(*Fort.*) Having the protection of a bonnet.

Bonneval, CLAUDE ALEXANDRE, COMTE DE, (*bon'ne-val,*) a French military adventurer, who, after serving in the army and navy of his own country, transferred his allegiance to Austria, and subsequently became a Mussulman. In Turkey he attained high distinction; and under the title of *Achmet Pasha*, introduced European tactics, and taught the Turks the management of artillery. B. 1675; D. in Turkey, 1747

Bonnévard, FRANÇOIS DE, (*bon'ne-var,*)—Byron's "Prisoner of Chillon,"—whose liberal opinions induced him to adopt the republic of Geneva as the most agreeable government for him to live under. For his defence of the rights of the republic against Charles III., duke of Savoy, he was twice imprisoned, the first time at Grolée, where he was immured for two years; and next in the castle of Chillon, on Lake Geneva, where he remained six years. B. at Seyssel, in the French district of Buge, 1496; D. at Geneva, 1570.—*B.* wrote a history of Geneva, bequeathed his ecclesiastical possessions to the State, and to the town his books, which were the foundation of its public library. The shuddering picture which Byron has drawn of the sufferings of the two brothers of *B.* while chained to the stone columns in the dungeons of Chillon, has no foundation in truth. "The eldest of the three" was the only one of his kindred confined there.

Bon'nibel, *n.* [Fr. *bonne et belle*, good and beautiful.] A sweet, beautiful girl. Used as a term of compliment or endearment.

Bon'nilass, *n.* [*bonny* and *lass.*] A fine, handsome lass; a beautiful girl.

Bon'nily, *adv.* [See BONNY.] Handsomely; gayly; plumply.

Bon'niness, *n.* Gayety; handsomeness; plumpness. (R.)

Bon'not's, in *Missouri*, a post-office of Osage co.

Bon'ny, *a.* [Fr. *bon, bonne*, from Lat. *bonus.*] Handsome; beautiful: as, a *bonny* girl.

"Thus wailed the louts in melancholy strain,
Till *bonny* Susan sped across the plain." — *Gay.*

—Gay; blithe; merry; frolicsome.

"Then sigh not so, but let them go,
And be you blithe and *bonny*. — *Shaks.*

—Plump; well-shaped.

Bon'ny, *n.* (*Mining.*) A distinct bed of ore, that communicates with no vein.

Bon'ny-clabber, *n.* Sour buttermilk (Used in Ireland.)—In the U. States, a term to express milk that has become thick in the process of souring.

"We scorn for want of talk, to jabber
Of parties o'er our *bonny-clabber*." — *Swift*

Bon'ny Eagle, in *Maine*, a P. O of Cumberland co.

Bon'ny River, one of the arms of the Niger, enters the Bight of Biafra at its delta between the Old and New Calabar rivers. Near its mouth is the town of Bonny, formerly a place of great resort for slaves; this place was almost totally destroyed by fire, in April, 1869.

Bo'no, in *Indiana*, a post village and township of Lawrence co., on White River, 15 m. S.E. of the town of Bedford.

Bono'mi, JOSEPH, F R A S, an English artist, and antiquarian author, B. 1796. In 1822 he went to Rome to pursue the study of art, and afterwards visited Syria and Egypt, remaining in the latter country 15 years. He was the first to point out to the learned world the remarkable monument mentioned by Herodotus as having been set up by Sesostris on the coast of Syria, as a record of his victories. *B.* is the author of *Nineveh and its Palaces*, (3d ed. 1859.) and of the "descriptions" in *Egypt, Nubia, and Ethiopia, illustrated by* 100 *Photographs*, (1862.) He is also the author of several works and papers on Egyptian archæology. D. 1878.

Bonor'va, a town of the island of Sardinia, prov. Sassari, 18 m. E.N.E. of Bosa; *pop.* 5,366.

Bonpland, AIMÉ, (*bong'plon,*) a French traveller, B. 1773, at La Rochelle. He served as a surgeon during some years of the early revolutionary period, on board a French frigate. He afterwards went to Paris in order to complete his studies in medicine, and became a pupil of Corvisart, at whose residence he met with Humboldt. An intimate friendship soon grew up between the two young men, and they mutually assisted each other in their studies. Humboldt, at the same time, was making preparations for an extensive series of travels for scientific purposes, and asked *B.* to accompany him, a proposal which was immediately accepted. They sailed from France in 1799, and landed in America, where they travelled for five years, chiefly in Mexico and among the Andes. *B.*, during that period, collected and dried more than 6,000 plants previously unknown to European botanists. Their travels were published under the title of *Voyage aux Régions Equinoxiales du Nouveau Continent*. *B.* presented his collection of dried plants to the Museum d'Histoire Naturelle. Napoleon granted him a pension, and Josephine, in 1804, appointed him superintendent of the gardens at her residence of Malmaison. While in this situation, *B.* published *Plantes Equinoxiales recueillies au Mexique, à l'Ile de Cuba, &c.*, 2 vols., folio, with 220 copper-plates, Paris, 1809–16; and *Description des Plantes Rares de Navarre et de la Malmaison*, folio, with 66 copper-plates, Paris, 1813–17 He also published a *Monographie des Melastomées*, with 120 plates, 2 vols., folio, Paris, 1809–16. *B.* had formed the resolution of returning to America, and at the latter end of 1816 sailed from Havre, and landed at Buenos Ayres, with a large collection of the useful plants and fruit-trees of Europe. He was received favorably by the government, was named professor of Natural History, and remained at Buenos Ayres nearly five years. He then resolved to undertake a journey across the desert of the Gran Chaco to the Andes, but Francia, then dictator of Paraguay, instead of giving him permission to cross the country, arrested him, after killing some of his men, and kept him prisoner for about nine years. At length he was set at liberty, in 1831. He then travelled towards the southern boundary of Brazil, and settled in the vicinity of the small town of San Borja, near the eastern bank of the river Uruguay. He subsequently removed to Santa Anna, where he D., 1858.

Bonpland, (*bong'plon',*) **(Lake,)** in *California*, El Dorado co., 14 m. long, by 6 broad. Called after M. Bonpland, the traveller.

Bonsecours, or **Bonsecour** (*bonse-koor'*), **Bay,** in *Alabama*, an inlet on the E. side of Mobile Bay.

Bon'ten, *n.* (*Manf.*) A kind of woollen stuff.

Bont'hain, a town in the S.W. peninsula of Celebes, Lat. 5° 32′ S., Lon. 121° 52′ E.; cap. of a State of the Macassar nation, and the residence of a Dutch superintendent.

Bon Ton, (*bŏng tong.*) [Fr., good style.] The highest style of fashion; most select society; fashionable manner.

Bo'num-mag'num, *n.* [Lat. *bonus, -a, -um*, good, and *magnus, -a, -um*, large.] A species of plum.

Bo'nus, *n.* [Lat., good.] (*Com.*) A premium in addition to an interest or to a privilege; or, an extra dividend to shareholders.

—A compensation in money paid to an agent or shipmaster, in addition to a certain share in the profits of an enterprise, or to a stated salary.

Bo'nus, in *Illinois*, a post-township of Boone co., 8 m. N.E of Belvidere.

Bo'nus Prairie, in *Illinois*, a village of Boone co., 6 m. N.E. of Belvidere.

Bon-vivant, (*bŏng'vee-vong',*) *n.* [Fr. *bon*, good, and *vivant*, liver.] One who eats and drinks well; a jovial boon-companion; a good fellow.

Bon'well, in *Illinois*, a post-office of Edgar co.

Bo'ny, *a.* Pertaining to, or consisting of, bones.

"At the end of this hole is a membrane, fastened to a round, *bony* limb."—*Ray.*

—Full of bones; stout: strong: as, a *bony* man.

Bo'ny Pike, *n.* (*Zoöl.*) See LEPIDOSTEUS.

Bonze, (*bonz.*) [Fr. *bonze;* a supposed corruption of Jap. *busso*, a sage, a learned man.] The name generally applied to the priests of Fo, or Buddha, in Japan, without regard to the sectarian distinctions existing among them. They profess celibacy, practise austerities of various kinds, and dwell together in monasteries. They shave the head and beard, never cover the former, preserve a profound silence in public, and are supposed to lead a life of continual prayer and contemplation. Their avarice is equal to their ignorance, and no opportunity for extorting money from the people by the selling of charms, &c., is ever neglected. The religion of Fo does not admit priestesses, but there are female devotees called *biconis* or *bonzies*, who live in communities under a superior of their own sex, and profess the same virtues and way of life as the priests. There are some monasteries in which the devotees of both sexes reside, and temples in which they chant their prayers together, the men on one side, and the women on the other. The term *B.* is also frequently applied by Europeans to the priests of Buddha in China, Burmah, and other parts of E. Asia.

Booby, (*boo'be,*) *n.* [Sp. *bobo;* It. *babbeo;* probably from the root of *bæbe;* Ger. *bube*, a boy.] A blockhead; a dunce; a stupid fellow; a dunderhead; a lubber; as, he is a perfect *booby*

"When yet was ever found a mother
Who 'd give her *booby* for another?"—*Gay.*

(*Zoöl.*) The name given by navigators to the *Sula fusca*, a species of Gannet, a large bird which inhabits the Desolate islands, and the coasts of most warm climates. The name was naturally acquired from their apparent stupidity, in quietly sitting on the shore, or perching on the yard of a ship, till knocked on the head, or taken away by any one who might attempt it.—See GANNET.

Fig. 385—BOOBY, (*Sula fusca.*)

—*a.* Having the distinguishing marks of a booby; stupid; dull of comprehension.

Booby-hatch, *n.* (*Naut.*) See HATCHES.

Booby-hut, *n.* A term used in some parts of the U. States for a kind of sleigh with a top-covering.

Booby-hutch, *n.* A kind of clumsy-looking seat, used in some provincial places in England.

Boo'byish, *a.* Like a booby; in a booby manner.

Boo'by Island, a level rock in Torres' Strait, in Lat. 10° 36′ S., and Lon. 141° 53′ E., 3 feet in height, and ¼ mile in diameter. Being an island highly dangerous to navigators, and destitute of resources of its own, it is said to be pretty regularly supplied with provisions and water by passing vessels, for the benefit of such as may be cast ashore on it.

Boodh'ism, *n.* See BUDDHISM.

Boodroum, or **Bodrum,** (*bood'room,*) a small seaport town of Turkey in Asia, in Natolia, 96 miles N. of Smyrna; Lat. 37° N., Lon. 27° 20′ E.; supposed to be the site of the ancient *Halicarnassus*. Many ruins of antiquity have been found here.

Book, (*bŭk,*) *n.* [A.S. *boc;* probably from *bugan*, to bow, to bend; to fold, in reference to the folded or rolled leaves of vellum, which was the material used to write upon.] A collection of sheets of paper, of printed matter, of manuscript, or in blank, folded and bound together. In the latter sense it is usually called a *blank-book*.

—A printed or written literary composition, or a volume or collection of leaves containing intellectual matter; as, the Bible is the *book* of life.

"'Tis pleasant, sure, to see one's name in print;
A *book*'s a *book*, although there 's nothing in't."—*Byron.*

—A division, sub-division, or part of a literary work or treatise; as, the second *book* of the Iliad.

"The first *book* we divide into sections."—*Burnet.*

(*Com.*) A register or volume in which a merchant or trader keeps his accounts, and records all his business transactions; as, a cash-*book*.

In the books of. In kind remembrance.

"The gentleman is not *in your books*."—*Shaks.*

(In a modern sense, this phrase is often applied to a debtor, or one who owes an account; as, he is still *in my books.*)—*Without book.* Trusting to memory; by repetition; without reading; as, "Sermons *without book*." (*Hooker*) Without authority or proof; as, he argues *without book*.

(*Hist.*) *B.* is the general name of almost every literary composition, but in a more limited sense it is applied only to such compositions as are large enough to form a volume. Short and fugitive pieces are denominated *pamphlets*, in contradistinction to *books*, which are of greater length, and embrace more general or permanent topics. The dimensions of printed books are regulated by the size and form of the sheets of paper of which they are composed. A sheet, being folded in the middle, forms two leaves, or four pages; and a book of this size is called a *folio*. When the sheet is again folded, so as to make four leaves, or eight pages, it forms a *quarto*. The quarto, being folded across, so as to make eight leaves, or sixteen pages, forms an *octavo*. By folding the sheet into twelve leaves, or twenty-four pages, we make a *duodecimo;* and if into eighteen leaves, or thirty-six pages, we form an *octodecimo*. Below this there are small books of different denominations, which are sometimes spoken of as *pocket-editions*. Booksellers are accustomed, in speech, to anglicize the terms for the size of books, with little regard to the proper terminations—as *4to, 8vo, 12mo, 18mo, 24mo, 32mo, 48mo*, &c. For a long period, printing-paper was made chiefly of three sizes, respectively called *royal, demy*, and *crown*; and according as any one of these was employed, the size of the book was large or small. As by means of the paper-making machine, paper is made in webs, and can be cut into every imaginable size of sheet, and as printing-machines can print very large surfaces, the sizes of books are now comparatively arbitrary; though, for convenience, the old names remain, with the difference, that in addition to the 12mo, a not very dissimilar size, called the *post-8vo*, has come extensively into use. The size of the present work is *folio*, though printed as *quarto*.—The materials of which *B.* have been composed have differed much in different nations, and in different stages of civilization. Plates of lead and copper, bricks, stone, and wood were anciently employed for this purpose. The most common material on which *B.* were written by the Greeks and Romans, was the thin coat or rind (*liber*, whence the Latin name for a book) of the papyrus, called by the Egyptians *Byblos*, whence the Greek name for a book, *biblion*. Next to the papyrus, parchment was the substance most used for writing upon. The ancients wrote usually on only one side of the paper or parchment. The back of the paper, instead of being written upon, was usually stained with saffron color or the *cedrus*, which produced a yellow color.—As paper and parchment were dear, it was frequently the custom to erase or wash out writing of little importance, and to write upon paper or parchment again, which was then called *Palimpsestus*.—The paper or parchment was joined together so as to form one sheet, and when the work was finished, it was rolled on a staff, whence it was called a *volumen*. (See Fig. 230.) When an author divided a work into several books, it was usual to include only one book in a volume or roll, so that there was generally the same number of volumes as of books.—In the papyri rolls found at Herculaneum, the stick on which the papyrus is rolled does not project from the papyrus, but is concealed by it. Usually, however, there were balls or bosses, ornamented or painted, called *umbilici* or

cornua, which were fastened at each end of the stick, and projected from the papyrus. The ends of the roll were carefully cut, polished with pumice-stone, and colored black; they were called the *gemine frontes*. — To protect the roll from injury, it was frequently put in a parchment case, which was stained with a purple color, or with the yellow of the Lutum. — During the Middle Ages, the plan of rolls was discontinued, and the form of leaves, sewed or bound together, came into use. The manufacture of books was, for the most part, in the hands of the different orders of monks, many of whom spent a great part of their lives in the transcribing of them. In the earliest period of the Middle Ages, the scarcity of books was so great, that often in a whole town there was not one to be found, and even rich monasteries possessed little more than a missal. To the monks, and also to some orders of nuns, belongs the unspeakable merit of having not only supplied the religious orders with the books which were in daily use, but those which replenished the libraries of the learned and wealthy, until their ingenious craft was supplanted by that of the printer and bookseller. Copies were multiplied with rapidity and diminishing cost; nevertheless, they were long out of the common reach, and their

Fig. 386.

early history discloses how much importance was conferred by their possession, and what solicitude was awakened for their care. The accompanying figure, taken from a MS. of the 15th century, illustrates the mode formerly adopted by scholars and monks for carrying and securing books; also, a singular heart-shaped kind of book, not without a certain utility and portability to its reader. In progress of time, as civilization and the arts became more developed, paper attained an improved quality, both as regards quality and strength; types, also, became smaller in form and finer in execution, and the huge mammoths of folios and quartos were deposed in favor of octavos and duodecimos. The art of book production has since constantly aimed at associating the smallest degree of bulk with a proportionate limit of cost, while paying due regard to the convenience and comfort of readers, and also maintaining that inclination towards the unique and the beautiful, which, no doubt, will one day be ultimately reached and generally diffused. The first *B.* issued in what were to be the future U. States, and, indeed, on the continent of North America, was the *Bay Psalmbook*, in 1640, from the press of the "Pilgrim Fathers," at Cambridge, Mass. William Bradford issued an almanac from his press, in Philadelphia, in 1665, which was the first book published in the central colonies.

Book, *v. a.* To enter, write, or register in a book; to record.

"He caused the Marchers to *book* their men, for whom they should make answer." — *Davies.*

Book'-account, *n.* [*book* and *account.*] A debtor and creditor account registered in a book or ledger.

Bookaria, (*book-a're-ah,*) a town of West Africa, 100 miles N.N.E. of Freetown, Sierra Leone, Lat. 9° 38′ N., Lon. 12° 31′ W.

Book'-binder, *n.* One whose avocation is to bind books.

Book'-bindery, *n.* A place where books are bound.

Book'-binding, *n.* The art of connecting together the material parts of a book for convenience in use, and protection from injury. Books were formerly preserved in the form of rolls, consisting simply of the leaves pasted or glued together in one long sheet, at each end of which was fixed a roller with handles. The roll was read (*Fig.* 230) by unwinding one roller and winding the other. This form of binding was afterwards superseded by the square form, as we now possess it. This was a marked improvement, and was adopted for manuscripts long before the invention of printing. The first bound books being chiefly copies of the Scriptures, and other works of a religious nature, they soon began to have their bindings enriched in various ways. Many of these rich bindings exist to the present day. They were executed principally by jewellers, who incrusted precious stones, ivory, and metal-work upon covers of vellum, wood, or silver. The greatest taste has been shown in all ages in the matter of *B.*, and whether we examine the gorgeous but clumsy covers of the 11th and 12th centuries, the splendidly bound books of the Renaissance period, or the wonderful works of the modern artists who honor the art of *B.*, there is always something to charm the fancy and gratify the taste. The art of *B. B.*, exclusive of taped work, may be divided into two classes: 1. Fine leather work, or extra *B.*, in which manual labor and personal skill are chiefly employed; and 2. Cloth-casing, or such work as is largely executed by the aid of machinery. We will first notice the operations through which a book passes in ordinary *B.* These are grouped under two main divisions—"forwarding," which comprehends everything necessary to the folding of the sheet, and "finishing," which concerns chiefly the embellishment.—*For-*

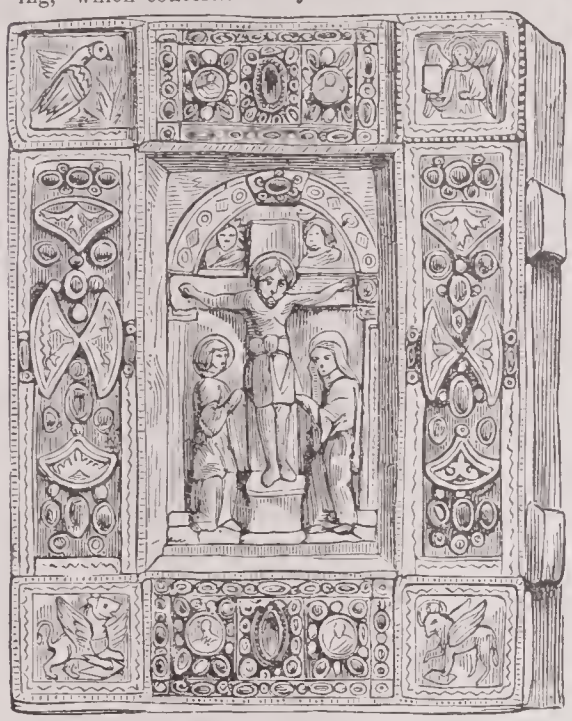


Fig. 387. — COVER OF MISSAL OF THE 15TH CENTURY.
Enamel, ivory, and precious stones.
(National Library, Paris.)

warding. The sheets of a book are first folded in such a manner that the pages follow each other in consecutive order. In this operation the folder is guided by the "signatures" (*q. v.*), which indicate the part of a sheet to be superimposed upon another. The labor is performed by folding-machines or by girls, who acquire incredible dexterity by continued practice. The next operation has for its object to bring the loose and bulky sheets into a compact form, which was formerly accomplished by beating them with a broad-faced hammer upon a smooth, flat stone, but is now generally made by passing the sheets between the cylinders of a "smashing" machine. After this, the sheets are divided in "sections" composing a volume. The volumes are then adjusted and clamped up in the laying or cutting press, for the operation of *sawing the back*, preparatory to sewing. The *sewing* is done at a well known apparatus called the sewing-press or frame, which, however, is now, to a great extent, superseded by a book-sewing machine of American invention, which effects an average saving of one-half the cost of hand sewing, and is simple and perfect in its operation. When taken out of the sewing-frame or machine, the fly-leaves are pasted on, and the back is covered with a coating of thin glue. When the glue is dry the back is *rounded* by beating with a hammer, and then the volume is placed between two feather-edged boards, above which the backs slightly project. These are then placed together in a lying-press, for the *backing* process; that is, the back of the book is well beaten until it projects a little over each side of the bevelled board, so as to form a groove or place for the mileboard covers to lie in. The book is now ready for the *boarding*. The boards are attached by the ends of the bands, left for that purpose, being passed through holes in the sides of the boards. The ends of the bands are then pasted down, and hammered flat and smooth. The volume is now put into the standing-press, where it is submitted to a powerful pressure for several hours. Thereafter it is again fastened into a lying-press, for cutting or *ploughing* the edges with a knife-edged instrument called the plough, unless, as is now usually the case, the cutting of the edges is previously done by a large machine-cutting knife.

Book'-case, *n.* An article of furniture; a case containing shelves for holding and preserving books.

Book-debt. A debt recorded in a trader's books, as against a customer supplied with goods on credit.

Book'ersville, in *Georgia*, a village of Wilkes co.

Book'ery, *n.* A collection of books; devotion to books.

Book'ful, *a.* Full of notions derived from books; crowded with undigested knowledge; as, "*Bookful* blockhead." — *Pope.*

Book'-holder, *n.* The prompter in a theatre.

Book'ish, *a.* Given to books or reading; fond of study; more acquainted with books than with men.

"I'll make him yield the crown,
Whose *bookish* rule hath pull'd fair England down." — *Shaks.*

Book'ishly, *adv.* In the way of being addicted to books or much reading.

Book'ishness, *n.* Quality of being bookish, or addicted to books; over-studiousness.

Book'-keeper, *n.* (*Com.*) One who keeps account of mercantile or trading transactions; one who has the charge of the books of accounts in a commercial concern.

Book'-keeping, *n.* (*Com.*) The art, or science of keeping accounts, or recording monetary transactions of merchants, traders, or other persons engaged in pursuits connected with money. It has not only the authority of experience to recommend it, but that of some of the wisest observers of human affairs. Dr. Johnson remarks, "that the counting-house of an accomplished merchant is a school of method, where the great science may be learned of ranging particulars under generals, of bringing the different parts of a transaction together, and of showing at one view a long series of dealing and exchange. Let no man (he adds) venture into large business while he is ignorant of the method of regulating books; never let him imagine that any degree of natural abilities will enable him to supply this deficiency, or preserve a multiplicity of affairs from inextricable confusion." There are two modes of keeping books of account: the one by what is termed *Single*, and the other by *Double Entry*. Both are in very general use. The system of single entry is chiefly confined to the business of retail dealers; it is much the simplest method of *B.-K.*, consisting of only a *Day-book*, and a *Ledger*. In the day-book the dealer enters his sales and purchases, and in his ledger he carries the former to the debit of his customers, and the latter to the credit of the merchants who supply him with goods. By making at any time a list of the sums due to him by his customers and of those due by him to wholesale merchants, the retail dealer may, after adding to the debts due to him the value of his stock on hand, arrive at an approximation to the real state of his debts and assets. This, however, is but an imperfect and unsatisfactory mode of *B.*; and, therefore, in the case of wholesale and mercantile business, where extensive and multifarious transactions have to be recorded, recourse is had to the system of *double-entry*. This system possesses all the advantages of single-entry, besides being so complete and comprehensive in its principles, and so certain in its results, as to admit of universal application. It may with equal advantage be adopted in the most limited as well as in the most extensive, in the most plain and simple as well as in the most intricate and complicated concerns. No very authentic accounts exist of the origin of *B.* The double-entry system appears to have been first practised towards the latter part of the 15th century, in Venice and other towns of Italy, then the great emporiums of the mercantile world; and from that circumstance it acquired the name of the *Italian method of Book-keeping*. The first known work on the subject was by Lucas de Borgo, published in 1495: and the first in the English language, a treatise by John Gough, a printer, published in London, in 1543. The advantages of the system, and the soundness of the principles on which it is based, soon became apparent; for we find it was adopted in England and France early in the 16th century, and has continued to be more and more practised down to the present day.—The great objects of a good method of *B.* are to exhibit transactions as they occur, in the most minute detail, and ultimately in the most condensed form; advancing from the earliest stage to the latest by such clear and lucid steps as at all times to admit of every fact being traced in its progress, and security being obtained at every step against omission or error. For the attainment of such important objects, no mode of *B.* has hitherto been devised at all approaching to the perfection of the Italian system by double-entry. Every transaction in business is *twofold:* there can be no *receipt* without a *payment*, and no *purchase* without a *sale*, and consequently by presenting the same event or fact on both sides of the books, (whence the name of "double-entry,") the entries being simultaneous, become corroborative of each other. The circumstance of every transaction being entered on both sides of the ledger affords one of the most valuable results derived from the system of double-entry, namely, a test of accuracy; inasmuch as the entries on the credit side must be equal to the entries on the debit side, otherwise the book will not balance. The three principal books required under the Italian system of double-entry are, a *Cash-book*, *Journal*, and *Ledger*. In the first of these, every transaction is recorded where money forms one of its elements, and in practice these transactions are by some book-keepers carried direct from the cash-book to the ledger without being passed through the journal at all. The journal, however, forms a most important part of the system. It exhibits a narrative of every transaction of which an actual transfer of money does not form one of the elements, arranging the facts in as simple and condensed a form as correctness and intelligibility will admit of, and the results of those entries in the journal are afterwards introduced into the ledger, which thereby becomes a sort of key to the detailed history of every transaction; while at the same time it furnishes a luminous compendium of the whole. In like manner, when the cash transactions are passed through the journal, they are at stated periods classed and arranged in a condensed form, and thence transferred to the ledger. This plan of introducing the cash transactions into the journal is considered much the best system, though attended with a little more trouble to the book-keeper, as it affords great facilities in balancing the books and testing the accuracy of the ledger. By the plan referred to, the journal is advantageously ruled with four cash columns, two upon the left-hand side for *entries-debtor*, and two upon the right for *entries-creditor;* and all the transactions being connected either with *personal* and *property* accounts or *nominal* accounts, —such as charges, profit and loss, and so forth,—they are classed accordingly in the columns on the *Dr.* or *Cr.* side of the journal respectively; and as the debit entries are at all times equal to the credit entries, the aggregate of the two columns on the Dr. side must tally with the aggregate of the two on the Cr. side of the journal. This too is found in practice to be a most useful check against posting the entries to wrong accounts in the ledger; for on balancing the books by taking the amounts Dr. and

Cr. posted to personal and property accounts, and the amounts Dr. and Cr. posted to nominal accounts into the ledger, and comparing them with the total amounts in the corresponding columns of the journal, it will be seen whether they agree; if they do not, it demonstrates that some entries must have been erroneously posted, which can then only be discovered by collating the books; but if the amounts do agree, then it affords at least strong presumptive evidence that the whole of the entries have been carried to the proper accounts. Experience and practice are occasionally suggesting minor improvements upon the forms of the cash-book, journal, and ledger, to suit particular cases, as well as upon the subsidiary books required for gathering together the facts preparatory to their being transferred in a condensed form into the journal; and, indeed, an intelligent book-keeper may accomplish much by a judicious classification of the facts in the auxiliary books; but the fundamental principles of the double-entry system of *B.*, notwithstanding such occasional facilities and improved arrangements in the working of it, remain perfect and unchanged; and after the length of time during which they have successfully withstood all attempts at innovation or change, it may safely be affirmed that the system is the best hitherto discovered. We have already stated that the double-entry system of *B.* admits of universal application; and we may now observe that it is not confined to merchants' accounts, but is equally applicable to government accounts. One great desideratum in a system of *B.* for government accounts is centralization, which can alone be attained by a proper and well-organized method of condensing the facts or elements of the accounts; and the Italian system unquestionably affords the most efficacious means of collecting and grouping the widely scattered elements of government accounts in a concise and intelligible shape, and ultimately exhibiting them in the clearest and most perfect state.

Book-knowledge, (*book'nŏl'ej.*) *n.* Knowledge acquired from the reading of books.

Book'land, Boek'land, *n.* (*Feudal Law.*) See BOCLAND.

Book-learned, *a.* Versed in books or literature; — generally implying a counter-ignorance of men, and of the world at large.

> "Whate'er these *book-learn'd* blockheads say,
> Solon 's the veriest fool in all the play." — *Dryden.*

Book-learning, *n.* [*book* and *learning.*] Skilled in literature; learning acquired from extensive reading; acquaintance with books; used, generally, in contradistinction to practical knowledge of men and things.

> "Neither does it so much require *book-learning* and scholarship, as good natural sense, to distinguish true and false, and to distinguish what is well proved and what is not." — *Burnet.*

Book'less, *a.* Without books; unread; unlearned.

Book'-madness, *n.* Bibliomania; a passion for acquiring books.

Book'-maker, *n.* A compiler; one who writes and publishes a book, more especially, one who collects his materials from other sources. — (*Sporting.*) A person who bets on horse-racing, professionally or otherwise; one who makes up a betting-book.

Book'-making, *n.* The practice of writing and publishing books; more particularly, the art of compiling from works already published.

(*Sport.*) Art of keeping a betting-book in such a manner as to, generally, leave a balance of profit.

Book'man, *n.* A person whose chief occupation is the reading and study of books.

> "This civil war of wits were much better us'd
> On Navarre and his *bookmen:* for here 't is abus'd." — *Shaks.*

Book'-mark, Book'-marker, *n.* Something placed between the leaves of a book in order to speedily find any particular passage or page.

Book'mate, *n.* A school-mate; a school-fellow.

> "This Armado is a Spaniard. . . . and one that makes sport
> To the prince and his *book-mates.*" — *Shaks.*

Book'mindedness, *n.* Love of, or acquaintance with, books.

Book'-monger, *n.* A dealer in, or vender of, books.

Book'-muslin, *n.* A kind of muslin, formerly used for book-covers.

Book'-oath, *n.* The oath on the *Book*, or Bible.

Book'-post, *n.* That department of a post-office devoted to the transmission of books, or printed matter.

Book'-rack, *n.* A frame or contrivance for holding a book open while being read. — An article of furniture for the temporary deposit of books.

Book'-seller, *n.* One who sells books; a book-vender. See BOOK-TRADE.

Book'-selling, *n.* The avocation or business of selling books.

Book'-shelf, *n.* A shelf to hold books.

Book'-shop, *n.* A shop, or store, in which books are sold; a book-seller's warehouse.

Book'-stall, *n.* A stand or stall in the public street, where books are retailed to buyers.

Book'-stand, *n.* Same as BOOK-STALL, *q. v.*

Book'-store, *n.* In the U. States and Canada, a place where books are kept for sale. (In Great Britain, a *book-seller's shop.*)

Book'-trade, *n.* The business of wholesale dealing in books is of a comparatively recent date. In early times, when books were scarce and had all to be transcribed, those who copied them usually also disposed of them. In the later period of Roman history, however, there arose a class of persons termed *bibliopolæ*, who acted as a kind of middle-men, employing or purchasing books from the transcribers and disposing of them to the public. In the reign of Augustus, the brothers Socii were celebrated in this way. With the establishment of several universities in the 12th century, the trade in books was much increased, particularly in such towns as Paris and Bologna. In 1323, a statute of the University of Paris distinguishes between *stationarii*, or booksellers proper, those who buy from one party and sell or lend to another; and *librarii*, those who merely buy and sell books on commission. After 1346, no one could deal in books in Paris without the permission of the university, who had special officers to examine the manuscripts and fix the price. It was not, however, till after the invention of printing that the *B. T.* attained any importance. At first, the printers were likewise booksellers; and John Faust and Peter Schöffer disposed of the productions of their press in Paris and Frankfort-on-the-Main. Some instances of the division of the two branches occur in the 15th century. The first booksellers were usually termed stationers, either from the Latin word *stationarius*, or from having only stalls or stations in the streets and market-places of the towns, as is still to be seen in the case of dealers in old books. Now, the term stationer usually denotes a dealer in paper and other writing-materials. At first, the civil magistrates took little concern with the book-sellers, leaving them to the control of the universities, of which they were supposed to be the immediate retainers, and which, accordingly, gave them laws and regulations, examining the correctness of their books and fixing the prices of them. This, however, was soon changed, and the trade of bookselling was put under various restrictions. In 1556, the Stationers' Company of London was incorporated. It was composed of printers and book-sellers, who exercised a kind of censorship over the press. In 1662 the famous Licensing Act was passed, which prohibited the publication of any book unless entered in the register of the Company of Stationers, or licensed by the Lord Chancellor. There are two generally distinct classes engaged in the *B. T.*—the publishers, who prepare and issue the books, and the booksellers, who distribute the product to wholesale or retail purchasers. A peculiar feature of the *B. T.* in America, for many years, was the holding of annual or semi-annual "trade sales" in the principal eastern cities, especially in New York. At these sales the books were sold by auction, the ostensible purpose being to introduce new publications into the retail channels without spending the time or money required to accomplish the same result by advertising or through traveling salesmen. The principal annual trade sale occurred in the summer or early autumn, and the second, generally termed a "parcel sale," took place about the end of November. Both sales were often attended by buyers from all over the country, and books to the value of from $600,000 to $1,000,000 were disposed of annually. In time, however, the trade sale gradually degenerated, and become little better than a more or less satisfactory outlet for unsuccessful publications —a sort of pawnbroker's sale of odds and ends on which advances had been made during the dull spring season. As a natural result trade sales are now practically extinct. —The terms between publisher and author are various, depending largely upon the reputation of the author; 10 per cent. of the retail price is a usual royalty.—It is now almost the universal habit to electrotype both books and periodicals, except those for which a limited sale is actually ensured. The *old book* trade, or the sale of second-hand books, is carried on to a very large extent in our principal cities, often in direct connection with the sale of new stock, and especially books of low manufacturing cost which have formerly had a high list price and may therefore be sold at a startling "reduction." Many second-hand dealers prepare periodically price catalogues of their books, which they circulate through the country, and in this way dispose of a great many of their books. The price of old books is very fluctuating and capricious, depending in some measure upon their condition or intrinsic value; but frequently equally good copies of the same work may be had at a half or third of the price in some shops, that they can be obtained for in others. In Germany, the great centre of the book-trade is Leipzig, where two great book-fairs are held annually, at Easter and Michaelmas respectively. These fairs are not so important, or so largely attended now as formerly, a great part of the business being effected by means of agents or commissioners. Every book-seller in Germany has his commissioner at Leipzig, to whom he transmits copies of all his new publications, and who distributes them among the other commissioners, for transmission to their employers. At the end of the year the unsold works are sent back by the same means to their several publishers. The great advantage of this system is, that every new book, within a few weeks of publication, is made known throughout Germany and France, without having recourse to the expensive system of advertising. The accounts of the various book-sellers are also usually settled by means of the commissioners. In England and in France, the *B. T.* is carried on much in the same way, centring respectively in London and Paris.— The first American book-seller, mentioned by Thomas in his *History of Printing*, was Hezekiah Usher, of Boston, known to have been in business as early as 1652. The first convention of book-sellers for the regulation of trade seems to have been held in Boston, 1724. The American company of book-sellers was founded in 1801. The first book published in America was the *Bay Psalm Book*, issued by Stephen Daye, of Cambridge, Mass., in 1640. In the same year appeared Mrs. Anne Bradstreet's *Poems*, the first original American book, reprinted in England in 1650. John Elliott's Catechism and Bible in the Indian language, appeared in 1659 and 1663 respectively. Christian Sauer published a Bible in German in 1743, at Germantown, now a part of Philadelphia. The first American book-seller on record was Hezekiah Button, of Boston, 1652. The first booksellers' convention was held in the same city in 1724. There are now more than 600 publishing concerns in the U. S., about 200 being located in New York, 60 in Philadelphia, 50 in Boston, 50 in Chicago, and 12 in San Francisco, the remainder being well distributed throughout the smaller places. The number of new books and new editions pub. in U. S. was about 3,000 in 1880, 4,000 in 1885, and 5,500 in 1896. The people of the U. S. spend not less than $25,000,000 annually for books.

Book-worm, *n.* (*Zoöl.*) A name given to various species of insects in the larva state, in which they destroy books and papers, by boring into them; such as the *Ptinidæ*, *Anobium*, &c.

— A student absorbed in, or closely attached to, books; an unappreciative reader, or one without judgment.

> "I wanted but a black gown, and a salary to be as mere a *book-worm* as any there." — *Pope.*

Boo'lak, or **Bou'lac,** a town of Egypt, on the right bank of the Nile, 3 m. N. of Cairo, of which it forms the port. After being destroyed by the French in 1799, it was rebuilt by Mehemet Ali. *Manf.* Cotton, silk, &c. *Pop.* 14,175.

Boo'ley, Booly, *n.* [Ir. *buachail*, cowherd.] A term sometimes used in Ireland, for a person who has no settled place of abode, and who leads a kind of nomad life.

> "The same that the Irish *boolies* are, driving their cattle with them." — *Spenser.*

Boom, (*bōm,*) *n.* [A. S. *beam;* Dn. *boom;* Ger. *baum.*] A beam, tree, or pole.—(*Naut.*) A long pole run out from any part of a ship to stretch the foot of any particular sail; whence, *jib-boom*, *main-boom*, *studdingsail-boom*, &c.

(*Fort.*) In marine defences, a strong chain or cable stretched across the mouth of a river or harbor, to prevent the enemy's ships from entering, and having a number of poles, bars, &c., fastened to it; whence the name; as, to cut or burst the *boom.*

(*Naut.*) A pole set up as a sea-mark to point out the channel to seamen, when navigating in shallows. — A hollow, roaring sound; as, the *boom* of a cannon; the reverberating cry of the bittern.

—*pl.* A space on a ship's upper deck, between the fore and main-masts, where the boats, spare spars, cordage, &c. are stowed.

—*v. i.* [A. S. *byme*, a trumpet; Du. *bomme*, a drum; from the root of *bomb.*] To make the sound of a trumpet or drum.

—To rush with violence, as a ship under crowded sail; or, *figuratively*, to grow rapidly in value or importance.

—To make a hollow sound like the bittern.

> "At eve the beetle *boometh*,
> Athwart the thicklet lone." — *Tennyson.*

—To roll and roar, as the waves, or the report of a cannon.

—*v. t.* to push with a spar or boom (as a vessel or a sail); hence, *figuratively*, to push forward, to advertise energetically (as a speculation, candidature, &c.).

Boom (*bōme*), a town of Belgium, 10 m. S. of Antwerp, on the Rupel river. It has very extensive brick and tile works. *Pop.* (1895) 8,926.

Boom'er, in *Iowa*, a township of Pottawattomie county.

Boomerang (*boom'-e-rang*), *n.* The missile described at length here below; hence, *figuratively*, any act, statement or argument, the results or consequences of which recoil with an unfavorable effect upon the originator.— The *B.* is used by the Australian aborigines in war, sport, and the chase. It consists of a piece of hard wood of a bent form, with the curve of a parabola, is about 2 ft. long, 2½ inches broad, ⅓ inch thick, and is rounded at the extremities. One side is flat, the other convex, and it is brought to a bluntish edge. It is discharged by the hand at one end, the convex edge being forward, and the flat side upward; and it is thrown as if to hit an object in advance; instead, however, of going forward, it ascends into the air with a rapid rotary motion, until it reaches a considerable height, when it begins to retrograde, and finally passing over the head of the projector, falls to the ground behind him. This singular motion is produced by the air impinging on the bulged side of the instrument. The *B.*, the invention of which would have done honor to the most celebrated scientist, has long been a common weapon among almost the lowest race of savages upon earth. — It has, of late years, been mooted to apply the principle of the *B.* to the propulsion of ships. The savage, by practice, knows precisely how to poise as well as project his familiar missile; and in this secret of the *balanced* centre consists Sir Thomas Mitchell's application of the principle of the *B.* to the propulsion of vessels. Great results are anticipated from the scientific application of this simple principle, suggesting, as it does, a means of adapting a surface revolving round a centre, so that it presents to equal pressure a uniformity of resistance, because the spaces described by a body in falling are proportional to the squares of the times. When the same surface is placed vertically, and set in rotary motion through fluids, it is subject to a similar law, and when in the place of a screw, it is equally poised obliquely. Thus we have in this form equilibrium, and equal resistance and equal strength, the propeller being balanced when it is first formed on its axis. Hence, under any degree of velocity, centrifugal action is converted into concentric

Fig. 388. — BOOMERANG.

action by the peculiar manner of balancing the surface round the centre of rotary motion.

Boom'ing, *p. a.* Rushing with violence; roaring like waves. See BOOM, *v.*

"Forsook by thee, in vain I sought thy aid.
When *booming* billows clos'd above my head.' — *Pope.*

Boom'ing, *n.* A violent rushing accompanied with a loud roar, as the *booming* of the ocean; a deep, hollow, reverberating sound, as the *booming* of a bittern.

Boom-irons, *n. pl.* (*Naut.*) Flat rings of iron fixed on a ship's yards, and through which the studdingsail-booms run.

Boom'kin, *n.* (*Naut.*) See BUMKIN.

Boon, *n.* [A. S. *ben*; Dan. *bon*: Icel. *bon*, from *beidi*, to ask. See BID.] A prayer or petition preferred to a person, or persons.

"From which to God he made so many an idle *boon*.' —*Spenser.*

—A gift, grant, favor, or benefaction; a favor granted, or petition answered; as, to crave a *boon*.

"Vouchsafe me for my meed but one fair look;
A smaller *boon* than this I cannot beg
And less than this, I'm sure you cannot give.' — *Shaks.*

—*n.* [Scot. *boon*; W. *bôn*.] The refuse matter of dressed flax.

—*a.* [Fr. *bon*; Lat. *bonus*, good.] Gay; merry; pleasant; jolly; as, a *boon*-companion.

"Satiate at length,
And heighten'd as with wine, jocund and *boon*."—*Milton.*

—Kind; bountiful; beneficent.

"With as *boon* a grace, and as bold a front, look the world in the face." — *South.*

Boon, in *Oregon*, a post-office of Clackamas co.

Boon'dee, or BUNDO, a rajahship of Hindostan, prov. Rajpootana, under British protection. *Estim. area*, 2,291 sq. m. It was formerly much more extensive, but Kotah and its territory have been separated from it; in 1817, more than half the revenues were usurped by Scindia and Holkar, and the peasantry impoverished by endless exactions; but, in 1818, the Rajah received a considerable accession of territory, and the town of Patun, from the British. Although small, this State is important, as it contains the principal passes from the S. into Upper Hindostan. The natives are of the Hara tribe, which has produced many eminent men.

BOONDEE, cap. of the above State, 80 m. S.E. of Ajmeer, and 200 S.W. of Agra; Lat. 25° 28′ N., Lon. 75° 30′ E. It is divided into New and Old *B.*; the former is walled, and built of stone on a high hill. This city is also rendered striking by its numerous temples, magnificent fountains, and spacious main street opening to the palace, at the lower extremity of which stands a great temple, dedicated to Krishna, with many bas-reliefs and other sculptures. Old *B.* lies to the W. and is in a state of general decay.

Boone, DANIEL, (*bōōn,*) the pioneer of Kentucky, b. in Bucks co., Pennsylvania, 1735. He was a colonel in the U. States service, and signalized himself by his many daring exploits against the Indians, and also by his extensive surveys and explorations of the State of Kentucky. In 1793 he removed to Upper Louisiana, then belonging to the Spaniards, and was appointed by them commandant of a district there. He was one of the most successful of the enterprising American pioneers of the 18th century, and may be said to have explored, and aided in the settlement of the country from the Alleghany Mountains to the frontier of Missouri. Many places have been named in his honor. D. abt. 1822.

Boone, in *Illinois*, a N. county, with an area of 270 sq. m., bordering on Wisconsin. It is drained by the Kishwaukee River, and the Pickasaw and some smaller creeks. *Surface*, undulating, and comprising prairie and heavy timber. *Soil*, highly productive. *Cap.* Belvidere. *Pop.* in 1890, 12,500.

—A township of above county 10 m. N. E. of Belvidere.

Boone, in *Indiana*, a central county, comprising 308 sq. m., and traversed by the Eagle and Sugar creeks. *Surface*, diversified. *Soil*, productive. *Cap.*, Lebanon. *Pop.* (1890) 26,500.

—A thriving township of Harrison county, on the Ohio River.

—A township of Cass co.

—A township of Crawford co.

—A township of Madison co.

—A township of Porter co.

—A flourishing village and township of Warwick county.

Boone, in *Iowa*, a W. central county, possessing an area of 576 sq. m. It is intersected, and formed into two portions, by the Des Moines River. *Surface*, diversified, and *soil* very fertile, containing stone-coal. *Cap.* Boone.

—An important city, cap of Boone co., on Chic. & N.W. R.R., 43 m. N.N.W. of Des Moines; has extensive manuf. interests. Near by are extensive beds of coal and potter's clay. *Pop.* (1898) 9,950.

Boone, in *Kentucky*, a N. county. *Area*, 300 sq. m. It is drained by the Ohio River, its boundary on the N. and W., and dividing it from Ohio and Indiana. *Surface*, hilly. *Soil*, fertile. *Cap.* Burlington.

—A post-office of Boone co.

Boone, in *Missouri*, a county in the centre of the State, with an area of 648 sq. m. On the S. W. it is bounded by the Missouri River, and on the E. by Cedar Creek. Roche Percée and Petite Bonne Femme rivers flow through it S. to the Missouri. *Surface*, varied, being partly prairie, and partly wooded land. *Soil*, extremely rich, and well-cultivated. Stone-coal and lime-stone are found. *Cap.* Columbia.

—A township of Franklin co.

Boone, in *North Carolina*, a post-village, cap. of Watauga co., 200 m. W. by N. of Raleigh, in a mountainous district. Daniel Boone, the Western pioneer, once dwelt in the neighborhood.

Boone, in *W. Virginia*, a S.W. county, bounded on the N.E. by Coal River, an affluent of the Kanawha, and also watered by Little Coal River and Laurel Creek. *Area*, 525 sq. m. *Surface*, mountainous, and heavily wooded. *Soil*, partly fertile. *Products*, corn, wheat, oats, rye, tobacco, &c., but not in large quantities. Coal is extensively mined in some sections. This county was formerly included within those of Logan and Kanawha. *Cap.* Madison. *Pop.* (1898) 7,750.

Boone Furnace, in *Kentucky*, a P. O. of Carter co.

Boone River, in *Iowa*, rising in the N. of the State, after a course S., empties into the Des Moines river, in Webster co.

Boones'borough, in *Iowa*. See BOONE.

Boones'borough, in *Kentucky*, a village of Madison co., on the Kentucky River, 18 m. S.E. of Lexington. At this place, in 1775, Daniel Boone built a fort, the first erected in the State; and here, also, the first legislative body of the W. States assembled in council.

Boones'borough, in *Missouri*, a village of Boone co., 30 m. N. of Jefferson City.

Boone's Grove, in *Arkansas*, a post-office of Washington co.

Boone's Mill, in *Virginia*, a post-office of Franklin co., 184 m. W. by S. of Richmond.

Boone'ville, in *Arkansas*, a post-village of Scott co., 36 m. S.E. of Van Buren.

Boone'ville, in *Colorado*, a post-office of Pueblo county.

Boone'ville, in *Indiana*, a town, cap. of Warrick co., 11 m. from the Ohio river, and 170 S.S.W. of Indianapolis.

Boon'ville, in *Iowa*, a village of Boone co., 140 m. W. by N. of Iowa City.

Boone'ville, in *Kentucky*, the capital of Owsley co., on the south fork of the Kentucky river, 100 m. S.E. of Frankfort. *Pop.* (1897) about 400.

Boone'ville, in *New York*, a flourishing post-village and township of Oneida co., 31 m. N. of the city of Utica.

Boone'ville, in *Mississippi*, the capital of Preutiss co., 20 m. S. of Corinth.

Boone'ville, in *Texas*, the former capital of Brazos co., 110 m. E. by N. of Austin, and 10 from the Brazos river.

Boon Grove, in *Indiana*, a post-office of Porter co.

Boon'hill, in *North Carolina*, a post-village of Johnston co., 12 m. N.W. of Goldsborough.

Boons'borough, in *Arkansas*, a post-village of Washington co., 20 m. S.W. of Fayetteville.

Boons'borough, in *Illinois*, a village of Ogle co., 140 m. N. of Peoria.

Boons'borough, in *Kentucky*. See BOONESBOROUGH.

Boons'borough, in *Maryland*, a township and village of Washington co.

Boons'borough, in *Missouri*, a village of Howard co., 14 m. W. of Fayette, and within a short distance of the Missouri River.

Boon's Creek, in *Tennessee*, a P. O. of Washington co.

Boon Spring, in *Iowa*, a township of Clinton co.

Boon'ton, in *Missouri*, a village of Boone co.

Boon'ton, in *New Jersey*, a flourishing post-town of Hanover township, Morris co., on the Rockaway River, 8 m. N.E. of Morristown. Extensive iron furnaces and rolling mills are at work here.

Boon'ville, in *Idaho*, a mining village of Owyhee co., on Jordan creek, 2 m. below Ruby City.

Boon'ville, in *Indiana*, a fine town, cap. of Warrick co., on the L., Ev. & St. L. R.R., 17 m. N.E. of Evansville. *Pop.* (1898) 2 310.

Boon'ville, in *Missouri*, a prosperous city, and the cap. of Cooper co., on the S. bank of the Missouri river, 48 m. N.W. of Jefferson City. This is a fine and flourishing place, in the midst of a fertile and highly productive country. Iron, lead, coal, and other minerals are abundantly found in the neighborhood. Named after its original settler, Daniel Boone.

Boon'ville, in *N. Carolina*, a P.O. of Yadkin co.

Boops, *n.* (*Zoöl.*) A genus of small Acanthopterygious fishes, found in the Mediterranean and in the seas of South America. The species are generally of brilliant coloring, and characterized by a small mouth, large eyes, and a rounded form. — This name is also given to the pike-headed whale, *Balæna boöps*, found in the Greenland seas.

Boor, *n.* [A. S. *gebur*, from *buan*, to till; Du. *boer*; Ger. *bauer*, from *bauen*, to till, to cultivate.] A farmer; a countryman: specifically, a rustic; a rude peasant; a clownish fellow; a lout.

"To one well-born, th affront is worse and more,
When he 's abus d and baffled by a *boor*.' — *Dryden.*

Boor'ish, *a.* Clownish; rustic; rude; illiterate; uncivilized.

' Therefore, you clown, abandon, which is, in the vulgar, leave the society, which, in the *boorish*, is company of this female
Shaks.

Boor'ishly, *adv.* In a boorish manner; after a clownish fashion.

"Limbs . . . . *boorishly* robust." — *Fenton.*

Boor'ishness, *n.* Quality of being boorish; clownishness; rusticity; coarseness of manners.

Boorhanpoor', or BARHANPURA, a town of Hindostan, in the Deccan, prov. Candeish (of which it was formerly the capital); built in a plain on the Tuptee, 135 miles S.S.E. of Oojein, and 215 E. of Surat. Lat. 21° 19′ N., Lon. 76° 18′ E. This is one of the largest and best built cities of the Deccan, though, as a whole, devoid of architectural beauty. Most of the houses are of brick, many three stories high, with neat façades, and universally roofed with tiles; but the fort and palace of its ancient sovereigns, and many Mohammedan mosques, &c., are heaps of ruins. Some of the streets are wide and regular, and the finest building is a mosque called *Jumma Musjud*, a gray-stone pile, with a handsome façade,

Fig. 389. — BOORHANPOOR.
(From Elliott's "Views in the East.")

and octagonal minarets, but destitute of the characteristic Mohammedan cupola. The Bokrahs, a Mohammedan sect, who dress in Arabian costume, (claiming Arab descent,) are the principal merchants. *B.* was captured by the British in 1803. *Pop.* 30,000.

Booroo', an island of the Malayan archipelago, between Lat. 3° and 4° S., and Lon. 126° and 127° E., 50 m. W. of Ceram: length 75 m.; breadth, 38. Rice, sago, aromatic and other woods, tropical fruits, and the best cajeput oil, are found here. The interior is inhabited by Hurafuras. The Dutch have a settlement here, and it is frequently visited by the S. Sea whalers. *Pop.* abt. 18,000.

Booroogird', a town of Persia, prov. Irak-Kermanshah, in a fine valley, 190 m. W. of Ispahan. *Estim. pop.* 12,000.

Boort, or **Bort,** *n.* (*Min.*) A kind of diamond, generally of a spherical shape, and apparently formed of a confused mass of interlaced and twisted parts, like knots in wood. In consequence of this peculiar structure, it cannot be cut like the ordinary diamond, and is only of use for polishing other stones, after it has been broken and reduced to powder in a mortar.

Boose, (*bōōs.*) [Dan. *baas*, a stall.] A stall or enclosure for cattle. (Used in some parts of England.)

Boose, *v. i.* See BOOZE.

Boosempra, or **Boosum Prah,** (*boo'sem-pra',*) a river in the country of Ashantee, W. Africa, that disembognes into the Atlantic, in Lat. 4° 52′ N., Lon. 9° 30′ W.

Boost, *v. i.* [See BOAST.] To push a person up from behind. (A vulgarism peculiar to some of the New England States.)

Boo'sy, *a.* See BOOZY.

Boot, *n.* [Fr. *botte*, from Celt. *botès*, *bottas*, a shoe — *bot*, foot, and *tech*, or *tes*, to hide; Swed. and Goth. *bota*. Sp. *bota*.] A leather case or covering for the leg, united with a shoe. (For history and trade statistics, see SHOE.)

—An instrument of torture for compressing the legs; formerly used in Scotland in order to extort confession from persons accused of crimes. It was of various kinds. Sometimes it was composed of parchment applied moist, and then brought near the fire, so as by shrinking to cause great pain and uneasiness; at others, it consisted of four thick strong boards bound tightly round either one or both legs with cords, and then compressed by means of wedges, until, occasionally, the bones of the unfortunate sufferer's legs were broken; it was, sometimes, also made of iron. (Called also *bordekin*.)

"So he was put to the torture, which in Scotland they call the *boot*. — *Bishop Burnet.*

—A receptacle or box in a coach, wherein baggage, &c. is stowed away.—A leathern cover placed over the wheels of a carriage to protect from rain, mire, &c.

—(*pl.*) A common term for a servant at an hotel, whose duty it is to attend to travellers' boots, &c.; a boot-black; as, "The *boots* at the Holly-Tree Inn."—*Dickens.*

—*v. a.* To put on boots.

"*Boot, boot* master Shallow; . . . let us take any man s horses.'
Shaks.

Boot, *n.* Booty; plunder. (o. and R.) — Profit; gain; advantage.

"My gravity, ...
Could I, with *boot*, change for idle plume,
Which the air beats for vain." — *Shaks*

To boot. Over and above; besides; additional; as, here 's a dollar *to boot*.

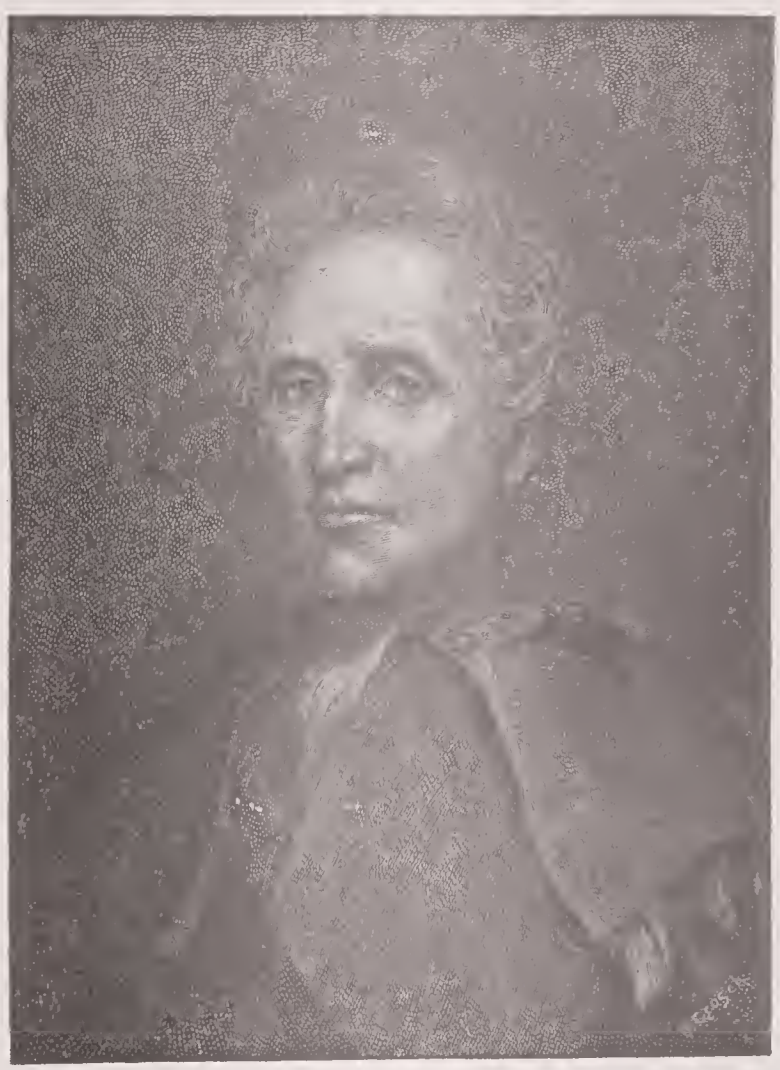
' Man is God's image; but a poor man is
Christ's image *to boot*." — *Herbert.*

Boot, *v. a.* [A. S. *bot*, *bote*, compensation to an injured party, from Goth. *botjan*, to profit, to advantage.] To make reparation; specifically, to profit, to advantage: usually preceding, or following, *it*; as, what *boots it?*

"For what I have, I need not to repeat;
And what I want, *it boots* not to complain." — *Shaks.*

Boot, in *Illinois*, a post-office of Richland co.

Bootan', or BHOTAN', an independent state of N. Hindostan, between Lat. 26° 30′ and 28° 30′ N., and Lon. 88° 30′ and 94° E.; having N. the Himalayas, dividing it from Thibet; E. and S. Assam and Bengal, and W. the



Daniel Boone

1735–1820

river Teesta, which separates it from Sikkim; length about 350 m., by from 90 to 100 in width. *Estim. area*, 64,500 sq. m. *Desc.*, mountainous and hilly, with fertile valleys here and there, and a large patch of jungle where it approaches Bengal. The Tchinchien is the principal river, which, after a course of abt. 150 m., empties into the Brahmapootra; other smaller rivers of little importance also drain the country. *Min.* Granite, quartz, limestone, iron, and copper; it is conjectured that the mountain ranges contain much mineral wealth, but they remain almost wholly unexplored. *Clim.* Every variety of climate prevails, according to elevation; heat and cold both run equally to extremes in their due seasons. Taken altogether, *B.* is comparatively healthy. *Vegetation.* All kinds of timber known in the temperate zone flourish, excepting the oak; fruits, the cinnamon-tree, and rhubarb are also plentiful. *Zoöl.* The S. jungle abounds with the wild animals indigenous to India; and the *Yák*, or grunting ox, together with the Tangun horse (a short-bodied, clean-limbed, active animal), belong to this country. *Inhab.* The people, who closely resemble, in most points, the Bengalese, are, in general, peaceably inclined; polygamous; often afflicted with goitre, and worship Buddha. *Prod.* The natives are tolerable agriculturists, but the tillage of the soil is performed almost entirely by the women. Rice, wheat, barley, and vegetables yield the staple crops. *Exp.* Coarse woollens, horses, wax, ivory, gold-dust, silver ingots, musk, fruits, rock-salt, &c. *Manuf.* Paper fabricated from bark, idols, swords, arrow-heads, &c. *Govt.* The government is administered by a *deb-Rajah* under British authority; the latter people having annexed the country in 1865. *Towns.* Passissudon and Tunakka. *Pop.* estimated at 1,500,000.

Boot'-catcher, *n.* A servant at an inn, formerly employed to take off travellers' boots. (o.)

"The ostler and the *boot-catcher* ought to partake." — *Swift.*

Boot'-crimp, *n.* A frame used by boot-makers for shaping the body of a boot.

Boot'ee, *n.* A half-boot, ankle-boot, or short boot.

Boot'erstown, a parish of Ireland, co. Dubliu.

Boötes, (*bo-o'tes.*) [Gr., a ploughman.] (*Myth.*) The son of Ceres and of Iasion, who, being plundered of all his possessions by his brother Pluto, invented the plough, to which he yoked two oxen, and cultivated the soil to procure subsistence for himself. As a reward for this discovery, he was translated to heaven by his mother, with the plough and yoke of oxen, under the name of *B., i. e.* the *Ox-driver*, which is still borne by one of the constellations. According to others, *B.* was the son of Lycaon and Calisto, whom his father slew, and set before Jupiter for a repast to try his omniscience. Jupiter restored him to life, and placed him among the stars.

(*Astron.*) A constellation called also Arctophylax, or the *Bear-driver*. It is situated between Corona Borealis on the E., and Cor Caroli, or the *Greyhounds*, on the W. It contains 54 stars, including 1 of the 1st magnitude, Arcturus, 7 of the 3d, and 10 of the 4th. Its mean declination is 20° N., and its mean right ascension is 212°; its centre is therefore on the meridian the 9th of June.

Booth, *n.* [W. *bwth*; Ir. *boith* or *both*; Gael. *both*, a cottage, hut, tent, bower, or booth; allied to *bower*, and Heb. *beth*, a house.] A house or shed erected with boughs, branches, boards, &c., for a temporary residence; a stall or standing in a fair or market. — The word is used in this sense in the Bible, (*Gen.* xxxiii. 17,) and the great feast of tabernacles, or booths, had its name from the circumstance that the Jews were directed by their law to dwell in booths during the seven days of this feast (*Lev.* xxiii. 42.)

Booth, Barton, an eminent English actor, b. 1681, was a near relation of Henry *B.*, Earl of Warrington. Imbibing a passion for a theatrical life, he ran away from Trinity College, Cambridge, and joined a company of strolling players. In 1701, he made his first bow at the Theatre Royal, Drury Lane, where his reception was enthusiastic. In 1712, he performed the principal character in Addison's "Cato," and soon after became manager of the house, where he continued to perform until nearly to his death. *B.*'s best part as an actor is said to have been *Othello*, but his favorite "rôle" was the far less important one of the *Ghost* in "Hamlet." His tone, manner, and gait were so solemn and unearthly, that the audience appeared to be under the impression that a positive spectre stood before them. D. 1733.

Booth, Edwin, son of the well-known tragedian who forms the subject of the article immediately following, was b. at Baltimore, 1833. Early adopting the theatrical profession, he filled many minor parts, and afterwards made his first regular appearance on the stage as *Trussell* in Shakspeare's "Richard III." in 1849, and performed the character of *Richard* in the same play, in 1849, in place of his father, then incapacitated by illness. After a tour through California, Australia, the Sandwich Islands, &c., he re-appeared at New York, in 1857, visited England and the Continent of Europe in 1861, and returned to New York, where he commenced a series of Shakspearean revivals at the Winter Garden Theatre in 1863. This establishment was destroyed by fire in 1867. *B.* was esteemed to be the best American tragedian and Shakespearean delineator of his day. D. June 7, 1893.

Booth, Junius Brutus, an English tragedian, b. in London, 1796. In 1814, he made his *début* at Coveut Garden Theatre, in the impersonation of *Richard III.*, and achieved a decided success. In 1821, he emigrated to the U. States, and appeared in most of the principal cities of the Union, performing his favorite characters of *Richard III.*, *Hamlet*, *Shylock*, *Sir Giles Overreach*, &c., and having placed himself at the head of his profession in this country, he accumulated wealth and reputation. D. 1852.

Boothauk', a fortified pass of Afghanistan, 12 m. E. of Cabul. It runs for 5 m. between cliffs 500 feet high, and is in some places only 50 yards wide.

Booth Bay, in *Maine*, a post-village and township of Lincoln co., lying between the Sheepscot and Damariscotta rivers, and with the Atlantic for its S. boundary, 40 m. S.E. of Augusta. It has a large fishing commerce, and also quite extensive ship-building yards and sawmills.

Booth Corner, in *Pennsylvania*, a P.O. of Delaware co.

Boothia Felix, (*booth'e-a fē'lix*,) an insulated region of British N. America, stretching into the Arctic Ocean, between Lat. 69° and 75° N., and Lon. 92° and 97° W., and so called in honor of Sir Felix Booth, by Sir James Ross its discoverer, who here determined the position of the magnetic pole.

Booth'ia Gulf, an inlet of the sea in British N America, being a southward extension of Prince Regent's Sound, and separating Boothia Felix from Melville Peninsula and Cockburn Island. Its length is about 310 m. from N.E. to S.W.; and its breadth varies from 60 to 100 m.

Boot'-hose, *n.* [*boot* and *hose.*] Spatterdashes used instead of boots; stockings to serve for boots.

"His lackey with a linen stock on one leg, and a *boot-hose* on the other." — *Shaks.*

Booth's Point, in *Tennessee*, a post-office of Dyer co.

Boot'ikin, *n.* A small boot. — A covering for any limb or member of the body, curatively used for the gout.

"I desire no more of my *bootikins*." — *Walpole.*

Boot'ing, *n.* A description of torture. See Boot.

Boot'-jack, *n.* A contrivance used for drawing off boots.

Boot'-last, *n.* See Boot-tree.

Boot'less, *a.* Destitute of boot; unavailing; unprofitable; useless; as, a *bootless* errand.

"*Bootless* speed,
When cowardice pursues and valor flies." — *Shaks.*

Boot'lessly, *adv.* Without use or profit.

Boot'lessness, *n.* State of being bootless or useless, or without avail.

Boot'lick, *n.* A toady; a lick-spittle; one who flatters and cringes to another. (Used in the U. States.)

Boot'on, an island of the Eastern Archipelago, 2d division, lying off the S.E. extremity of Celebes; length, 85 m.; average breadth, about 20 m.; between Lat. 4° and 6° S., Lon. 123° E. It is high, wooded, well cultivated, and yields maize, rice, and fruits. The Dutch had formerly a settlement here.

Boot'-topping, *n.* (*Naut.*) A term used to express the scraping off the slimy, greasy coating from a ship's bottom, and dubbing it with a preparation of tallow, sulphur, and resin.

Boot'-tree, Boot'-last, *n.* An instrument used by boot-makers to stretch the leg of a boot; consisting of two pieces of hard wood fitting into it, and between which wedges are driven.

Boot'y, *n.* [Swed. and Goth. *byte*, from *byta*, to exchange, to divide; Ger. *beute.*] That which is captured in war, and is intended to be divided; anything taken by robbery; spoil; plunder; pillage; as, they made off with their *booty*.

"And when he reckons that he has gotten a *booty*, he has only caught a Tartar."—*L'Estrange.*

(*Hist.*) The Greeks divided their booty among the army in common, reserving to the general only a larger share. One of the prerogatives of a Grecian general was the distribution of the plunder taken from a vanquished enemy. We read in Homer that the valuable armor usually fell to the share of the leaders, while the common soldiery were permitted to gather the spoils of the dead. Among the Lacedæmonians, however, the soldiery were forbidden to plunder the conquered, although, in certain instances, a portion of the spoils was dedicated to the gods, while some other parts were reserved for the highest commanders. After the battle of Platæa, which took place 800 years subsequently to the Trojan war, the spoils of the Persians were regulated by the generals, who, after setting apart a portion for the decoration of the temples, shared the remainder among the soldiery. From that time the plunder was sold, (the proceeds being applied to the decoration of the temples,) to the soldiers, and to the generals and their friends. By the military discipline of the Romans, spoils taken from the enemy belonged to the republic, particular persons having no right to them. The generals, who piqued themselves on their probity, carried it intact to the public treasury. Sometimes, indeed, they divided it among the soldiery, to animate them, and to serve in lieu of reward; but this distribution depended entirely upon the generals, who were bound to conduct themselves in its distribution with great equity and moderation; otherwise it became a crime of peculation to lay hands upon the pillage, which was considered as the rightful property of the State. The consuls Romulius and Veturius were condemned for having sold the booty taken from the Æqui. Booty among the Jews was divided into equal parts between the army and the people, though, under the kings, a different mode of distribution obtained. (*Num.* xxxi. 27.)—According to Calmet, the Mohammedan practice was to allow two-thirds of the *B.* to the army, the other third to God, to Mohammed and his descendants, and to orphans, pilgrims, and the poor. In modern times the victor's share is generally termed *prize-money*, (q. v.,) and in the East. *loot.*

Booze, Boose, Bouse, *v. i.* [Du. *buysen*, to drink heavily.] To drink lavishly or excessively; to tope; to fuddle; to ply one's self with liquor.

"And in his hand did bear a *bousing* can,
Of which he sipp'd."—*Faërie Queene.*

Booz'er, *n.* A tippler; one who drinks heavily; a fuddler.

Booz'y, Boos'y, Bou'sy, *a.* Inebriated; fuddled; overcome with liquor.

"With a long legend of romantic things,
Which in his cups the *boozy* poet sings."—*Dryden.*

Bo-peep', *n.* A kind of advancing and retiring, or hiding the face, and after looking, crying *bo!* as is sometimes done with children for their amusement.

"That such a king should play *bo-peep*,
And go the fools among."—*Shaks.*

Bopp, Franz, a German philologist, b. at Mayence, 1791. His early education was conducted at Aschaffenburg, where he studied under Professor Windischmann, who filled the chair of Philosophy and History in the university of that town. By the advice of this learned man and profound Orientalist, (the disciple of Schelling,) Bopp resolved to dedicate himself entirely to Oriental literature. Having finished his elementary studies, he set out in 1812, to make himself acquainted with Indian languages, supported by a small pension allowed him by the king of Bavaria. In Paris, he was encouraged by M. Sylvestre De Sacy and August Wilhelm Schlegel, and completed his studies in London and Göttingen. On his return to Prussia, he was appointed professor of Sanskrit in the University of Berlin; in 1842 he was created Chevalier of the Order of Merit, and in 1857, the French Institute nominated him foreign associate. Professor *B.*'s philological labors have given quite a new character to this science. His great work, the *Comparative Grammar of the Sanskrit, Greek, Latin, Lithuanian, Ancient Slavic, Gothic, and German* ("Vergleichende Grammatik des Sanskrit," &c., Berlin, 1833–49; 2d edition, entirely revised, 1857,) contains a complete analysis of the grammatical form of the Indo-Germanic languages; and the general laws he deduces from them are highly creditable to his perspicuity. His writings, which are both numerous and voluminous, have greatly facilitated the study of the Sanskrit language, and his translations of various Indian classics have contributed largely to our knowledge of Oriental poetry, morals, and philosophy, as exhibited in the ancient literature of India. D. 1867.

Bop'part, (anc. *Bandobriga*,) a town of Prussia, prov. Rhine, on the left bank of the latter river, 9 m. S. of Coblentz. It is a very ancient place, known to the Romans, and was, in the Middle Ages, an imperial city, several councils having been held in it. It is a narrow-streeted, quaint, out-of-the-world town. *Pop.* 4,842.

Boque's Creek, in *Ohio*, falls into the Scioto River in Delaware co.

Boquet, in *New York*, a river of Essex co., emptying into Lake Champlain.

Bora, Katharina von, the wife of Luther, *q. v.*

Bor'able, *a.* That may be bored. (R.)

Borachio, (*bo-răt'cho,*) *n.* [Sp. *borracho*, drunk.] A drunkard. (o.)

"How you stink of wine! D'ye think my niece will ever endure such a *borachio*?"—*Congreve.*

Boracic Acid, (*bo-răs'ic.*) [From Ar. *baurac*, a species of nitre.] (*Chem.*) This acid, which may be regarded as a teroxide of *boron*, is the only known compound of oxygen and boron. It is obtained in a free state from the volcanic districts in the N. of Italy, where it issues from the earth in the form of vapor, accompanied by violent jets of steam, which are known in the neighborhood as *soffioni* or *fumerolles*. The evaporation is conducted in shallow leaden evaporating pans (B, *Fig.* 390), under which the steam from the soffioni is conducted through the flues (A) constructed for that purpose. During the

Fig. 390. — BORACIC LAGOON, AND EVAPORATING PANS.

evaporation, great quantities of sulphate of lime are deposited, which require removal from time to time. About 750 tons of crude *B.* acid are annually exported from Tuscany. The crude acid is contaminated with 25 per cent. of sulphate of ammonia and alumina, and other saline impurities. *B.* acid is used principally for making borax, or biborate of soda. *B.* acid is formed in the laboratory by dissolving purified borax in four parts of boiling water, and adding to the hot solution a quantity of sulphuric acid, equal to one-fourth of the borax used. On cooling, *B.* acid crystallizes out in pearly scales, containing three equivalents of water. These crystals contain a small quantity of sulphuric acid, from which they are freed by washing, drying, and fusing them in a platinum crucible. On re-dissolving the fused acid in four parts of water, and re-crystallizing, it is obtained per-

fectly pure. *B.* acid, on being strongly heated, becomes anhydrous; and at a red heat it fuses into a transparent glass, which remains clear as it cools. It soon crumbles to pieces by absorbing water from the air. *B.* acid communicates to its compounds the property of fusibility; hence the use of many borates, more especially the biborate of soda, as fluxes. It dissolves in three times its weight of boiling water, but is very insoluble in cold. The solution is remarkable for possessing the properties of an alkali when tested with turmeric paper, which it changes to a deep brown. Even to litmus it only gives a slight reddish-purple tinge. When a solution of *B.* acid is evaporated, a certain quantity of the acid rises with the steam; and this is the cause of the *fumerolles* described above as existing in Tuscany. Anhydrous *B.* acid is but slowly volatilized by heat. It enters into combination with alkaline bases in several proportions, resembling silicic acid in this as well as in other particulars. A sexborate and triborate of potash have been obtained; and although one contains six equivalents of acid and the other three, they possess the property of restoring the color of reddened litmus like an alkali. *B.* acid dissolves in alcohol, and burns with a characteristic green flame, with the exception of biborate of soda. The borates are not very important salts, and need not be alluded to here, further than to mention that, as a rule, alkaline borates are freely soluble, while those of the other bases are either insoluble or very sparingly so. *Form.* BO_3.

Bo'racite, *n.* (*Min.*) Native borate of magnesia. It occurs in cubes, inclining to gray, yellow, or green, with a vitreous lustre, and opaque, or more or less translucent. Small but perfect crystals are found at Kalkberg and Schildstein, near Lüneburg, in Hanover, in beds of gypsum.

Bo'racous, *a.* Partaking of borax.

Bo'rage, *n.* (*Bot.*) The English name of the genus BORAGO, *q. v.*

Boraginaceæ, (*bo-raj'e-nai'se-e,*) *n. pl.* (*Bot.*) The *Borage-worts*, an order of plants, alliance *Echiales. Diag.* Regular symmetrical flowers, 5 stameus, 4 nuts, or two pairs, a naked stigma, and circinate inflorescence. — They are herbs or shrubs, with alternate leaves usually rough with hairs. The flowers are regular and symmetrical; the calyx is persistent, and divided into either four or five segments; the corolla has the same number of lobes, and, usually, scales in the throat; the stamens rise from the corolla, are equal in number to its lobes, and alternate with them. The fruit consists of two or four distinct achenia, placed at the bottom of the persistent calyx. There are 54 genera, which include 683

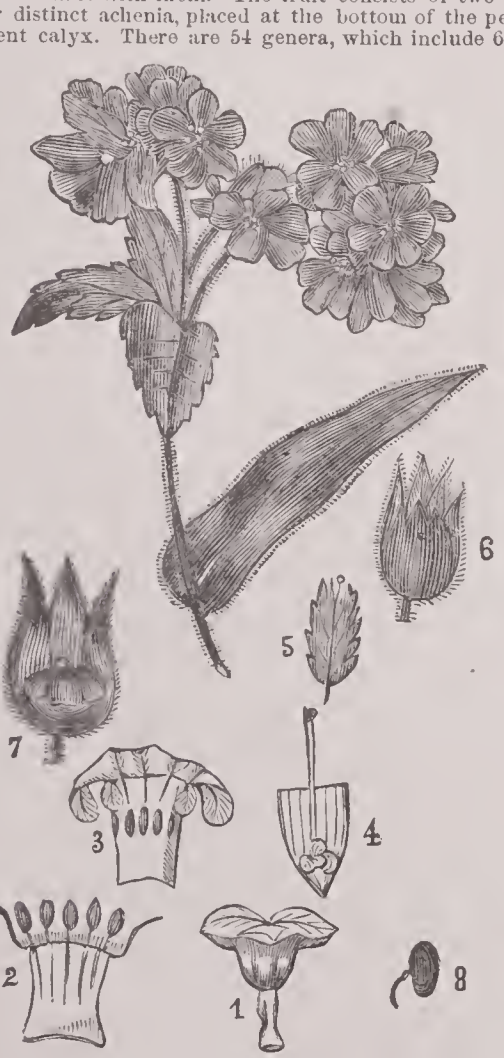


Fig. 391. — PULMONARIA ANGUSTIFOLIA.

1, a corolla; 2, the same cut open; 3, the tube of the same; 4, the base of the same, with the ovary and its four lobes; 5, an anther; 6, calyx; 7, a section of the calyx, showing the four-lobed fruit; 8, an achenium.

species, chiefly natives of the temperate regions in the northern hemisphere. Among them we find many well-known plants: such as the Forget-me-not, Borage, Comfrey, &c. The various species are remarkable for their mucilaginous properties; some have roots which are valuable dyeing agents. — See ANCHUSA, BORAGO, MYOSOTIS, PULMONARIA, &c.

Bora'go, *n.* [Lat., from *bor*, for *cor*, the heart, and *ago*, to cheer; because it was believed to exhilarate the heart.] (*Bot.*) A genus of plants, order *Boraginaceæ*. The species *B. officinalis*, commonly known as Borage, native of Asia Minor, but naturalized in many parts of Europe, is with us a common inhabitant of the garden. It is characterized by a wheel-shaped corolla with a very short tube, the mouth of which is closed by scales; by five stamens with forked filaments, the inner arms of which support the anthers; and by these anthers being connivent around the style, in the form of a cone. The entire plant is rough with hairs, and has rather a coarse appearance; but its flowers are very beautiful, being of a fine blue color. The young leaves were formerly always added to a *cool tankard*, or draught made of wine or cider, with water, lemon, and sugar. The flowers are used on the continent of Europe to ornament salads, and the tender tops are sometimes boiled in soups.

Bor'ametz, *n.* (*Bot.*) See CIBOTIUM.

Boras'sus, *n.* [Gr. *borassos*, the skin of the date.] (*Bot.*) A genus of trees, order *Palmaceæ*. It consists of but one species, which is found in every part of India. This has been named *B. flabelliformis*, and is commonly known to the European inhabitants as the Palmyra. Its stem attains a height of from 25 to 40 feet, and bears upon its summit a magnificent coronal of fan-shaped leaves. The fruit is about the size of a child's head, and, when very young, contains a sweet pulp which may be eaten. From the juice obtained from this plant, large quantities of an intoxicating drink are prepared by the natives. The fibres of the leaves are used for cordage, and the outer wood of the stem for bows. — See TODDY.

Bo'rate, *n.* (*Chem.*) A salt resulting from the combination of boracic acid with a base.

Bo'rax, *n.* [Lat., from Ar. *baurai*, *baurach*, a species of nitre.] (*Chem.*) A compound containing *boracic acid* and *soda*. It was formerly imported from the East in the crude state, under the name of *tincal*, which contained borax in combination with various substances of a saponaceous nature. It was purified by being heated with lime or soda, until the whole of the soapy matter and other impurities were separated. *B.* is now mostly prepared by fusing two parts of boracic acid, obtained from the Tuscan lagoons, (see BORACIC ACID,) with one part of soda-ash. The mixture is thrown on the floor of a reverberatory furnace, and heated until all effervescence has ceased. The fused mass is lixiviated and boiled until the impurities are precipitated; it is then decanted and set aside to crystallize slowly. It crystallizes in rectangular hexagonal prisms, containing 10 equivalents of water. *B.* is of great use in the arts as a flux. Having the property, when melted, of dissolving metallic oxide, it is used in soldering to clean away the film of oxide that would otherwise prevent the metals from uniting. It is sprinkled on the metallic surface, and melts with the solder. It is also used in gold and silver refining, and in making enamel, to render the compound more fusible. It is extensively employed in the manufacture of certain kinds of glass, and for fixing colors on porcelain and stone-ware. To the chemist it is very valuable in blow-pipe analysis. In addition to the locality named, *B.* is found as a saline incrustation on the shores of lakes in India, Persia, Thibet, Peru, Chile, and in this country in California, Nevada, and elsewhere. It occurs in the form of crystals imbedded in the mud of lakes, while the mud itself is highly charged with it. The production on the Pacific coast increased from 5,000,000 lbs. in 1876 to over 13,000,000 lbs. in 1896. *B.* is used in medicine, as a detergent in the laundry, and is also found to possess valuable antiseptic properties, in common with BORACIC ACID (*q. v.*).

Bor'ba, a town of Brazil, on the Madeira River.

Borbore'ma, a mountain-chain of Brazil, bounding the prov. of Ceara on the S.

Borborygm, (*bōr'bo-rim.*) [Fr. *borborygme.*] A rumbling of wind in the bowels. (K.)

Bor'cer, *n.* (*Quarrying.*) An iron instrument, steel-pointed, used for boring holes in large rocks, in order to charge and blow them up with gunpowder.

Bord, *n.* An ancient term for a cottage.

Bor'da, JEAN CHARLES, a French mathematician and astronomer, B. at Dax, 1733. In 1771 he was associated with Verdun and Pingré in proving the accuracy of chronometers. He also devoted much attention to the subject of ship-building, and suggested great improvements in the form of vessels. In 1787 he took an active part in bringing the observatories of Paris and Greenwich into closer relation with one another. Along with Delambre and Méchain, he was a leading member of the French commission intrusted with the measurement of a meridian arc. He rendered essential service in the commission on the new system of weights and measures. He invented a new instrument for measuring the inclination of the magnetic needle: and his corrections of the seconds' pendulum are still in use. But his reputation depends most of all on his improvement of the reflecting circle, on which instrument he published, in 1787, a work in 2 vols. D. 1799.

Bord'age, Bord'land, *n.* (*Feudal Law.*) The demesne land kept by the lord of a manor for the support of his *bord* or table.

Bordeaux, (*bōr'dō,*) a handsome and important city and sea-port of France; cap. dep. Gironde, in the centre of an extensive plain, on the W. bank of the Garonne, 55 m. S.E. from its embouchure, 102 N.N.E. of Bayonne, and 307 S.W. of Paris. The city is divided into the New and Old quarters; the former, or S. portion, which includes the ancient Roman town, contains only narrow, crooked, dirty streets, while the latter, comprising the N. part of the city, is handsome, and deservedly celebrated. The squares and promenados are remarkable for their beauty and size. The approach to *B.* by water is very striking. The Garonne is skirted along the city by a succession of superb quays, which descend, by a gentle inclination, to the water's edge, and, besides their utility, are among the principal ornaments of the town, being lined with fine buildings, whose façades have an imposing effect. The communication between *B.* and the opposite suburb of La Bastide is maintained by one of the finest bridges to be found in Europe. 532 yards in length, by 48 in breadth, and erected at a cost of $1,300,000. The chief public buildings are the churches of St. Michael, St. Croix, &c. &c.; the Bourse (Exchange),

Fig. 392. — BORDEAUX.

Custom-House, Hall of Justice, Palais Royal, &c., and among others, the Church of the Feuillants, which contains the tomb of Montaigne.—*Manuf.* Brandy, sugar, bottles, shot, cordage, iron-wares, and textile fabrics; gloves, musical instruments, chemicals, liqueurs, &c. Ship-building is an important interest here.—*Exp.* The principal exports comprise the celebrated *Claret* wines, brandy, fruits, corks, chemicals, drugs, &c. The inhabitants are generally opulent, and live in a style superior to that common in any other French city, Paris excepted. *Pop.* (1895) 247,890.—The period of the foundation of *B.* is unknown. It was the cap. of the *Bituriges Virisci*, a Celtic nation of Gaul, was taken by the Romans in the time of Augustus, and Hadrian made it the metropolis of the second Aquitaine. In 417 the Visigoths, in 509 Clovis, and in 729 the Saracens successively possessed themselves of it: under Charlemagne, it was governed by a count of its own; and, in the 9th cent., it was ruined by the Normans. It subsequently became the cap. of Guienne, and belonged to the English, until they were finally expelled from France in the reign of Henry VI. Generally speaking, this city has in later times been attached to the Bourbon dynasty, but, in 1830, on the publication of the *ordonnances* of Charles X., the standard of revolt was raised here, as in Paris. Of those who were natives of *B.* we may mention Pope Clement V., Richard II. of England, Montesquieu, Montaigne, the Latin poet Ausonius, Edward the "Black Prince," &c. In 1871, the Nat. Assembly met here.

Bor'deaux, HENRI CHARLES FERDINAND MARIE DIEUDONNÉ D'ARTOIS, DUKE DE, (better known by his second title of COUNT DE CHAMBORD,) last of the elder branch of the royal house of Bourbon, born in Paris, 1820. Son of Prince Charles Ferdinand d'Artois, Duke de Berri, who was assassinated in 1820, and of the princess of the Two Sicilies, the famous Duchess de Berri, (*q. v.*) He was baptized with great pomp in water brought from the river Jordan by M. de Chateaubriaud. "The child of miracle," as he was popularly called, received the title of *Count de Chambord*, from the castle of that name which was bought for him by public subscription. Although Charles X., soon after the outbreak of the revolution of 1830, resolved to abdicate in the duke's favor, and in presence of the troops assembled at Rambouillet, made a proclamation under the title of Henry V., the Duke of Bordeaux was compelled to quit the country. Having lived for some time at Holyrood Palace, Edinburgh, he travelled in Germany, Lombardy, Rome, and Naples, to complete his education. In 1843, he resided in London, where he made a kind of political *début*, claiming the crown of France, and receiving, with all the etiquette of a court, such Legitimists as Berryer and Chateaubriand. In 1853, a compact is said to have been concluded between the Count de Chambord and the princes of the House of Orleans, by which the claims of the elder and younger branches of the House of Bourbon were arranged; but for some reason or other no attempt was made to carry out the arrangement, by putting forward a candidate for the throne supported by both parties. In 1846, the Duke married the Princess Maria Theresa of Modena, but they had no issue; he is therefore the last of the elder branch of the Bourbons. The prince resided partly in Venice, where he owned a splendid palace, and partly at the magnificent castle of Frohsdorf, near Vienna; and was very wealthy both by marriage and by family inheritance. D. at Frohsdorf, Aug. 24, 1883.

Bor'dentown, in *New Jersey*, a flourishing city of Bordentown township, Burlington county, 6 m.

S. E. of Trenton, 30 N.E. of Philadelphia, and 57 S.W. of New York city. It has an active trade, and is much resorted to by summer tourists. Near this place is the mansion once occupied by Joseph Bonaparte, ex-king of Spain during his residence in the United States. *Pop.* (1890) 4,238.

Bordelais, (*bor'da-lā',*) a district of France, once forming part of the old province of Guienne, and having Bordeaux for its capital, but now included in the departments of Gironde and Landes.

—*n.* A native of Bordeaux.

Bor'der, *n.* [A. S. *bord;* Icel. *bord;* Fr. *bord,* a border.] The outer edge of anything; the surrounding line or exterior limit of a country; boundary; margin; edge, rim; as, the *border* of a State; the *border* of a dress; the *border* of a garden-walk, &c.

"All with a *border* of rich fruit-trees crown'd." — *Waller.*

Bor'der, (The.) (*Hist.*) The name given both historically and by popular acceptation, to designate the common frontier of England and Scotland. At the present day, the term bears little or no significance, owing to the identity of social and political interests of the united nations. Formerly, however, and for many centuries, the *B.* was known as the "Debatable land," *i. e.*, a region forming the battle-ground of English and Scots, and the constant theatre of bloodshed, rapine, and violence. In 1388, on the English side of the Border, in Northumberland, the battle of Otterbourne (or Chevy Chase), so celebrated in song and history, was fought between the then hereditary foes, and which ended as a drawn battle; (see Otterbourne.) The *B.* on each side formed one continuous chain of castles and strongholds, the abodes of the barons and great chiefs, as well as of moss-troopers, (*q. v.*) Many of these baronial fortresses exist even to the present day; some almost unimpaired by time, others in picturesque ruins. Of the first we may mention the castles of Alnwick, Naworth, Brougham, and Bamborough; among the latter, Norham, Hermitage, Penrith, &c. The Scottish borderers of yore were a fierce and turbulent race, living by marauding, and committing incessant forays on English soil: a state of things for which the Southrons did not fail to take ample retaliation on their Scots neighbors. In more recent times, and even until but a few years back, the *B.* was celebrated as the resort of those votaries to Hymen, who sought to commit matrimony without the pale of the church. Gretna-Green (*q. v.*), a spot on the verge of the two countries, was long the favorite shrine, and the village-blacksmith the high-priest for buckling together by the bonds of marriage, romantic and runaway lovers.

—An interesting account of this region will be found in Sir Walter Scott's *Minstrelsy of the Scottish Border.*

—*v. i.* To touch at the edge, side, end, or confines of anything; to be contiguous or adjacent; with *on* or *upon.*

"Virtue and honor had their temples *bordering on* each other." *Addison.*

—To approach near to.

"All wit which *borders upon* profaneness .... ought to be branded with folly." — *Tillotson.*

—*v. a.* (*imp.* bordered; *ppr.* bordering.) To be near or close to; to be close to the edge or confines of; to be contiguous to.

"Shebah and Rahmah are those parts of Arabia, which *border* the sea called the Persian Gulf." — *Sir W. Raleigh.*

—To surround or adorn with a border; as, to *border* a dress.

Bor'derer, *n.* One who dwells on the border of a particular place or country; or near to any specified region or spot; as, a Scottish *borderer.*

"They of those marches, gracious sovereign!
Shall be a wall sufficient to defend
Our island from the pilfering *borderers.*" — *Shaks.*

Bor'dering, *p. a.* Being adjacent or near.

Bor'der Plains, in *Iowa,* a post-village of Webster co.

Bord-halfpenny, (*bord-hap'pen-y.*) *n.* (*O. Eng. Law.*) Money paid for the privilege of putting up boards for a market-stall.

Bord'ley, in *Kentucky,* a post-village of Union co.

Bord'lode, Bord'load, *n.* (*Old Eng. Law.*) Tenant service in carrying felled timber from a wood to the house of the lord of a manor. — Provisions paid as bordage by a bordman.

Bord'man, *n.* (*Old Eng. Law.*) A tenant in bordage, who contributes a certain quantity of provisions to the lord of a manor's table.

Bordone, Paris, (Cavaliere,) one of the most distinguished painters of the Venetian School, especially in portraiture, was b. at Treviso, 1500. He studied under Titian and Giorgione, and eventually adopted a style of his own, based upon the styles of his masters. *B.*'s works are eminently characterized by all the beauties of the Venetian School. One of his best works is the *Martyrdom of St. Andrew,* in the church of San Giobbe, Venice. The picture of the *Fisherman Presenting the Ring he had received from St. Mark, to the Doge,* now in the Academy at Venice, is regarded as his masterpiece. His picture of *Paradise,* formerly at Treviso, is now also in the Venetian Academy. In the Dresden Gallery is a beautiful *Holy Family* by *B.*, who also painted for François I. of France, and d. in Venice about 1570.

Bord'-service, *n.* (*Old Eng. Law.*) The tenure of bordage or bord-land.

Bordure, (*bōrd'yoor.*) (*Her.*) In French heraldry, an honorable ordinary, which should occupy a third part of the shield. In English blazonry, it has generally been considered as a mark of difference to distinguish one branch of a family from another. It surrounds the field, is of equal breadth in every part, and occupies one-fifth of the field. When there is a chief on the coat, the *B.* is supposed to run under the chief, but it passes over other ordinaries, as a fess, &c.

Bore, *v. a.* (*imp.* bored; *ppr.* boring.) [A.S. *borian;* Ger. *bohren;* O. Ger. *borōn;* Lat. *foro;* Gr. *peirō,* to pierce quite through.] To pierce or penetrate through; to make a hole in or through; to pierce or enter by boring; to penetrate; as, to *bore* a rock.

"I 'll believe as soon,
This whole earth may be *bor'd;* and that the moon
May through the centre creep." — *Shaks.*

—To tease by ceaseless repetition: to pester by iteration or empty platitudes; to become a nuisance. (Colloquially.)

"Society is now one polished horde,
Formed of two mighty tribes, the *Borers* and the *Bored.*" *Byron.*

—*v. i.* To pierce, or penetrate by boring; as, that tool *bores* well. — To be pierced, entered, or penetrated by a revolving implement; as, a piece of timber difficult to *bore.* — (*Manege.*) Said of a horse, when he carries his nose to the ground.

Bore, *n.* The hole made by boring; a cavity or hollow; the size or diameter of a round hole; as, the *bore* of a gun.

"The strength of big-corn'd powder loves to try,
And ball and cartridge sorts for every *bore.*" — *Dryden.*

—A person or thing that wearies or annoys by ceaseless iteration and dulness; as, that man is a *bore.*

"If she hath no wild boars, she hath a tame
Preserve of *bores,* who ought to be made game." — *Byron.*

(*Gun.*) The internal cavity of a cannon, mortar, howitzer, rifle, musket, fowling-piece, pistol, or other kind of fire-arm. It is in most cases cylindrical; but in the Lancaster gun the *B.* is oval; in the Whitworth gun, it is hexagonal; while in the Armstrong, and many other kinds of gun, it is furrowed by spiral grooves. Technically, the *B.* of a gun often means simply the diameter of the cavity, as when we speak of a gun "of 8-inch *bore;*" and in that case its meaning is equivalent to "calibre."

Bore, *n.* [Icel. *bylr,* a whirlwind; Swed. and Goth. *bōr,* the wind; Scot. *beir, birr,* to roar.] A sound or roar, as of a tempest; specifically, a phenomenon which occurs in some rivers, near their months, at spring-tides. When the tide enters the river, the waters suddenly rise to a great height, (in some rivers many feet above the surface of the stream,) and rush with tremendous noise against the current for a considerable distance. Sometimes the waters do not subside till they have almost reached the limit of tide-water. As this swell does not occur in all rivers where there is a tide, it is evident that it must be caused by some conformation of the banks or bed of the river, or by both combined. It seems to be necessary, in order that there be a bore, that the river should fall into an æstuary, that this æstuary be subject to high tides, and that it contract gradually; and lastly, that the river also narrow by degrees. The rise of the sea at spring-tides pushes a great volume of water into the wide entrance of the æstuary, where it accumulates, not being able to flow off quick enough into the narrower part. The tide therefore enters with the greater force the narrower the æstuary becomes, and when it reaches the mouth of the river, the swell has already obtained a considerable height above the descending stream, and rushes on like a torrent. The most celebrated bores are those of the Ganges, Brahmaputra, and Indus; in the Hooghly branch of the Ganges, the *B.* travels 70 miles in 4 hours, and sometimes appears suddenly as a liquid wall, 5 feet in height. It is also observable in the Amazon, the Colorado, the Petitcondiac, the St. John river, in the Bay of Fundy, &c.

Bo'real, *a.* [Lat. *borealis,* from Gr. and Lat. *boreas,* the north wind, the north.] Northern; pertaining to the north, or the north wind; as, a *boreal* winter.

"Before the *boreal* blasts the vessels fly." — *Pope.*

Boreas, (*bō'rē-as,*) *n.* [Gr.; O. Gr. *bor,* excess.] A bellowing wind; the northern wind; a cold, northerly wind.

"Cease, rude *Boreas,* blustering railer." — *Dibdin.*

(*Myth.*) The son of Astræus and Eos, and usually worshipped as the god of the north wind. The assiduity with which the worship of *B.* was cultivated at Athens proceeded from gratitude, the north wind having on one occasion destroyed the fleet of the Persians when meditating the invasion of Attica. A similar cause induced the inhabitants of Megalopolis to consider *B.* as their peculiar divinity, in whose honor they instituted an annual festival. *B.* was usually represented with wings dripping with golden dew-drops, and the train of his garment sweeping along the ground.

Bore'cole, *n.* (*Hort.*) A kind of cabbage with curly leaves, and no disposition to form a heart or head. It is chiefly valued for winter use. After the more delicate kinds of vegetables have been rendered unfit for cooking by the severity of frost, this form of the cabbage tribe is in its state of greatest excellence. The interior leaves are thin, tender, and succulent. Several sorts are met with in gardens, the best of which, as being the hardiest, are the *dwarf* or *Colebrookdale borecole,* and what is called *German greens* or *Scotch kail.* These plants are raised in all respects like other hardy cabbages, and the duration of their crop is prolonged by sowing the seed at intervals of about a month, commencing at the end of March, and ceasing with the beginning of August.

Bo'ree, *n.* [Fr. *bourée.*] A kind of old-fashioned dance, to a common-time movement.

"Dick could neatly dance a jig,
But Tom was best at *boree.*" — *Swift.*

Bor'el, *n.* A kind of light stuff, of which the warp is silk, and the woof is wool.

Borelli, Giovanni Alfonso, (*bo-rel'-le,*) a distinguished Italian professor of mathematics and medicine, b. at Naples, 1608; who discovered and translated the lost books of Apollonius Pergæus, wrote the first theory of Jupiter's satellites, and endeavored to apply mathematics to medicine. In 1666 he was called to the professor's chair at Pisa, where he lectured with great success, and wrote much in connection with the sciences he pursued. Being supposed to have favored a revolt of the Messinians, among whom he had gone to live, he was invited by Queen Christina of Sweden to Rome, where she then was. Thither he immediately went, and lived under the favor of her patronage until his death. The work *De Motu Animalium* is that upon which the medical reputation of *B.* depends. D. 1679.

Bor'er, *n.* He who, or that which, bores.

(*Zoöl.*) A name commonly applied to many insects, mostly of the *Painidæ* family, the larvæ of which — small, white, soft, worm-like creatures, with six minute feet — are furnished with strong cutting jaws (*maxillæ*), by means of which they eat their way in old wood, and similar substances, boring little holes as round as if made with a fine drill. — See Boring-worm.

Borghese, (*bor-gā'sā,*) the patronymic of an illustrious Italian family possessing immense estates, and numbering among its ancestors, popes, cardinals, princes, and viceroys: — of whom we mention:

B., Camillo, Prince, b. 1775, married, in 1803, Marie Pauline, a sister of the Emperor Napoleon I. In 1805, he was created a Prince of the French Empire, and Duke of Guastalla. He sold to Napoleon his fine museum of the Villa Borghese, at Rome, for 13,000,000 francs, and on the fall of the emperor, lived in great splendor in Rome, and Florence. The *Villa Borghese* is one of the most superb palaces in the world, and is celebrated for its pictures, objects of art, and magnificent gardens. The prince d. in 1832.

B., Marie Pauline, Princess, b. 1780. She was the second sister of Napoleon I., and eminent for her beauty and accomplishments: of which the former has been immortalized by the chisel of Canova, to whom she sat as model for his famous *Venus.* At an early age, she married Gen. Leclerc, whom she accompanied to his command at St. Domingo, and where she displayed the greatest courage. After his death, she married, in 1803, the subject of the above article, but the union proved unhappy. Pauline was faithful to the varying fortunes of her imperial brother to the last. She d. 1825.

Borgia, (*bor'jah,*) the name of a family famous in Italian history. Originally of Spanish origin, one of its members, Alfonso, was raised to the pontificate in 1445 by the name of Calixtus III. One of his sisters married Geoffroy Lenzuoli, who assumed the name and arms of Borgia. His younger son, Roderigo, became afterwards the too notorious Pope Alexander VI. (*q. v.*) Before his exaltation to the papal throne, Alexander had four sons and a daughter by Rosa Vanozza, a Roman lady. The eldest son was made Duke of Gandia in Spain, by King Ferdinand of Aragon; the second son Cesare, and the daughter Lucrezia, are mentioned below.

B., Cesare, (Duke de Valentinois,) was a student at Pisa when his father was elected pope, in 1492. He immediately went to Rome, was made Archbishop of Valencia, and afterwards cardinal. Cesare was early notorious for his ability, duplicity, and profligacy. The arrival of the French under Charles VIII., at Rome, in 1495, obliged the Pope to countenance Charles's invasion of Naples, and the latter even obliged Cesare to accompany him thither as a hostage for his father's fidelity. Cesare, however, shortly after managed to escape and return to Rome, where he and his father both declared against the French, after whose retreat from Italy they entered into intimate relations with the Aragonese dynasty at Naples. Cesare next joined his father in waging a war of extermination against the Orsini, Colonna, Savelli, and other noble Roman families, whose castles and lands they seized and appropriated. In 1497, his elder brother, the Duke of Gandia, was murdered in the night, and his body thrown into the Tiber, by unknown assassins. Cesare was strongly suspected of this deed — a suspicion that still survives. In 1498, having resigned his cardinalate, Cesare was sent to France with the bull sanctioning the divorce between Louis XII. and his wife, after which Louis XII. married Anne of Brittany. On this occasion he was created Duke de Valentinois, a title which is generally accorded him by Italian historians. In 1499, Cesare married a sister of Jean d'Albret, King of Navarre, and then proceeded, with French aid, to wage war against the nobles of the Romagna who refused to acknowledge the supremacy of the court of Rome. Successful in this, he returned to Rome, when the Pope created him Duke of Romagna and Goufaloniere of the Holy See. He next drove Giovanni Sforza out of Pesaro, and took Rimini from the Malatesta; Faenza also surrendered to his arms, which were, however, finally checked at Bologna, with whose prince he concluded a truce. Next year he marched against Florence, and accompanied the French army in its invasion of Naples, where great atrocities were committed. In 1502, he took Urbino and Camerino, when, shortly after, his army, chiefly composed of mercenary *condottieri,* revolted against him, whom he deceived by a specious reconciliation, and forthwith destroyed. Cesare was at this time the terror of all central Italy from the Adriatic to the Mediterranean, and he aimed at making for himself an independent sovereignty of Romagna, the Marches, and Umbria. On the 18th Aug., 1503, Alexander VI. died, after a supper at which he drank of some poisoned wine, as also did Cesare. The death of his father ruined Cesare's fortunes; his troops were defeated, and himself arrested and sent prisoner to Spain, where he was confined for two years. Finally he escaped to Navarre, joined the king's (his brother-in-law) army as a volunteer, and was killed in 1507, at the siege of Viana.

B., LUCREZIA, sister of the above, was betrothed, while yet a child, to a Spanish noble, but upon her father becoming pope, she married, in 1493, Giovanni Sforza, Duke of Pesaro. Four years afterwards, the marriage was dissolved by the Pope, and she married for her second husband Alfonso, Duke of Biscaglia, natural son of Alfonso II., King of Naples, and on this occasion was created Duchess of Spoleto. In 1500, her husband was murdered by assassins, prompted, it is believed, by Cesare Borgia, her brother. In 1501 she married for her third and last husband, Alfonso d'Este, Duke of Ferrara. She has been suspected of having shared in the crimes of her family, but she also was the patroness of art and literature, and on that account is celebrated by Ariosto, Bembo, Manuzio, Strozzi, and other writers of her time. D. at Ferrara, 1523. Mr. Gilbert's *Lucrezia Borgia, Duchess of Ferrara* (2 vols., Lond., 1869) refutes many of the charges heretofore brought against her memory.

Bor'gia, a town of S. Italy, prov. Catanzaro, in a plain 6 m. W. of Catanzaro. It was almost totally destroyed by an earthquake in 1783, and afterwards rebuilt by Ferdinand IV. King of Naples. Highly esteemed wines are grown in the neighborhood. *Pop.* 5,313.

Bor'gites, or CIRCASSIANS. (*Hist.*) The name of the second dynasty of the Mamelukes, in Egypt, who were descended from a Circassian captive named Barcok, who, in 1381, on the deposition of the Baharites, obtained the sovereignty. Twenty-three sultans of this dynasty reigned for a period of 135 years. The last was hanged at the gate of his capital, in 1517, by order of Selim I.; and the Mamelukes were expelled and the authority of the Ottoman Turks established.

Bor'go, or **Bor'ga,** a seaport-town of Russia in Europe, grand-duchy of Finland, govt. Nyland, at the bottom of a bay of the Gulf of Finland, 35 m. E.N.E. of Helsingfors; Lat. 60° 22′ N.; Lon. 25° 45′ E. The harbor is indifferent, and its trade is but small. *Pop.* 3,069.

Bor'go-Mane'ro, a walled town of N. Italy, prov. Novara, on the Gogna, 18 m. N N.W. of Novara. It is a well built place, with a *pop.* of 8,684.

Bor'go-San-Donni'no, a town of N. Italy, prov. of Parma, on the Stirone, 22 m. S.E. of Placentia. *Manf.* Silk and linen.

Bo'ric Methite, *n.* (*Chem.*) A colorless gas formed by the action of a strong ethereal solution of zinc methyle upon boracic ether. It has an intolerable, pungent, tear-exciting odor, and is capable of liquefaction under a pressure of 3 atmospheres of 50°. When it issues very slowly into the air from a tube, it undergoes partial oxidation, and produces a lambent blue flame, invisible in daylight, and incapable of burning the fingers; but when it comes rapidly in contact with air, it burns with a bright green hot flame, remarkable for the immense quantity of large flakes of carbon which it disperses through the air, apparently because the boracic acid produced envelops them and prevents their combustion. Water absorbs very little *B. M.*, but alcohol dissolves it readily.

Bor'ing, *n.* Act or operation of cutting a circular hole with a drill, auger, or other instrument.

—A hole caused by boring.

—*pl.* Fragments of wood, chips, &c., after a hole has been bored.

(*Hydraulics.*) The operation of piercing the earth for the purpose of ascertaining the nature of the subjacent strata, or of bringing to the surface any underground springs. A great variety of tools are employed for this purpose, such as, *augers, jumpers, misers, ball and socket valves*, according to the strata traversed. — *B.* has been well applied for the purposes of fixing the posts of electric telegraphs; for the tying down bolts of suspension bridges, and for the sinking tubes now used for the foundations of buildings to be erected in running water, &c.

Bor'ing-machine, *n.* (*Mech.*) A machine for the boring of holes in metal plates for making attachments. It is effected by means of *drills* driven by machinery, as shown in *Fig.* 393. The drill is inserted in the end of a vertical spindle, P, which revolves in a fixed frame, and is driven by the bevel-wheel G. The metal to be bored is placed on a table or other support below the drill; and the up-and-down motion, or end-pressure and off-action, of the drill is effected by the hand-gear, O, N, turning the screw M; which being coupled to the top of the spindle at L, presses it down or raises it, according to the way it is turned. The spindle slides vertically to the collar forming the axis of the bevel-wheel, but is carried around with it by means of the pin I, which projects into a groove seen at J.

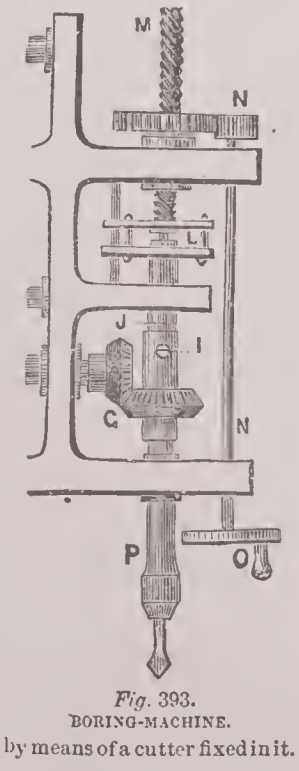


Fig. 393.
BORING-MACHINE.

Bor'ing-bar, *n.* (*Mech.*) The bar of a small horizontal boring-machine; it is used for boring the brasses of plummer-blocks, by means of a cutter fixed in it.

Bor'ing-collar, *n.* (*Mech.*) In Turning, a machine having a plate with conical holes of different diameters; the plate is movable upon a centre, which is equi-distant from the centres or axes of the conical holes: the axes are placed in the circumference of a circle. The use of the *B.* is to support the end of a long body that is to be turned hollow, and which would otherwise be too long to be supported by a chuck.

Bor'ing-lathe, *n.* (*Mech.*) A lathe used for boring wheels or short cylinders. The wheel or cylinder is fixed on a large chuck, screwed to the mandril of a lathe.

Bor'ing-worm (THE), *n.* (*Zoöl.*) The common name of the *Teredo navalis.* This is a worm which enters wood in salt water, and there expands until it attains the size of a finger; it bores the wood into which it enters, during the whole of the passage between high and low water mark, completely riddling it in those parts, and causing an infinite amount of damage to ships, or to piers, docks, and harbors, wherever wood enters the construction in the shape of piles, cills, &c. It is supposed that creosote is the only effective preservative against the ravages of this animal, though a coating of copper nails has been strongly recommended; but there is danger of the animals finding their way into the wood between the small spaces left by the heads of the nails, and then the destruction of the wood is inevitable. Of course great care and attention is required in the application of the creosote (which in the best work is injected after the extraction of the moisture from the wood) under a vacuum, to the extent of 4 lbs. per foot cube; it requires a pressure of about 130 lbs. on the square inch to insure this quantity entering. — It is supposed that the *teredo* only attacks wood when it is exposed on shores able to yield the bicarbonate of lime; at any rate, it is far more destructive in them than in others. The animal also appears to have a distaste for the sewerage waters of towns, perhaps because they are not impregnated with the salts of the sea-water

Bor'issof, a town of European Russia, govt. Minsk, on the Berezina, 45 m. N.E. of Minsk. This place has acquired celebrity from the disastrous passage of the Berezina, effected near it, by the remains of the French army under Napoleon, on its retreat from Moscow, in Nov., 1812. *Pop.* 6,407.

Bor'issoglebsk, a town of Russia in Europe, govt. Jaroslav, on the Volga, opposite to Romanof. It is surrounded by dense forests.

Bork'hum, a small island in the North Sea, belonging to Prussia, off the mouth of the Ems, about 9 m. from the mainland. The inhabitants are mostly engaged in the Northern whale-fishery. The lantern of the church, which serves as a light-house, is 150 feet above sea-level, and in Lat. 53° 35′ 20″ N., 6° 40′ 26″ E. Lon.

Bor'land, in *Arkansas*, a post-office of Newton co.

Born, (*pp.* of BEAR, to bring forth.) Brought forth; produced; brought into being or existence.

"I was *born* an American; I live an American; I shall die an American."—*D. Webster.*

Born again. (*Theol.*) Regenerated; endowed with a renewal of spiritual life.—*Born days.* A vulgarism to denote one's lifetime; as, I never saw anything like it in my *born days.*

Borne, (*born,*) (*pp.* of BEAR, to carry.) Carried; conveyed; supported; defrayed.

"Ocean! . . . my joy
Of youthful sports was on thy breast to be
Borne, like thy bubbles, onward."—*Byron.*

Born'eene, *n.* (*Chem.*) See BORNEO CAMPHOR.

Bor'neo, (called by the natives *Tanna Klemantan,*) the largest island in the world, Australia being reckoned a continent; occupying nearly the centre of the E. or Malayan archipelago; between Lat. 4° 10′ S. and 7° 4′ N., and Lon. 108° 50′ and 119° 20′ E.; having N. and W. the China Sea; E. the Sea of Celebes and Straits of Macassar; and S. the Sea of Java; form compact; length, N.E. to S.W. 800 m., breadth 700 m.; area, 300,000 sq. m.—*Desc. B.* has several fine and spacious harbors; the shores consist usually of mud-banks, with numbers of minute and rocky islets around them; the land for several miles toward the interior continuing marshy and alluvial, interspersed with gentle acclivities, covered with underwood. There are many isolated hills in *B.*, and a range stretching along the N.W. coast, of about 3,000 feet in height. There are numerous and extensive plains, especially in the N.: but the most important yet known to geographers is that of Montradok, near the W. coast. There are said to be upwards of 100 rivers, many being navigable, and some of considerable size. The principal is the Banjarmassin, which takes a S. course nearly throughout the whole island, and falls into the sea not far from the town of the same name, on the S. coast. The Passir, Coti, and many others are met with on the E. coast; while on the W., the Sambas, Pontiana, and Succadan, are the principal streams. The soil of *B.* in the neighborhood of the European settlements, vies in richness with that of any other island of the archipelago. It is also rich in valuable minerals, *B.* being the only island in the archipelagic group where diamonds are found; one in the rough state weighing 367 carats, worth about $1,346,890, and found here, was, in 1815, the property of a petty chief. Gold is largely found, and inexhaustible mines of antimony of superior quality are worked at Sarawak. Tin is plentiful in some parts, and a little iron is procured from the interior. — *Clim.* On the whole, *B.* is temperate and healthy; but this must be taken with a reservation, the E. parts of the island being comparatively unexplored.—*Prod.* Although blest with a very fertile soil, *B.* has not, so far, cultivated grain enough for home consumption. Timber is of a large growth, but unsuitable for ship-building purposes. No teak has yet been found; but iron-wood, ebony, rattans, camphor, dammer, the cocoa-palm, betel, cinnamon, sago, &c. flourish in luxuriance. Rice of excellent quality is produced, but the Dutch keep the export of it in their own hands. Maize, the plantain, and the sugar-cane, as well as the best class of tropical fruits, are extensively cultivated.—*Zoöl.* Elephants, rhinoceroses, leopards, wild hogs, and oxen are indigenous, and endless varieties of the monkey tribe have their habitat on this island. The gorilla, "monarch of the forest," and the Ungka-putl, are also distinguished inhabitants; and the Sooloo Sea is a great resort for English whalers, it being frequented by the spermaceti whale. The seas abound with turtle, and plenty of fish, oysters, and other *testacea.* — *Inhab.* The interior and part of the N.W. coast are peopled by Dyaks, and by a woolly-haired race like the Papuan negroes; the W. coast by Malays, Chinese, and Dutch colonists; the N.W. by half-caste descendants of the Moors of W. Hindostan; the N. by Annamese; N.E. by Suluks; and E. and S. coasts by Bugis of Celebes. Besides these, three tribes live, in small craft, in a wandering manner, about the shores; viz., the Lannns, from Magindanoa; the Orang-badju, and Orang-tidong; source unknown. *Exp.* The leading exports are gold, diamonds, antimony, camphor, bees'-wax, deers' horns, dammar, ebony, wood-oil, rattans, pepper, bezoar-stones, sago, gutta-percha, and iron. The latter is particularly good, or the Dyaks are able to temper it astonishingly well; for their steel scimitars, or *kreeses*, are capable of cutting through an iron nail without difficulty. *Prin. towns.* Sarawak (English settlement), Sambas, and Pontiana (Dutch stations), Montradok and Landok (Chinese settlements), Coti (Bugi town), and Banjarmassin. *Pop.* Estimated at 3,000,000.—*Hist.* This island was first visited by Europeans (Lorenzo de Gomez and Pigafetta) in 1518 and 1521 respectively. The first Dutchman who settled here was Oliver Van Noort, in 1598. In 1769, the English having captured Manilla, took possession of Barlambangan. On the capture of Java by the British, in 1811, the Dutch power in *B.* suffered an eclipse until the restoration to them of that island, in 1818. In 1839, an Englishman, Sir James Brooke, (*q. v.*,) established a British settlement at Sarawak, on the W. coast of the island, that is now the most civilized and commercial place in *B.* — Valuable and interesting accounts of this island may be found in Wallace's *The Malay Archipelago* (London, 1869); and Bickmore's *Travels in the East Indian Archipelago* (New York, 1869).—See BROOKE (RAJAH); DYAKS: SARAWAK, &c.

Fig. 394.—THE UNGKA-PUTL.

Borneo Camphor, *n.* (*Chem.*) It is obtained from the exudation of the *Dryobalanops camphora.* When this exudation is distilled, a hydrocarbon called *borneène* ($C_{20}H_{16}$), isomeric with oil of turpentine, first passes over, and afterwards the camphor, which is neither so fusible nor so volatile as ordinary camphor, and emits quite a different odor; it also crystallizes in prisms instead of octohedra, and may be converted into ordinary camphor by the action of nitric acid, which oxidizes two equivalents of hydrogen.

Bornholm, (*born'hawlm,*) an island of Denmark, in the Baltic, about 100 m. from the outermost point of Zealand; Lat. between 54° 59′ and 55° 18′ N., Lon. between 14° 42′ and 15° 10′ E. Area, including 3 small neighboring islands, 230 sq. m. It is 30 m. long, by 20 broad. The surface is mountainous. *Prod.* Flax, hemp, and oats. *Min.* Potter's clay, blue marble, and coal. *Cap.* Ronne.

Bor'nou, [Ar. *Barr-Noa,* "Land of Noah,"] (called by the natives *Kanûri,*) a kingdom of Central Africa, in from 10° to 15° N. Lat., and from 12° to 18° E. Lon.; it is bounded N. by Kanem, and the S.E. corner of the Great Desert; E. by Begharmi; S. by Mandara; and W. by various small States extending to Houssa and the Felluta country. Its length is about 400 m. from E. to

W., and the same in extreme width, from N. to S.; probable area, not less than 120,000 sq. m., of which, however, more than 20,000 are covered by the waters of Lake Tchad. — *Desc.* The surface forms one immense plain, subject to annual inundation. — *Soil.* Extremely fertile and prolific, but under only partial cultivation, owing to the supineness of the people and their constant proneness to internecine and foreign warfare. The chief rivers are the Shary and the Yeou, the former apparently rising in the mountains of Mandara, the latter in those of Houssa. These, with other numerous but smaller streams, empty into Lake Tchad. — *Clim.* Great but not uniform heat prevails and the seasons, as in most tropical countries, are divided between the wet and the dry. — *Prod., &c.* Arboraceous vegetation is extremely scarce, though here and there are found a few clumps of woody thickets. The soil, highly alluvial, produces, in the main, millet, beans, barley, maize, cotton, and indigo. There is no country within the zone of the tropics so destitute of fruits and edible roots. — *Zoöl.* The wild animals indigenous to tropical Africa are all common in *B.*; of domestic breeds, the number is immense, cattle and horses of fine stocks are plentiful, but camels

Fig, 395. — AFRICAN OSTRICH.

are rare, and the sheep have a hairy instead of a woolly covering. Almost all the species of water-fowl are found in great numbers; the ostrich scours the plains, and game and domestic poultry form the cheapest kind of animal food purchasable in the country. Reptile and insect life is here found in its most comprehensive aspect, and the waters teem with fish of many and peculiar species. *Inhab.* The natives of *B.* consist of two classes, — the Shoas, descendants of Arab settlers from the N., and the Kanowries or Kanuri, (the native race proper,) who are true negroes. The former are the dominant people; they bear a strong physical resemblance to the Gipsy type, speak Arabic, cherish Mohammedanism, are shrewd, active, and courageous, and also thoroughly accomplished dissemblers and thieves. At least 10 different languages or dialects are spoken in *B.* Fetichism prevails among the great bulk of the negro aborigines, which people, in most things, possess the common characteristics of the African race in general. — *Prin. towns.* Konka, the cap., Deegoa, and Engornoo. *Pop.* No estimate can be made of the population of this kingdom; but as towns possessing 30,000 inhabitants are frequently met with, and markets are said to be sometimes attended by 80,000 to 100,000 persons, and the Shoa population alone being able to raise an army of 15,000 men, the number of inhabitants must be very considerable.

Bor'nous, *n.* See BURNOUS.

Boro Buddor. See JAVA.

Borodi'no. See MOSKOWA.

Borodi'no, in *New York*, a post-village of Onondaga co., 18 m. S.W. of Syracuse.

Borofluorie or **Fluoboric Acid,** *n.* (*Chem.*) It is formed in combination with potassium by saturating hydrofluoric with boracic acid, and neutralizing by carbonate of potash. The compound is washed, dried, and heated with an equal weight of potassium. Borofluoride of potassium is used in the preparation of boron. *Form.* $BO_3.3HF$.

Bo'ron, *n.* (*Chem.*) A combustible element, closely allied to Silicon, and which has at present never been found in animal or vegetable bodies, but appears to be entirely confined to the mineral kingdom. Symbol B, equivalent 10·9. It was first obtained by Davy in 1808, by submitting moistened boracic acid, inclosed between platinum plates, to the action of the voltaic current. A brownish substance appeared at the negative pole, which, conceiving it to be a metal, he termed *boracium*. By further experiment he proved it to be a non-metallic body, resembling carbon in its properties, and altered its name to *boron*. It was, however, but imperfectly known until Thenard and Gay-Lussac obtained it more readily by heating boracic acid with potassium. The metal combined with the oxygen of the acid to form potash, which was washed away with water, leaving the boron behind. A still more ready method of preparing it is by heating a mixture of potassium and borofluoride of potassium in an iron crucible. Boron and fluoride of potassium are formed, the latter substance being washed away with a weak solution of chloride of ammonium. Boron thus prepared is a brownish-green powder, dissolving slightly in water, forming a yellowish-green solution. It is rendered insoluble by being heated in close vessels; its specific gravity being at the same time changed from 1·183 to 1·844. It suffers no change, being neither volatilized nor fused. It may, however, be melted by the heat generated by a powerful galvanic battery. Like silicon, it is a non-conductor of electricity. Alkalies and acids (except nitric acid) produce no effect on it. Nitric acid converts it into boracic acid. It does not decompose water at any temperature, and is constant under the action of air or oxygen until the temperature reaches 600°, when it burns brilliantly, forming boracic acid by the absorption of oxygen. Prepared in the above way, boron is amorphous; but MM. Deville and Wöhler have obtained it in garnet-red transparent crystals, by fusing boracic acid with 80 per cent. of metallic aluminium in a powerful furnace. The crystals are extremely hard, scratching sapphire and corundum, and yielding only to the diamond, which is generally injured by the operation. Crystallized boron has never been fused, and resists the action of oxygen at very high temperatures. Boron is obtained in a graphitic form when boroftuoride of potassium is decomposed by aluminium. It bears a close relation to the graphitic form of carbon, or ordinary graphite. Boron combines with several elements, forming borides with the metals. The close relation always supposed to exist between boron and carbon has been curiously confirmed by the fact of both these elements being capable of assuming the amorphous, crystalline, and graphitic forms. The only important compound of boron is *boracic acid*, q. v.

Borough, Burgh, (*bŭr'rō,*) *n.* [A. S. *burh, beorh,* a hill, or mountain; O. Ger. *berg,* a hill, *burg,* a city; Goth. *baurgs;* Sansk. *pura,* a house, a city; allied to Gr. *pyrgos,* a tower.] Literally, a refuge; a place of defence or security; a fortified town. Specifically, a corporate town; a town that sends members to parliament, (in England). In the U. States, an incorporated town or village.

Bor'ough, *n.* [A. S. *borg, bork,* pledge, surety.] (*O. Eng. Law.*) An association of citizens or subjects, who gave pledges to the king for their mutual, and general, good behavior.

—The surety or pledge given by them.

Bor'ough-English, *n.* (*Eng. Law.*) A custom by which the younger son inherits the estate in preference to his elder brothers. It prevails in several cities and ancient boroughs, in different parts of England, and is founded in the fact that the elder children are usually provided for during the life of the parent as they grew up, and removed, while the younger son usually remains.

Bor'ough-head, *n.* Same as HEADBOROUGH, *q. v.*

Bor'ough-holder, *n.* See BORSHOLDER.

Bor'ough-master, *n.* The mayor, or chief municipal officer of a borough.

Bor'ough-monger, *n.* One who traffics in the patronage of a borough.

Bor'ough of Cambridge, in *Vermont*, a village of Cambridge township, Lamoille co.

Borovsk', or BOROFSK', a town of Russia, 49 m. N.N.E. of Kalouga. Near it is one of the richest convents in the empire, founded in 1444. *Pop.* 6,870.

Borrel'lians, Bor'rellists, *n. pl.* (*Eccl. Hist.*) A sect of Christians in Holland, so called from their founder, Borrell, who was a man of some learning, particularly in the Greek and Hebrew languages. They reject all public acts of worship, public prayer, and the use of the sacraments. They assert that the Christian churches have degenerated, because they have suffered the Word of God, which is infallible, to be interpreted by fallible men. They are said to lead austere lives, and to devote a considerable portion of their goods to charity.

Bor'ris, or **Bur'ris-idrone,** a village of Ireland, co. Carlow, and 16 m. S. of Carlow town.

Bor'ris-in-Os'sory, a market-town of Ireland, Queen's co., 7 m. E.S.E. of Roscrea: *pop.* about 1,000.

Bor'risleagh, a parish of Ireland, co. Tipperary.

Bor'risokane, a town and par. of Ireland, co. Tipperary, 12 m. S.W. of Birr; *pop.* of town about 1,800.

Bor'risoleigh, a small town of Ireland, co. Tipperary, 6 m. S.S.W. of Templemore; *pop.* about 1,600.

Borrome'an Islands. See MAGGIORE, (LAGO.)

Borrome'o, (St. Charles,) nephew of Pope Pius IV., was B. in Italy, 1538. He studied at Pavia, and took his doctor's degree when 22 years of age. Shortly afterward, his uncle called him to Rome, and made him a cardinal, and archbishop of Milan. *B.* established an academy in the Vatican for the promotion of learning, and published its conferences under the name of *Noctes Vaticanæ*. In 1563, on the conclusion of the Council of Trent, he was commissioned to draw up an exposition of the doctrines of the Roman Catholic Church, as sanctioned by that council. This exposition is known by the name of *Catechismus Tridentinus*. After the Pope's death in 1563, *B.* went to his diocese, and devoted himself entirely to his episcopal duties. He reformed his expensive style of living, and employed the major part of his revenues in charity. He also enforced a reform in the clergy, especially among the monastic orders. One of the latter, having attempted the cardinal's assassination, was suppressed by the Pope, and its revenues appropriated to good works. When the plague broke out at Milan, in 1576, *B.*, at the risk of his life, exerted himself to succor and tend his suffering flock. He shared in some of the prevailing errors of his time, and believed in sorcery, but his conduct was always tolerant, charitable, and humane. D. 1584, and was canonized by Pope Paul V. in 1610.

Borrow, (*bor'ro,*) *v. a.* [A.S. *borgian,* from *borh,* a security, a pledge.] To give or take a pledge or security; to take or receive from another for a time on credit; to ask or receive as a loan, a promise or security for return or repayment being given or implied; as, to *borrow* an umbrella.

"He *borrowed* a box of the ear of the Englishman, and swore he would pay him again when he was able."—*Shaks.*

—To take, copy, or use as one's own that which belongs to another; to plagiarize; to appropriate; to assume as one's own.

"Though I am young, I scorn to flit
On the wings of *borrowed* wit."— *Wither.*

—Pledge; cost: the thing borrowed. (R.)

"Yet of your royal presence I'll adventure
The *borrow* of a week."—*Shaks.*

Bor'row, GEORGE, an eminent English philologist and literateur, B. 1803. He early devoted himself to the study of languages, and acquired a thorough knowledge of the *Romany* or Gipsy tongue. In 1833, entering the employ of the "British and Foreign Bible Society," he was sent to Russia, where, at St. Petersburg, he edited the New Testament in the *Mantchu*, or Chinese-Tartar language, and also a work called the *Targum*, consisting of metrical translations from 30 languages. He next visited Spain, and was twice imprisoned in that country for circulating the Holy Scriptures. While here, he mixed much with the Zincali, (Spanish *gitanos* or Gipsies,) acquired their dialect, and translated St. Luke's Gospel into it. In 1841, he published, in England, the *Zincali*, or *An Account of the Gipsies in Spain*, a work which attained a world-wide celebrity. In 1842, appeared from his pen *The Bible in Spain;* in 1851, *Lavengro;* in 1857, *The Romany Rye;* and in 1862, *Wild Wales*. D. 1881.

Borrowdale, (*bor'ro-dail,*) a romantic English valley, among Derwentwater Fells, in the S.E. part of Cumberland, 7 m. from Keswick. These fells, or hills, are some of the loftiest in England, and it is in one of these that the black lead, or plumbago, is found, wherewith nearly all the world was supplied. The mines were opened only once in seven years; and when a sufficient quantity of P. taken out, they were closed again. They were finally closed in 1850.

Bor'rower, *n.* One who borrows, or takes something upon trust. (Opposed to lender.)

"Neither a *borrower* nor a lender be;
For loan oft loses both itself and friend,
And borrowing dulls the edge of husbandry."—*Shaks.*

—He who appropriates to himself that which is another's, and uses it as his own.

"Some say I am a great *borrower*, however, none .... have challenged me for it." —*Pope.*

Bor'rowing, *n.* Act of one who borrows.

Borrowstounness, (ordinarily abbreviated to BONESS,) a seaport town of Scotland, co. of Linlithgow, on the river Forth, 18 m. N.W. of Edinburgh. There are extensive collieries here. *Pop.* 5,612.

Borsel'la, *n.* An instrument with which glass-makers extend or contract glass.

Borschod, (*bor'shod.*) a fertile county of Hungary, on the Theiss; *pop.* 216,500.

Bors'-holder, *n.* [O. Eng. *borsolder.*] (*O. Eng. Law.*) The head-borough, or chief of a tithing, or *bury* (borough) of 10 men.

Bort, *n.* The small filings or cuttings of diamonds; used to make diamond-powder for lapidaries.

Borus'si, a people of Sarmatia, who inhabited Prussia, which takes its name from them.

Bo'ruret, *n.* (*Chem.*) A combination of boron with a simple body.

Bo'ry de Saint Vin'cent, JEAN BAPTISTE GEORGE MARIE, a French naturalist, B. at Agen, 1780. In 1798, he proceeded on a scientific mission to New Holland. Among the fruits of his travels were his *Essai sur les Iles Fortunées de l'antique Atlantide, ou Précis de l'Histoire Générale de l'Archipel des Canaries* (Par. 1803), and his *Voyage dans les quatre principales Iles des Mers d'Afrique* (3 vols., Par., 1804). Having returned to his native country, he became a captain in the army, served at Ulm and Austerlitz, went to Spain, and became military intendant on the staff of Marshal Soult. In 1815, he served as a colonel, and after the battle of Waterloo made an eloquent but fruitless appeal to his colleagues in the Chamber against submitting to the Bourbons, and was compelled to go into exile. At Brussels he edited, along with Van Mons, the *Annales des Sciences Physiques* (8 vols.). He also produced an admirable work on the subterranean quarries in the limestone hills near Maestricht (Par., 1821). He returned to France in 1820, and in 1827 appeared his *L'Homme, Essai Zoölogique sur le Genre humain*. He wrote what relates to cryptogamic plants in Duperrey's *Voyage autour du Monde* (Par., 1828). He rendered an important service to science by editing the *Dictionnaire Classique de l'Histoire Naturelle*. When, in 1829, the French government sent a scientific expedition to the Morea and the Cyclades, the first place in it was assigned to *B. de S.V.;* and the results of his researches were given to the world in the *Expédition Scientifique de Morée* (Par., 1832), and in the *Nouvelle Flore du Péloponèse et des Cyclades* (Par., 1836). In 1839, he undertook the principal charge of the scientific commission which the French government sent to Algeria. D. 1846.

Borysthenes. See DNIEPER.

Bos, *n.* [Lat.] See BOVIDÆ.

Bo'sa, a town of the island of Sardinia, 4 m. from Cagliari. Lat. 40° 17′ N.; Lon. 8° 27′ E. It has a coral fishery. *Pop.* 6,568.

Bo'sa, Bonza, *n.* [Pers. and Turk. *bôzah.*] A beverage drunk in the East, and prepared from fermented millet-seed, acidulated with various substances.

Bos'cage, *n.* [O. Fr.; It. *bosco;* Du. *bosch.*] Woodland; thicket; underwood; a mass of thick foliage; arborescence.

"It was a land full of *boscage*, which made it show the more dark."—*Bacon.*

(*Old Eng. Law.*) Nutriment for cattle obtained from trees or bushes.

(*Painting.*) A representation of woodland scenery.

"Landscapes, and *boscage*, and such wild works."—*Wotton.*

Boscan-Almoga'ver, JUAN, a Spanish poet, B. at Barcelona, about 1500. He was the first to make use of Italian measures in Spanish verse, and thus became the creator of the Spanish sonnet. D. 1544.

Boscawen, (*bos'quoin.*) EDWARD, an eminent English admiral, the second son of Viscount Falmouth, B. 1711. He early entered the navy, and was, in 1740, made captain of the *Shoreham*. He particularly distinguished himself at the taking of Porto-bello and the siege of Carthagena. In 1744 he was made captain of the *Dreadnought*, of 60 guns, and soon after took the French ship *Mélée*, commanded by Captain Hoquart. In 1747 he distinguished himself under Anson, and was in an engagement with the French fleet off Cape Finistère, where he was wounded in the shoulder by a musket-ball, and where Hoquart again became his prisoner. The same year he was made rear-admiral of the blue, and commander of the land and sea forces employed in an expedition to the East Indies. On his arrival he laid siege to Pondicherry, but was obliged to quit it on account of the monsoon; and the manner in which he effected his retreat added to his fame. He soon afterwards took Madras, and peace being concluded, returned to England, where he was appointed one of the lords commissioners of the Admiralty. In 1755 he sailed to intercept a French squadron bound to North America, of which he took two ships, and Hoquart became his prisoner a third time. In 1758 he took Cape Breton and Louisbourg, in conjunction with General Amherst. The year following he commanded in the Mediterranean, and while lying at Gibraltar, hearing that the French admiral M. De la Clue had passed the Straits, he refitted his ships, and came up with the French fleet, of which he took three, and burnt two others in Lagos Bay. In 1760 he was appointed general of the marines. It was of him that Lord Chatham said, that when he proposed expeditions to other commanders, he heard nothing but difficulties; but when he applied to *B.*, these were either set aside, or expedients suggested to remove them. D. 1761.

Boscawen, in *New Hampshire*, a post-township of Merrimack co., 10 m. N. by W. of Concord, on the Merrimack River.

Bos'cobel, a small place in the parish of Tong, co. of Shropshire, England. Its grove is noted for the oak in which Charles II. was hid, and where he saw the parliament soldiers pass by in quest of him, after the battle of Worcester, in 1651. The "*Royal Oak*," and is now represented by a tree grown from one of its acorns. See BOSCOBEL TRACTS, (1660, 81). *B.* is from the Italian, meaning fair woods.

Bos'cobel, in *Wis.*, a thriving city of Grant co., on the Wisconsin river. Manuf. of furniture, plows, flour, &c. *Pop.* (1890) 1,540; (1897) abt. 2,250.

Bos'co Tre Ca'se, a town of S. Italy, situate at the S. base of Mount Vesuvius; *pop.* 9,455.

Bosh, *n.* [Prov. Eng. *bosh*, dash, show; It. *bozzo*, a rough stone.] A term colloquially used to denote empty talk, nonsense, mere show without substance, &c.; as, it is all *bosh*.—A figure; an outline.

Bosh'-bok, *n.* A species of antelope found in S. Africa.

Bosh'es, *n. pl.* [Ger. *böschung*, a slope.] (*Metal.*) In a blast-furnace, the lower part of a shaft sloping downward from the belly, or widest part, to the hearth.

Bo'sio, FRANÇOIS JOSEPH, BARON, an eminent sculptor, B. at Monaco, Italy, 1769. He studied at Paris; and when only 19, returned to Italy, where he executed a multitude of commissions even at that early age. His reputation was greatly increased by the figures which, at the request of Napoleon, he executed for the column in the Place Vendôme. Louis XVIII. and Charles X. also patronized *B*, the former appointing him royal sculptor, the latter elevating him to the rank of baron. *B.*'s principal works are: the *Hercules* in the garden of the Tuileries; the incomparably beautiful *Hyacinth* in the Luxembourg; the *Nymph Salmacis*, a figure displaying wonderful grace and purity of outline; an allegorical figure of *France*, 7 feet high, surrounded by the *Muse* of *History* and a group of *Genii*; the statue in memory of the Duc d'Enghien; the equestrian statue in the Place des Victoires, and the monument of Count Demidoff, 30 feet high, composed of six figures, with bas-reliefs, &c. Besides these, *B.* executed a great multitude of busts of distinguished persons, such as the Emperor Napoleon, the Empress, Queen Hortense, the King and Queen of Westphalia, Louis XVIII., Charles X., &c. *B*'s works are all marked by grace of form, harmony of design, and elegance of finish. His style generally reminds one of Canova. He was director of the Academy of Fine Arts in Paris, where he died, 1845.

Bosjesmans, (*boz-jes'manz,*) *n. pl.* [Du., men of the wood, or BUSHMEN.] A name given by the Dutch settlers of S. Africa to some roaming tribes akin to the Hottentots, in the vicinity of the Cape of Good Hope. The description given by Governor Janssens of this people represents them as so deeply sunk in barbarism as to be unacquainted even with the construction of huts or tents; in fact, they may be placed on a par, as regards their distance from a state of even semi-civilization, with the Digger Indians of North America. They are of a dark copper complexion, small in stature, and of a singularly malicious, wild, and intractable disposition. Humboldt classed their cerebral development as belonging to almost the lowest class of the human species.

Fig. 396.—BOSJESMAN PLAYING ON THE GOURAH.
(From Burchell's *South Africa.*)

Bosk, *n.* [See BOSCAGE.] A small growth of brush or underwood.

Bos'ket, *n.* [Fr. *bosquet.*] See BOSQUET.

Bos'koi. [Gr., the grazers.] (*Eccl. Hist.*) The name given to a class of ascetic monks who lived in Syria and Mesopotamia, and are said to have subsisted solely upon roots and herbs. They did not inhabit any house, and professed to spend their time in the worship of God, in prayers and hymns.

Bos'ky, *a.* Woody; covered with boscage; as, the *bosky* glade.

"And with end of thy blue bow dost crown
My *bosky* acres, and my unshrubb'd down."—*Shaks.*

Bos'na-Seraï, or SERAJEVO, (anc. *Tiberiopolis,*) a city of Austria-Hungary, cap. province Bosnia, on the N. bank of the Migliazza, 122 m. S.W. of Belgrade, and 575 m. N.W. of Constantinople; Lat. 43° 54′ N.; Lon. 18° 26′ E. The town is well-built, and has an agreeable appearance, owing to the number of minarets, towers, and gardens which it encloses. It contains a *seraï*, or palace, built by Mahomet II., to which the city owes its name, about 100 mosques, some of which are elegant structures; several Greek and Roman Catholic churches, with colleges and bazaars. Most of the houses are of wood; the Migliazza is here crossed by a massive stone bridge. The city was formerly encompassed with walls, but these are now decayed, and its only defence consists in a large citadel, built on a rocky height at its E. extremity, and mounting 80 cannon. The inhabitants are industrious, and employed in the manufacture of arms, iron, and copper articles, horsehair, bags, morocco, and other kinds of leather, and cotton and woollen stuffs. Near *B. S.* are the principal iron-mines in Bosnia. It is the chief mart in the prov., the centre of the commercial relations between Turkey and Dalmatia, Croatia, and S. Germany, and has considerable trade with the cities of Saloniki and Yanina. The most wealthy families in Bosnia reside in this city; two-thirds of the pop. are said to be TURKS, but the Jews monopolize the chief trade. *Pop.* (1890) 27,000.

Bos'nia, or **Bas'na,** in former times a pashalic or *eyalet* of Turkey in Europe, but occupied in 1878 and now administered by Austria. It lies between Lat. 42° 30′ and 45° 15′ N., and Lon. 15° 40′ and 21° 2′ E., having N.W. and N. the Austrian prov. of Croatia and Slavonia, E. Servia, and S. and W. Albania and Austrian Dalmatia, the latter separating it from the Adriatic. It is now virtually annexed to the Austrian Empire. *Area*, 24,247. *Pop.* 1,212,172. *B* is almost entirely occupied by the Dinaric and Julian Alps, which, with their offsets, separate it into several well-marked divisions. *Principal river*, the Save, forming the N. boundary of *B.*, with its affluents the Unna, which in part separates Turkish from Austrian Croatia,—Verbaz, Drin, and Ibar forming its E. boundaries. The Bosna traverses *B.* Proper, the Sanna, Croatia, and the Narenta Herzegovina. It has numerous fertile valleys, but no lakes of importance, and only one plain of any size, that of Livno in Herzegovina. This country is supposed to be rich in minerals, but only the iron-mines, and a few lead-mines, are worked. Gold and silver exist in various places, and mines of the first of these metals were worked under the Romans: most of the large affluents of the Save bring down gold-dust. Quick-silver is also found, and there are quarries of millstone, freestone, alabaster, and marble, coal-mines, and numerous mineral springs, some of which furnish salt, though not in sufficient quantity for the supply of the country. The climate is generally cold, but not unhealthy: the winter-snows lie on the ground for a long time, and the spring is short. In the S., violent winds prevail in winter, and the summer is extremely hot. The mountain-chains, especially in the N., are covered with dense forests of pine, oak, beech, linden, chestnut, &c.; but the S. branches of the Dinaric Alps present a remarkable deficiency of vegetation. The greatest elevations are the Kam, 8,500 ft., and the Dormitor, 7,980 ft. high. The best soil in the valleys is devoted to pasture, and Bosnia is generally better adapted for the feeding of cattle than for agriculture. The Bosniaks, however, seem to prefer the chase to more settled pastoral occupations; and as the woods abound with wild animals, as deer, wild boars, bears, wolves, and foxes, they have every facility for carrying it on. It is only in the valleys that any cultivation is carried on. Wheat, barley, maize, and legumes, are grown in sufficient quantity for home consumption, and flax and tobacco near Zvornik and Novibazai. A great variety of fruit is met with. A liqueur is made from plums, and a sweet drink called *pekmes* from pears. The olive and vine are both cultivated. The wines are strong and fiery. *B.* has a breed of strong horses, but it is much neglected, except by the Turks. The manufactures of Bosnia are limited to iron articles of common use, leather, coarse woollen stuffs, saltpetre at Jaieza, cannon-balls at Kamengrad, gun-powder, firearms, and other weapons. The principal exports are leather, hides, wool, goat's-hair, honey, cattle, dried fish, timber, and mineral waters; the chief imports, linen, woollens, silks, lace, glass, and metallic wares, paper, colonial produce, salt, oil, dried fruits, and silver coin from Dalmatia. The transit-trade in Levant produce is not inconsiderable; the chief seats of commerce are the towns of Bosna-Seraï, Novibazar, Zvornik, Bagna, Souka, Mostar, and Gradiska. The roads are generally very bad, and impracticable for wheel carriages. The total government revenue derived from this province under the Turks was about $5,000,000 a year, *B.* was formerly under the govt. of a pasha, and divided into 6 *sanjiaks*, and again into 48 subdivisions, subordinate to a military governor, and a *cadi*, or judicial officer. Bosna-Seraï was the capital, but Travonik the residence of the Pasha. The Bosniaks are of Slavonic origin, though mostly Mohammedans. They differ from the Turks in many usages, and are not addicted to polygamy.—*B.* was anciently included in Lower Pannonia. In the Middle Ages, it first belonged to the E. Empire, but became a separate kingdom, dependent upon Hungary. The Turks conquered it in 1480, after a war of seventeen years; and in 1522 Solyman "the Magnificent" annexed it to the Turkish domain. When, after three centuries, Bosnia, Croatia, and Herzegovina were taken from Turkey by the Treaty of Berlin (*q. v.*), they had an area of over 24,000 sq. m., and a population of above 1,000,000.

Bo'som, *n.* [A. S. *bosm*, *bosum;* Ger. *busen*, from *beugen;* Sansk. *bugan*, to bend, to curve.] The breast of a human being; the female breast; the hollow space formed between the breast and the garment that covers it. "You must prepare your *bosom* for his knife."—*Shaks.*

—The interior of the breast, as enclosing the heart, considered as the seat of tenderness, or of the passions, or as a close place; consciousness.

"Or draw his frailties from their dread abode; . . .
The *bosom* of his father and his God."—*Gray.*

—Embrace; tender or loving enclosure; as, in the *bosom* of religion.

—Any enclosed spot; the interior; as, the *bosom* of the earth.

"In the deep *bosom* of the ocean buried."—*Shaks.*

—Used in composition to form a compound word expressive of being familiar; affectionate; intimate; confidential; as, a *bosom*-friend.

"Those domestic traitors, *bosom*-thieves,
Whom custom hath call'd wives."—*Ben Jonson.*

—*v. a.* To enclose in the bosom; to cherish with care.

"*Bosom* up my counsel,
You 'll find it wholesome."—*Shaks.*

—To conceal in privacy; to hide from view.

"To happy convents, *bosom'd* deep in vines,
Where slumber abbots, purple as their wines."—*Pope.*

Bospho'rian, *a.* Relating, or pertaining, to the Bosphorus.

Bos'phorus (more properly **Bos'porus**) OF THRACE (or CHANNEL OF CONSTANTINOPLE), the strait which connects the Black Sea with the Sea of Marmora, and separates the E. corner of Thrace from Asia-Minor. The length of this remarkable channel is about 17 m., its width varying from ½ m. to 2 m.; its course is slightly winding; its direction very little W. of S., and its embouchure in the Sea of Marmora is in 41° N. Lat., 29° E. Lon.—A current sets constantly from the Black Sea through the *B.*, but, though generally very strong, it is subject to considerable modifications; a long-continued wind from the S.W. renders it sometimes almost imperceptible, while on the other hand, a breeze from the N.E. so adds to its force that it is almost impossible for a vessel, under such circumstances, to make head against it. The inequalities of the coast cause several changes of direction in the set, as the water is thrown from side to side by the numerous bold promontories that project from both shores; but these do not affect the general course, except by making it more tortuous; that course tending constantly towards the S. and the Sea of Marmora. The depth of water is considerable; there is but one bank in the channel; consequently there is no danger in its navigation, nor any difficulty except in an upward passage against its current; this is, however, sufficiently baffling to the unskilled Orientals. At its N. mouth, on the Black Sea, are two groups of islets, one on the European, the other on the Asiatic shore; these are the famous Cyanean Isles or *Symplegades* of the ancients, which it was once believed no vessel ever passed in safety, except by miracle. (*Apoll. Rhod.* ii. v. 435, &c.) They are now quite harmless, being, in fact, nothing but low continuations of the respective shores; they are in a continual state of decay, and might easily be overlooked, did not their ancient celebrity induce

the modern navigator to search for them. In its freedom from all danger, its narrow channel, the strength and constant set of its current, and, in short, in most of its characteristics, the *B.* resembles a magnificent river more than an arm of the sea; and this resemblance is by no means impaired by the branch which it gives off at its S. end, and which, enclosing Constantinople on the N., forms what is called the *Golden Horn*, one of the finest harbors in the world. The country through which the *B.* flows is unrivalled for beauty; animals and vegetables of almost every variety abound, and the geology is peculiarly interesting from the unequivocal evidences it exhibits of igneous action. The cliffs, which are stately and abrupt, consist of jasper, agate, cornelian, chalcedony, porphyry, trap, and calcareous spath, in very great but picturesque confusion. They are all more or less in a state of decomposition, and traces of metal are seen in the coloring of the various stones. Appearances seem to warrant the conclusion that this strait was opened by a convulsion of nature, and this belief was very generally entertained by the ancients. At about half-way between the two seas, or rather nearer to that of Marmora, at the narrowest part of the channel, stand two castles, one on each bank, named, from two of the Turkish provinces, *Anadoli* and *Rumeli*, (Asia Minor and Thrace.) They form almost the only defence to Constantinople on the N., and, if well manned, would be very difficult to pass. They appear to be almost the only public buildings, but private houses and gardens extend along nearly the whole length of the strait, especially on the European side. (*Chevalier, Voy. de la Prop.* pp. 43–49; *Olivier, Voy. dans l'Empire Oth.* I. 120–124; *Jones's Trav.* ii. 444–451.)—The name *Bosporus*, which has been improperly corrupted by modern orthography to Bosphorus, is indicative of the narrowness of this channel, and comes from *Bos*, an ox, and *poros*, a ford. The passage across it of Europa, borne by Jupiter in the form of a bull, is a well-known Greek legend, and thence the ancients called those channels *Bospori*, which were narrow enough to allow of kine swimming across them. Two especially were so distinguished, namely, the strait now under consideration, and the Cimmerian Bosporus (Strait of Yenikale), between the Euxine and the Palus Mœotis. Over the Thracian Bosporus, Darius Hystaspes threw a bridge of boats when he passed from Asia to his disastrous war with the Scythians; and the pillars of marble, which he erected to commemorate that event, are supposed, with great reason, to have stood upon the spots now occupied by the Turkish castles.

Bosque, (*bosk,*) in *Texas*, a central county, bounded E. by the Brazos River, and watered by the Bosque. *Area*, about 950 sq. m. *Cap.* Meridian.

Bos'quet, Bosket, Busket, *n.* [Fr. *bosquet*. See Boscage.] (*Gardening.*) A piece or plot of ground in gardens, enclosed by a palisade or high hedge-row of trees, shrubs, &c.

Bosquet, Marie Joseph, (*bos-kai',*) a French general, b. at Pau, 1810. In 1829 he entered the Polytechnic School, and in 1833 became a sub-lieutenant in the artillery. In 1835 he went with his regiment to Algeria, where he began to distinguish himself. Between 1836 and 1848 he had passed through the successive ranks of captain, chef-de-bataillon, lieutenant-colonel, and colonel, when, in that year, he was appointed by the republican government, general of brigade. In 1854 the emperor Napoleon III. raised him to the rank of general of division, and enrolled him in the staff of the army of Marshal St. Arnaud. He was with the French army in the Crimea, where he greatly distinguished himself, and was wounded in the assault on the Malakoff tower at the siege of Sebastopol. In 1856, he was made a marshal of France, and a senator. In 1859 he was appointed to a command in the war against Austria. D. 1862.

Boss, *n.* [Fr. *bosse*, from L. Lat. *bossa*, a swelling; Ger. *bausch*, anything roundish, from *bausen*, to swell up; perhaps allied to Gr. *physaō*, to puff or swell up.] A protuberant ornament; a stud; a knob; as, the *boss* of a shield.

"What signifies . . . . embroidered furniture, or gaudy *bosses?*"
L'Estrange

—A round, protuberant, swelling part; as, a *boss* of wood.

"If by the *boss* of the tongue to the palate." — *Holder.*

(*Mech.*) The enlarged part of a shaft on which a wheel is keyed, or at the end where it is coupled to another.—A swage or die used for shaping metals. — *Webster.*

(*Arch.*) A term applied in mediæval architecture to the piece of stone, usually carved in a fanciful manner, which covers the intersection of a series of arches. It is commonly finished with a flower, or a human masque, and is one of the most characteristic specimens of mediæval decoration.

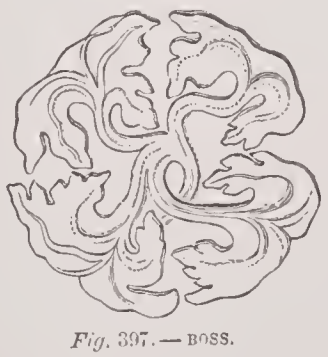


Fig. 397. — BOSS.

(*Build.*) A short trough for holding water when tiling a roof: it is hung to the laths.

—In the U. States, a term applied to the bison or buffalo.

Boss, [Du. *baas*, master.] In the U. States, a title given to a master-workman, foreman, or superintendent.

—A master; one who has the upper hand of another. (Used in some parts of England.)

Boss, *v. a.* To ornament with bosses; to stud with knobs.—To have the mastery over; to superintend labor; as, to *boss* the workshop.

Boss, *v. i.* To lord it over; to rule with authority; to be master.

Boss'age, *n.* [Fr.] (*Arch.*) Any projection left unwrought on the surface of a stone, for the purpose of afterwards receiving a sculptural decoration, which is generally the last part of the work executed.

—Rustic work, consisting of stones which advance beyond the level of the building, by reason of indentures or channels left in the joinings.

Bos'sardsville, in *Pennsylvania*, a vill. of Monroe co.

Bos'set, *n.* An antler of the buck of the red deer.

Bossier, (*bos'se-ā',*) in *Louisiana*, a N.W. parish, on the confines of Arkansas, bounded W. by Red river, and E. by Lake Bistineau and Dauchite Bayou. *Area*, 780 sq. m. This parish was formerly part of that of Claiborne. *Soil.* Fertile, producing cotton and corn. *Cap.* Benton. *Pop.* (1898) 21,550.

Bossuet, Jacques Bénigne, (*boz'swa',*) bishop of Meaux, a French prelate, celebrated for his eloquence as a pulpit orator, and his strength and acumen as a controversialist. B. at Dijon, 1627. He was placed when very young under the care of the Jesuits, who, on the discovery of his abilities, sought to gain him as an accession to their order, but were frustrated by the care of his friends. He was then removed to Paris, and entered at the College of Navarre, and in 1652, took his degrees in divinity, and was made a canon at Metz. Here he applied himself chiefly to the study of the Scriptures, and of the writings of the Fathers, especially of St. Augustine; and shortly becoming a celebrated preacher, was invited to Paris, and appointed, in 1661, to preach before Louis XIV. It was about this time that *B.* excited so much attention by his funeral orations, which are still considered as surpassing every other production of the kind in the French language for sublimity and pathos, although the admiration of the foreign reader, unacquainted with the genius of the French language, will not always correspond with native enthusiasm, as to all the beauties enumerated. His style of preaching was lofty, free, and animated, and he seldom wrote more than a few heads, but trusted to his copious and commanding eloquence. At court he fully maintained the dignity of character his abilities were calculated to establish, and, without any solicitation on his own part, was created bishop of Condom,—a dignity which he resigned on being appointed preceptor to the Dauphin, in 1670. In this situation he wrote for his pupil his celebrated *Discourse on Universal History*, regarded still as the most masterly of his performances. When the prince's education was completed, the king raised him to the See of Meaux, and appointed him a counsellor of state and almoner to the Dauphiness and Duchess of Burgundy. He was also equally honored by the learned world, being made a member of the French Academy, and superior of the Royal College of Navarre. The comparative leisure which he now enjoyed, was devoted to the defence of the Catholic Church, both against infidels and Protestants. Some years before his death, however, he retired to his diocese, and devoted his leisure to the duties of his episcopal and pastoral functions, in the comfort, instruction, and relief of the unlettered, the afflicted, and the indigent of his diocese. He d. while thus engaged, in 1704, at the age of 77. — As an historian, or rather reviewer of history, this eminent prelate has displayed considerable genius, but it has been justly observed that he dwells with too much complacency upon the Israelitish theocracy as a system, and has treated history more like a churchman than either a philosopher or a politician. As a controversialist, *B.* is distinguished by great logical acuteness, and infinite dexterity in exposing the weak points of an opponent and concealing his own. These qualities are particularly exhibited in his celebrated *Exposition of the Roman Catholic Faith*, addressed principally to Protestants, which, however, was nine years awaiting the Pope's approbation. The points on which he chiefly lays stress are the antiquity and unity of the churches, the accumulated authorities of fathers, councils, and popes, and the necessity of a final umpire in affairs of faith and discipline. In all these points, however, he was ably answered by Claude and other ministers of the French Calvinists, as also by Archbishop Wake, who, in his *Exposition of the Doctrine of the Church of England*, exposes much management and artifice in the suppression and alteration of *B.*'s first edition. *B.* was very zealous for the reunion of the churches, but nothing was to be yielded as a matter of right; but he thought that the sacramental cup might be extended to the laity as a favor. He was not, however, an advocate for the infallibility of the Pope, or for his assumed right of deposing kings. On the contrary, he resisted these doctrines with energy, and lost a cardinal's hat by opposing Innocent XI. in claims contrary to the independence of the crown of France, and to the liberties of the French clergy. He also attacked Quietism, and triumphed over the amiable Fenelon with some harshness on that account. He was, however, a professed enemy to persecution, but does not appear to have remonstrated with Louis against his merciless persecution of the Huguenots. On the whole, *B.* was a man of great genius, lofty spirit, and extraordinary vigor of mind; which high qualities were alloyed by pride, and a deficiency of simplicity and candor, his character forming a moral contrast to that of Fenelon. His works were published in 1743, in 20 vols. 4to, and many of them have been often reprinted in various forms. His discourse on Universal History, and his funeral orations, are, however, the only productions of his pen which now command much attention.

Bostan'ji, *n. pl.* [Turk., from *bostan*, a garden.] The class of men who bear this name, who now perform a curious variety of functions, and whose head or chief (*Bostanji-Bashi*) is one of the grand dignitaries of the Turkish empire, seem originally to have been nothing more than the Sultan's gardeners, attached to the imperial residence, or seraglio, of Constantinople. They still work as gardeners, in the Sultan's pleasure-grounds at Constantinople and on the Bosphorus, but the more conspicuous of their duties are, to mount guard in the seraglio, to row the Sultan's barge, to row the caïques of all the officers of the palace, to follow those great men, on foot, when they ride on business through the city, and to attend to the execution of the numerous orders of the bostanji-bashi. They were aggregated with the janissaries, with whom they formerly did military duty in the field, but the bostanjis were not suppressed at the sanguinary dissolution of that turbulent militia, although their number has been considerably decreased. When the Ottoman Court was in its splendor, the bostanji corps amounted to 2,500 men, who were divided into *ortas*, or companies, like the janissaries. The distinctive part of their costume was an enormous bonnet, or *caouk*, made of scarlet cloth. The *bostanji-bashi*, who has the rank of a pasha, is governor of the seraglio and the other imperial residences. He is inspector-general of the woods and forests in the neighborhood of Constantinople. The shores of the Bosphorus and the Sea of Marmora, from the mouth of the Black Sea to the Straits of the Dardanelles, are under his jurisdiction, and formerly no person whatsoever could build or even repair a house on those coasts without his permission. For this license fees were exacted, which were generally fixed in the most arbitrary manner. Whenever the Sultan makes an excursion by water, (and in the fine seasons he rarely travels in any other way,) the bostanji-bashi stands or sits behind him, and steers the magnificent barge, which is rowed by the bostanjis. This brings him into frequent contact and conversation with the sovereign, who never appoints any but personal favorites to the post. At court, the bostanji-bashi is almost as great a man as the *kislar-aga* (chief of the black eunuchs), or the *selikdar* (the Sultan's sword-bearer).

Bos'ton, the chief city of New England, cap. of the State or Commonwealth of Massachusetts, and forming with the city of Chelsea and towns of Revere and Winthrop, the co. of Suffolk; it is one of the first cities of the Union in commercial importance; is finely situated on a small peninsula at the foot of Massachusetts Bay, and connected with the mainland on the South by Boston Neck, and is distant 207 m. N. E. from New York; Lat. 42°21′24″ N., Lon. 71°3′58″ W. Includes the city of Roxbury (annexed in 1868), town of Dorchester (added in 1870), city of Charlestown, and towns of Brighton and West Roxbury (annexed in 1874); by these additions 117,000 souls were added to the population. *B.* is divided into twenty-five wards. Several towns in its immediate vicinity are so closely connected with it as almost to belong to it. These are the cities of Cambridge, Chelsea, Somerville, and Newton, and the towns of Brookline, Revere, and Winthrop, and they may be considered as forming one community. The bay, which is very extensive, is studded with numerous small islands, which protect the harbor from the E. winds, and afford convenient situations for forts commanding the approaches to the city by water. The harbor is excellent, being of great size, with sufficient water to admit the largest ships, and so completely landlocked that the vessels within it are almost as secure as if they were in dock. At the outer entrance to the bay is a light-house 80 ft. in height, and 90 above the sea, with a revolving light. In the harbor are forts Independence, Winthrop, and Warren, and a strong battery on Long Island Head. The Boston Navy Yard, at Charlestown, was established in 1800. The bridges, some of which are of great length, connecting the city with its adjacent suburbs and the continent, are nearly a score in number; but the city was joined by a causeway of earth to Brookline, and the Cross Dam, as it is called, leading across the bay to Roxbury, was also formed of earth, with walls of stone. The avenue served the double purpose of a bridge and a dam; and with the addition of a cross-dam of a similar construction, formed two large basins. These basins have been filled and 680 acres reclaimed, known as the Back Bay improvements, and most of it is already built upon. The wharves are very extensive. The Long Wharf and Central Wharf are each very commodious. The wharves, as well as many other parts of the city, have been built on sites formed by filling in ground, originally covered by the sea. Many of the down-town streets, once narrow and crooked, have been widened and straightened; and the houses, which are, for the most part of brick, though many of them are of granite and sandstone, are large, well built, and elegant. The principal public buildings are very imposing. The State-House, on the crown of Beacon Hill, is one of the most conspicuous objects in the city. It is a fine brick building, fronting the Common, and occupies the most elevated part of Beacon street, 100 ft. above the bay, surmounted by a gilded dome 50 ft. in diameter. From the cupola, a magnificent view is obtained of the city, the harbor, and the charming suburban approaches on every hand. The City Hall is a magnificent structure of the modern Renaissance style of architecture; the Faneuil Hall Market, a handsome granite edifice, two stories high, 590 ft. in length and 50 ft. wide, with a large hall in second story, known as Quincy Hall. The Court House is also of granite, 178 ft. long, 57 ft. high, and 54 ft. wide, adorned with massive Doric porticos. The General Hospital is another handsome granite building, surrounded by open grounds

of 4 acres in extent. The City Hospital, City Bureau of Charities, Boston Athenæum, Horticultural Hall, Music Hall, Masonic Temple, Odd Fellows' Building, Mass. Institute of Technology, Building of the Boston Society of Natural History, Museum of Fine Arts, are fine examples of their respective styles. Among the more recent edifices we may name the Cathedral (R. C.), Trinity Church (P. E.), New Old South Church (Cong.), and the magnificent new Library building, opened 1895. The old State House, King's Chapel, and Old South Church are among the old landmarks of *B.*, the latter built in 1729. The Bunker Hill Monument at Charlestown is a well-known object of interest. Boston Common, a notable park of 50 acres, contains the Soldiers' Monument and Brewer Fountain. The Public Garden, contiguous to the Common, contains 21 acres, beautifully laid out. In it are an equestrian statue of Washington, and one of Edward Everett, and also the "Ether" Monument, as it is called, erected to commemorate the discovery of the use of ether as an anæsthetic; Commonwealth Avenue, running S.W. from the Garden, contains statues of Alex. Hamilton and of Gen. Glover of Revolutionary fame. To these have been added a chain of parks extending through parkways from the Back Bay Fens to the Marine Park in South Boston. There is also a series of parks and boulevards along the Charles river.—The press of *B.* is the oldest in the U. S. The first journal published in N. America was *The News Letter*, which was commenced April 24, 1704. The second paper was the *Boston Gazette*, commenced 1719, of which James Franklin was printer. *B.* has always been favorably distinguished by her attention to education and literature. By some the city has been called the Athens of America, and in its vicinity is the celebrated Harvard College (*q. v.*). Schools of all denominations abound, and education is in a very advanced state. The *B.* Public Library, the largest in the world for free circulation, was instituted in 1852, and contains over 600,000 bound volumes and 200,000 pamphlets. The Athenæum has a library of 100,000 vols., a picture gallery, and a public hall for lectures. The school for the instruction of the blind, founded in 1833, is said to be extremely well managed. The American Academy of Arts and Science, the Historical and Natural History Societies, are among its learned associations; it has also a Humane Society, orphan asylums, and numerous other charitable institutions. A host of excellent daily newspapers and other periodical journals are published here.—The municipal govt. is vested in a mayor, a board of aldermen, and a common council, all of which officials are chosen annually by the popular vote. There is a police court for the trial of minor offences, and a superior court, which holds criminal and civil sessions.—The commerce of *B.* is especially large in wool, shoes, and leather, for which it is the principal mart in the U. S., while most of the manufactories of New England make it their business and financial centre. Nine lines of steamships connect it with Europe, and it has several important coastwise lines. *B.* is connected with the interior of the U. S. and Canada, by railways and river navigation; and has a most extensive trade both with foreign countries and with all the other States of the Union. There are more than 60 national banks, with cash capital and surplus of $75,000,000, and a clearing-house business of about $5,000,000,000 annually. The valuation of taxable property has grown from about $15,000,000 in 1800 to considerably over $100,000,000 in 1897. In 1890, according to the U. S. census reports, *B.* had 7,915 manufacturing establishments, with a capital of $116,644,490, and 90,198 persons employed. The wages paid aggregated $54,636,695, and the value of products $208,104,683. Since that date there has been a steady and considerable increase in these figures. The net funded debt of the city is approximately $30,000,000.—*History.* The Indian name of the peninsula was *Shawmut.* The meaning of the name is probably "living springs of water." *Trimountaine* was the name given to the peninsula because of the bold appearance of certain eminences in it. The name of *B.* was given by the first settlers to their chief colony in compliment to one of the distinguished first colonists, who came from Boston, in Lincolnshire. The original pioneer of the whites in this region was an eccentric Englishman, Wm. Blackstone, the date of whose arrival is, however, not accurately known. It is conjectured that he came into the country in 1622–1623. The town records begin about 1634. The first Grand Jury of the country met at *B.*, Sept. 1, 1635; and in 1651 the place is described by an eye-witness as being very flourishing. A list of all the streets, lanes, and alleys was made in 1708, and they were found to be 110 in number. At the first news of the intention of the English goverment to apply its revenue system comprehensively to the colonies, *B.* assumed that determined stand in behalf of liberty and law which gave it so imposing a part in the birth of the nation. Accounts of the important events of which it was the scene during the ten years that preceded the battle of Lexington, will be given under MASSACHUSETTS. During the Revolution *B.* maintained the reputation it had acquired in the earlier stages of the contest, and its people energetically supported the policy that ended in the adoption of the Federal constitution. In 1822 *B.* was made a city.—The first vessel belonging to *B.*, of American build, was the bark *Blessing of the Bay*, launched at Mystic, July 4, 1631. The first ship built at *B.* was the *Trial*, in 1644, which subsequently made a voyage to Spain.—June, 1869, a great National Jubilee was held in this city to celebrate the restoration of peace throughout the Union. This took the form of a musical festival on the largest scale, comprising a grand orchestra of 1,094 instruments, in conjunction with a chorus of 10,000 voices. This was repeated in 1872.—The fire of November 9, 1872, destroyed 776 buildings, mostly stores and warehouses, the assessed value of which was $13,500,000, while the total value of property destroyed was estimated at $60,000,000, covering an area of 65 acres. It has now been entirely rebuilt with most substantial structures. Great improvements of late years have taken place in this city, necessitated in part by the filling-in and reclaiming of the Back Bay district, now the handsomest residence portion of the city. A subway for electric cars is one of Boston's latest great improvements, being rendered necessary by the increasing congestion of passenger traffic in the business centre. This subway extends from Boylston st. *via* Tremont and Brattle sts., Cornhill and Washington sts. to the Union Dépôt. There are four tracks under Tremont st. opposite the Common, and two tracks elsewhere. The approaches are by incline, and the stations are very commodious. The cost of construction was from $122 (two tracks) to $182 (4 tracks) per linear foot.—The *pop.* was 18,038 in 1790; 33,250 in 1810; 61,392 in 1830; 136,884 in 1850; 200,000 in 1860; 250,526 in 1870 (including Dorchester and Roxbury). In 1874, by the annexation of Charlestown, Brighton, and West Roxbury, the *pop.* was increased to 292,499. *Pop.* in 1890, 448,477; in 1897, estimated at about 540,000.

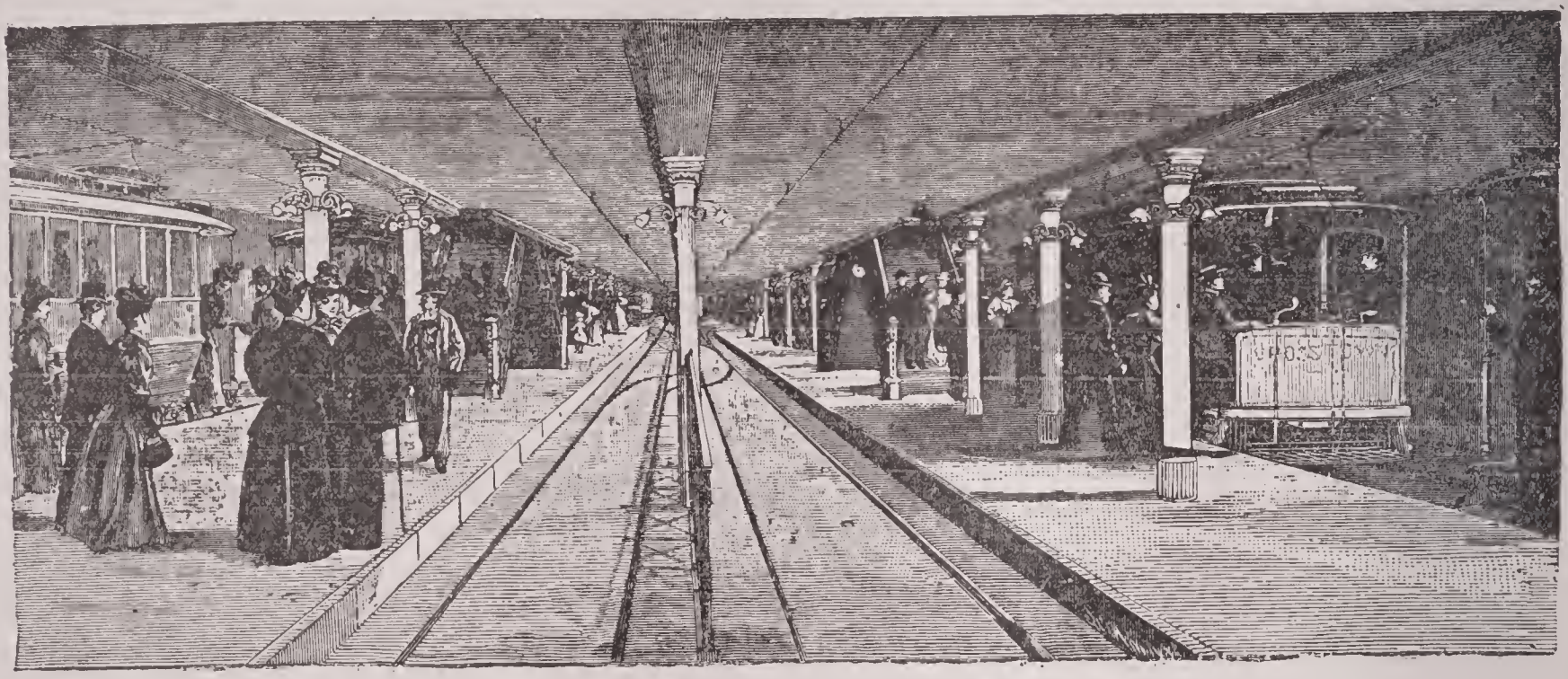


Fig. 398.—BOSTON SUBWAY—ONE OF THE STATIONS.

Bos'ton, *n.* (*Games.*) A game played by 4 persons with two packs of cards. It is the most complicated of all games of cards, and is said to have been introduced into France by Benjamin Franklin, who gave it the name of his native city.

Bos'well, JAMES, a Scottish gentleman b. at Edinburgh, 1740. He studied for the bar and, in 1763, when visiting London, formed an acquaintance with Dr. Johnson, the great lexicographer. On his return from a tour in Italy, he published *An Account of Corsica, with Memoirs of General Paoli*, 8vo., a work containing a good deal of interesting information, but displaying the ardent character and amusing egotism of the author in so singular a manner as to expose him to the satirical censure of the critics. In 1773, he accompanied his friend Johnson on a tour to the Scottish Highlands and the Hebrides, of which excursion he published *A Journal*, in 1785. Dr. Johnson died in 1784, and *B.* began to prepare for the press memoirs of his "illustrious friend," for which he had been collecting materials during nearly the whole course of their intimacy. This work, entitled *The Life of Samuel Johnson, LL.D.*, was published in 2 vols. 4to., in 1791, and has been repeatedly reprinted. The stores of literary anecdote in this production, the information it displays relative to the habits, manners, and

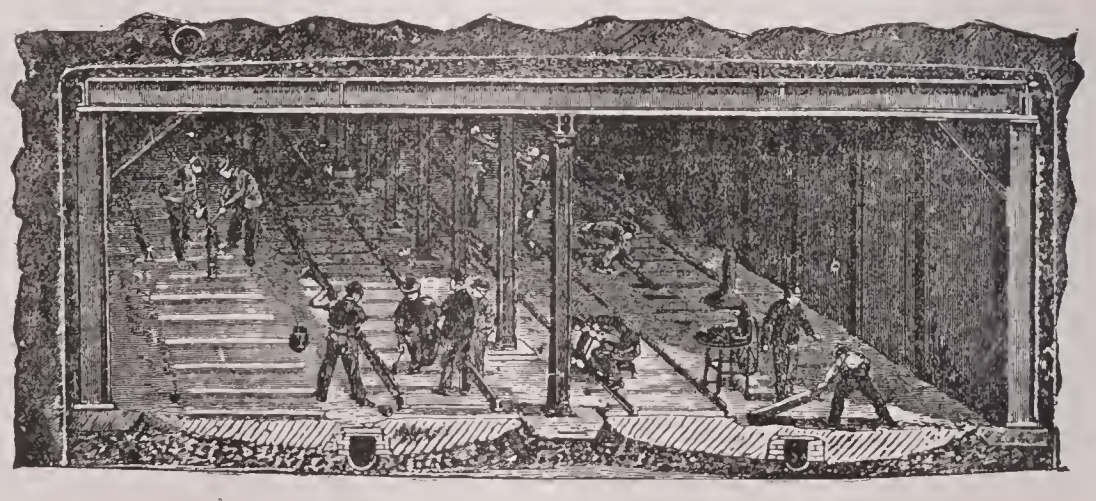


Fig. 399.—SECTION OF THE BOSTON SUBWAY (UNDER CONSTRUCTION).

conversation of Johnson, and the romantic attachment of the author to his subject, render this book one of the most entertaining pieces of biography in the English language. D. 1795.

Bos'well, in *Ohio*, a post-office of Mahoning co.

Boswell'ia, *n.* (*Bot.*) A genus of plants, order *Amyridaceæ*. The most important species is *B. thurifera*, a tree which grows to a large size, in hilly situations, from the Coromandel coast to the central parts of India. This plant is the source of the valuable gum-resin known as Indian olibanum. *B. papyrifera*, a native of Abyssinia, also yields a fragrant gum-resin, and is further remarkable on account of its inner bark, which peels off in thin white layers like paper.—See OLIBANUM.

Boswell'ian, *a.* Relating, or pertaining to, Boswell.

Boswell'ism, *n.* The style or manner of Boswell.

Bos'well's, in *Virginia*, a post-office of Fluvanna co.

Bos'worth, JOSEPH, D.D., F.R.S., F.S.A., a distinguished English philologist, B. 1788. He studied at Cambridge, and in 1839 took his doctor's degree, and was elected Professor of Anglo-Saxon in Oxford University. Dr. *B.*, who was a member of the principal learned societies of Europe, was the author of *The Elements of Anglo-Saxon Grammar* (1823); *A Dictionary of the Anglo-Saxon Language* (1838); *The Origin of the Danish Language; Abstract of Scandinavian Literature; Origin of the English, Germanic, and Scandinavian Languages and Nations; The Essentials of Anglo Saxon Grammar; A Compendious Anglo-Saxon Dictionary* (1848), &c. He likewise published *King Alfred's Anglo-Saxon Version of the Historian Orosius*, with an English translation (1855); and the same royal author's *Description of Europe and the Voyages of Ohthere and Wulfstan*, in Anglo-Saxon, with an English translation (1855); *The Gospels in Gothic of* 360, *and in Anglo-Saxon of* 995, *in parallel columns with Wyckliffe's Version of* 1380, *and Tyndale's of* 1526, which work appeared in 1865. Died in 1876.

Bos'worth (Market), a small town of England, co. Leicester, memorable for the decisive battle of *Bosworth Field*, fought close to it, 22d Aug., 1485, between Richard III. of England, and the Earl of Richmond (afterwards Henry VII.), in which the former lost his crown and his life, and which terminated the long-continued struggle for supremacy between the rival Houses of York and Lancaster.

Bosz'ra, a town of Syria, formerly the cap. of the Auranites; 50 m. S. of Damascus, and 80 N.E. of Jerusalem; Lat. 32° 40′ N., Lon. 36° 30′ E. Though now almost deserted, the ruins are extensive and magnificent; the principal of these, or at least the most sacred in Moslem estimation, is the *Deir-Bohaira* ("House of Bohaira"), so called from being consecrated to a monk of that name, who is said to have proclaimed the sacred character of Mohammed, when the prophet, in his 13th year, visited Syria with his uncle. The ruins are of the finest workmanship. *B.* is very ancient; it is mentioned in the Sacred Writings as one of the cities which the half tribe of Manasseh, beyond Jordan, gave to the Levites. (*Josh.* xxi. 27.) Its strong castle was built by the Saracens, between whom and the Latin kings of Jerusalem it several times changed masters, and under Baldwin IV., in 1180, it was entirely ruined and depopulated.

Bot, *n.* (*Zoöl.*) See BOTS.

Botal Foramen, *n.* [Lat. *foramen*, aperture.] (*Anat.*) A large opening which exists in the fœtus in the partition between the two auricles of the heart, and by means of which the blood passes from one to the other. Its discovery is generally attributed to Leonard Botallus, Botal, or Botalli, who wrote in 1562. It was spoken of, however, by Vesalius, and even by Galen.

Botan'ic, Botan'ical, *a.* Pertaining, or relating, to botany; referring to, or containing, plants; as, a *botanic* collection.

Botanic garden, a garden in which plants are collected and cultivated for the purpose of illustrating the science of botany. — *Botanic physician*, a physician whose remedies are obtained from herbs and roots.

Botan'ically, *adv.* According to the system of botany; in a botanical manner.

Bot'anist, *n.* One versed in, or a student of, botany; as, "Dr. Asa Gray . . . . was one of the two or three greatest *botanists* of his age."—*Bryce.*

Bot'anize, *v. i.* [Fr. *botaniser.*] To study botany; to search for and collect plants, as a botanist.

> "One that would peep and *botanize*
> Upon his mother's grave."—*Wordsworth.*

Bot'anizing, *n.* The seeking of plants for botanical purposes.

Bot'any, *n.* [Gr. *botanē*, herb or grass.] That branch of natural history which relates to the vegetable kingdom; not merely including the nomenclature and classification of plants, as some have supposed, but embracing all the phenomena of vegetable life in their widest extent.—To facilitate investigation, *B.* has been divided into several departments which may be regarded as separate sciences. The objects and scope of each of these sub-sciences will now be explained. — 1. *Structural Botany, Organography*, includes everything relating to the organization of plants. It describes the different kinds of tissue which enter into the composition of plants; it explains the structure of every organ; and it also teaches the relation that one organ bears to another. That branch of structural *B.* which has reference to the elementary tissues is sometimes distinguished as *Vegetable Histology*. The microscope has shown that the various tissues are composed of little membranous sacs or vesicles, varying in form and size, and united in different ways. The study of these elementary organs cannot be prosecuted without the aid of costly instruments, but much may be learned from the clear descriptions and excellent illustrations given in modern botanical works, particularly those of Lindley. Some plants consist of simple cells only, which continue throughout life to produce new cells, and to perform all the vital functions. A flowering plant, however, although originally cellular, produces organs composed of cells and vessels, variously modified and arranged, and covered by an epidermis. These compound organs may be divided into *nutritive*, or those concerned in the nourishment of the plant, and *reproductive*, or those which are employed in the production of new individuals. The former are the *stem*, *root*, and *leaf*; the latter, the *flowers* and *fruit*. Leaves occupy various positions on the stem and branches, and their arrangement forms a subject for special study. The arrangement of flowers on the floral axis and its ramifications, has also to be considered. The term *Morphology* has been applied to that portion of Organography which treats of the abnormal modifications of the different organs. The researches which have been made in this department during the last forty years, have confirmed the doctrine advanced by the German poet Göthe, namely, that all those parts familiarly known as leaves, flowers, and fruit, are constructed on a simple uniform plan, out of one kind of organ in different states of modification and combination; and that there is no other difference between the flower of a rose and that of a nettle, than what arises from modifications and combinations of this typical organ, which is the leaf. In elucidating this doctrine of the unity of type, which constitutes the basis of the theory of botany, Lindley says: "We are so accustomed to talk of plants bearing leaves, and flowers, and fruit, and it is so evident to our senses that extremely different organs do exist under such names, that it seems inconceivable that parts so very dissimilar should be only leaves in different states; that the pure white petals of the lily, the rich red flowers of the rose, the sweet-smelling blossoms of the jasmine and orange, or the long trumpet-shaped corollas of the honeysuckle, should all be leaves; that the stamens in which the fertilizing powder is locked up, the pistils which are destined to receive the influence of the pollen, the ovula that they contain, and, finally, that the fruit, which is the result of the action of the two last, are all so many parts formed out of one common organ, which in a particular and very frequent state is what we call a leaf. Botanists do not mean to say that he who eats an apple, or an orange, or a peach, is in a state of mental delusion, and that while he fancies himself to be enjoying the pleasure of gratifying his palate by the most delicious flavors, he is really only chewing the leaves of these plants; but they assert that those appendages of a plant which are commonly called the leaves have a peculiar anatomical structure, and a certain relation to the stem on which they are borne, and, being developed according to certain fixed laws, are always arranged upon a certain and uniform plan with respect to each other; and that all the other organs, whether calyx, corolla, stamens, pistils, or fruit, have an anatomical structure essentially the same, bear the same relation to the axis that they grow upon, are developed according to the same laws, are arranged upon the same certain and uniform plan with respect to each other, and, finally, are constantly becoming transformed into leaves of the ordinary appearance; thus losing the condition in which they are usually found, and reverting to their structural type." Morphology is a most attractive subject for study, but less important in a practical point of view than that part of Organography which has reference to the ordinary forms of organs, and the manner in which they are arranged. No systematic arrangement can be understood without a knowledge of the laws upon which the symmetry of plants depends, and a practical acquaintance with the structure of every kind of organ. — See CELL, INFLORESCENCE, OVULE, PHYLLOTAXIS, PISTIL, SEED, STAMEN, &c. — 2. *Physiological Botany* treats of plants in a living or active state, and of the manner in which their functions are performed: it explains how they are influenced by the several agencies of light, heat, air, and moisture; and it describes their various secretions and the nutriment afforded by the soil. It need scarcely be said that any attempt to investigate the laws of vegetable life would be abortive without a perfect acquaintance with the more important details of organization. Plants, not being endowed with voluntary motion, derive their food either from the soil in which they are fixed, or from the atmosphere by which they are surrounded. The nutriment, consisting of water generally holding salts in solution, is absorbed by the aid of endosmose, by the extremities of the root. It then passes from cell to cell, and ascends the stem, dissolving in its course some of the organic matter stored up in the vegetable tissue. Arrived at the green shoots and surfaces of the leaves, which are covered with minute openings, or *stomata*, the sap is exposed to the influence of light, heat, and air. About two-thirds of the moisture taken up is now evaporated and exhaled; the returned sap, which, of course, becomes thickened, undermainder, which, of course, becomes thickened, undergoes certain chemical changes, and then begins to descend by the under surface of the leaf, and along the bark. It takes either a direct or a circuitous course downward, communicating with the centre of the stem by the medullary rays, depositing various secretions, more especially in the bark, and giving origin to substances which are destined to nourish and form new tissues. Finally it reaches the extremity of the root, where absorption had commenced; a small portion is there absorbed fluids, and again circulates in the sap. The circulation of the sap has been adduced as an example of the vital processes elucidated by physiology, because it is due to the combined action of all the organs of nutrition, and may therefore serve instead of several illustrations. The study of the special functions of the various organs necessarily precedes that of the general physiological phenomena, such as circulation, assimilation, respiration, fertilization, and germination. Under the names of the different organs of nutrition and reproduction, the reader of this work will find full particulars respecting their functions. The physiology of reproduction is treated of at length under the heads POLLEN, and EMBRYO. See also ENDOSMOSE, SAP, SECRETIONS, &c. — 3. *Systematic Botany*, or *Taxonomy*. This department includes the principles of classification, which are based on the observations which have been made on the structure and physiology of plants. It cannot, therefore, be prosecuted successfully until the student has acquired a complete knowledge of Organography. The object of systematic botany is to name, describe, and arrange plants in such a manner that the botanist may readily ascertain the name of any specimen, and at the same time get an insight into its true nature and general properties. When it is considered that there are some 120,000 known species of plants, it is obvious that there must be a definite nomenclature and classification, were it only to facilitate reference and communication. Before plants can be classified, their peculiarities of structure must be clearly defined; hence the necessity of technical language which is employed in descriptive *B.* This language ought not to deter the lover of nature from studying the principles of classification; for in acquiring a knowledge of the numerous technical terms, he will at the same time fix in his mind the ideas which they represent, and thus, in reality, become acquainted with important elementary facts. Botanists are blamed for using so many hard words; but it should be remembered that they have to explain very minute points of structure, and must employ a language more rigorously defined than that of ordinary conversation. "Botany," says Dr. Hœfer, "would be the most lovely of the sciences, if botanists had not made its nomenclature so dry and repulsive. All the world would study it, if it was addressed less to the memory and more to the intelligence." The remarks of Mr. Page on the use of technical terms in geology may be fairly set in opposition to the observation of the French writer: — "Scientific terms, when once thoroughly comprehended, are quite as easily remembered as those derived from the language of every-day life; while, being chiefly compounds of Greek and Latin, they constitute a nomenclature intelligible to the scholars of every country. There is nothing more perplexing than a multiplicity of local and provincial terms; and one can easily imagine the confusion and obstruction that would arise were every country and district adhering to its own vernacular, instead of adopting a uniform system of terminology. The technicalities of science, often so ignorantly inveighed against, are, in fact, the instruments by which it effects its progress. New objects require new names, and new facts, new phrases to express their relations; and the sooner the student can make himself familiar with those terms and their applications, the more rapid and pleasant will be his onward progress." That part of Systematic Botany which relates to the technical language of the science is sometimes called *Glossology*. The principles of classification constitute what is properly called *Taxonomy*, though this term is often applied to the whole department. There have been two great plans proposed for the classification of plants, one denominated *artificial* and the other *natural*. The first is founded on characters taken from certain parts of plants only without reference to others; while the second takes into account all the parts of plants, and involves the idea of *affinity* in essential organs. In both artificial and natural systems, the lower divisions, namely the genera and species, are the same, the great difference between them consisting in the manner in which the genera are grouped into orders, and the orders into classes. (See SPECIES. GENUS, ORDER, CLASS.) The plants in one of the higher divisions of an artificial system, such as that of Linnæus, have no necessary affinity, and are connected only by certain characters, more or less superficial, which have been selected as the signs of that division. Such a system may, therefore, be compared to a dictionary, in which words are arranged, for convenience of reference, in alphabetical order, adjacent words not necessarily agreeing with each other, further than in commencing with the same letter. In a natural order, on the contrary, all the genera will be found to have a true family likeness; for their association is the result of a careful consideration of the structure of every organ. The classes in the natural system have been formed upon the same principle, by uniting orders which possess many important characters in common. The Linnæan system leads to little more than a knowledge of names, and can only be looked upon as an index to the genera. Though superior to every artificial scheme previously promulgated, its day has gone by and the more philosophical system has taken its place. Linnæus himself never intended it to be anything more than a provisional arrangement; and distinctly stated that a natural method was the great object of scientific inquiry. The general principles of the Linnæan or *Sexual system* may be explained in a few words. 24 classes are founded on the number, position, relative lengths, and connection of the stamens: while the orders in these classes depend on the number of the styles, the nature of the fruit, the number of the stamens in the classes where this character is not used for distinguishing them, and the perfection of the flowers. The 24th class includes plants having inconspicuous flowers, and in it the orders are formed according to natural affinities. Under these classes and orders, all the known genera and species are

arranged. Even as an artificial method for discovering the names of plants, the Linnæan system has many imperfections. Being based upon the more obvious characters of the reproductive organs, it cannot be of the least use when the plants are not in full flower, with all the stamens and styles perfect. The different flowers on the same plant often vary as regards the number of the stamens. Again, if the classification was carried out rigidly, it would separate, in many instances, the species of the same genus; but so sensible was Linnæus of the importance of maintaining the natural character of his genera, that he sacrificed the symmetry of scheme for the sake of keeping all the species together. The natural system of classification is based upon the real affinities of plants, and necessarily takes into account all the organs. Though it can never be perfect until all the plants of the globe have been examined, it has already reached a very high point of development, and a great number of the orders which have been determined are quite as natural as the orders in the animal kingdom. For example, those groups of plants designated as *Ranunculaceæ*, *Gentianaceæ*, and *Atropaceæ*, are as distinct in their characters as those animal groups named *Cetacea*, *Cheiroptera*, and *Rodentia*. Such being the case, it follows that a knowledge of one species is to a great extent the knowledge of many: for an individual, if well selected, will exhibit the most important characters of all the other plants in the same natural group. Thus, by studying the common radish (*Raphanus*), or the mustard (*Sinapis*), the botanist may obtain a general knowledge of about 1,600 species, which constitute the order *Brassicaceæ*, and which are all formed, as it were, on the same type. The properties of plants accord, in a very remarkable manner, with their structure; and, as a general rule, the position of a plant in the natural arrangement indicates its properties. For example, if a botanist, on examining a plant, finds all the structural peculiarities of the order just mentioned, he may feel confident that it is not poisonous, but most likely antiscorbutic or pungent. If, however, he should meet with one of the *Atropaceæ*, he might safely set it down as a plant possessing poisonous narcotic properties. Enough has been said to prove that the natural system is much more than a mere index to the names of plants. It reveals, to a certain extent, the plan of creation, and is at once an aid to research and a record of discovery. Several schemes based upon the natural affinities of plants have been devised. They may be regarded as so many versions of the one true system; for, though they have been worked out by different methods, they agree in nearly all their grand divisions. The characters by which the primary groups have been determined, are furnished by the elementary tissues, and the most important organs of vegetation and reproduction. Regarding only the elementary structure, plants may be arranged under the heads of *Cellular* and *Vascular*, according to the absence or presence of regular vessels: (see TISSUE, CELL, VESSEL.) A more satisfactory arrangement results from a consideration of the different modes by which plants are propagated. Some spring from true seeds, containing the rudimentary organs called cotyledons; while others are developed from *Spores*, in which no distinct organs can be traced. The former are said to be *Cotyledonous*, and the latter *Acotyledonous*, (i. e. without cotyledons.) As the number of cotyledons forms a natural distinctive character, the first group of plants is subdivided into *monocotyledonous*, having one cotyledon, and *dicotyledonous*, having two cotyledons. The mode in which the root is produced affords characters which confirm this arrangement. The young root of an acotyledon is *heterorhizal*, that of a monocotyledon is *endorhizal*, and that of a dicotyledon *exorhizal*; (see EMBRYO.) The three groups are further characterized by the stems; those of the first being *acrogenous*, those of the second *endogenous*, and those of the third *exogenous*. Stemless plants are said to be *thallogenous*, and form a distinct section of the acotyledonous group. The venation of the leaves establishes the same great natural divisions; and similar results are obtained from a consideration of the flowers; monocotyledons and dicotyledons being *phanerogamous*, or flowering, and acotyledons, *cryptogamous*, or flowerless.— The arrangement adhered to in the present work is that proposed by Lindley, in which the number of orders extends to 303. The main divisions consist of *asexual*, or "Flowerless plants," which include Thallogens and Acrogens; and *sexual*, or "Flowering plants," which include *Rhizogens*, *Endogens*, *Dictyogens*, *Gymnogens*, and *Exogens*.

1. THALLOGENS are Flowerless plants, whose stems and leaves are undistinguishable. They include the alliances *Algales*, *Fungales*, *Lichenales*, q. v.

2. ACROGENS are Flowerless plants, whose stems and leaves are distinguishable. The alliances are, *Muscales*, *Lycopodales*, and *Filicales*, q. v.

3. RHIZOGENS are Flowering plants, with fructification springing from a thallus. The orders are, *Balanophoraceæ*, *Cytinaceæ*, and *Rafflesiaceæ*.

4. ENDOGENS are Flowering plants, with fructification springing from a stem, the wood of the stem youngest in the centre; the cotyledon single, and the leaves parallel-veined, permanent. The alliances are, *Glumales*, *Arales*, *Palmales*, *Hydrales*, *Narcissales*, *Amomales*, *Orchidales*, *Xyridales*, *Juncales*, *Liliales*, and *Alismales*, q. v.

5. DICTYOGENS are like Endogens, except that the leaves are net-veined, deciduous. The wood of the stem, when perennial, is arranged in a circle with a central pith. The orders are, *Dioscoreaceæ*, *Smilaceæ*, *Philesiaceæ*, *Trilliaceæ*, and *Roxburghiaceæ*.

6. GYMNOGENS are Flowering plants, whose fructification springs from a stem the wood of which is youngest at the circumference, always concentric; the cotyledons 2 or more; and the seeds quite naked. The orders are, *Cycadeaceæ*, *Pinaceæ*, *Taxaceæ*, and *Gnetaceæ*, q. v.

7. EXOGENS are like Gymnogens, except that the seeds are enclosed in seed-vessels. They are distributed into four sub-classes: —(I.) *Diclinous Exogens.* — Flowers diclinous, without any customary tendency to become hermaphrodite. The alliances are, *Amentales*, *Urticales*, *Euphorbiales*, *Quernales*, *Garryales*, *Menispermales*, *Cucurbitales*, *Papayales*, q. v. —(II.) *Hypogynous Exogens.* — Flowers hermaphrodite or polygamous; stamens entirely free from the calyx and corolla. The alliances are, *Violales*, *Cistales*, *Malvales*, *Sapindales*, *Guttiferales*, *Nymphales*, *Ranales*, *Berberales*, *Ericales*, *Rutales*, *Geraniales*, *Silenales*, *Chenopodales*, *Piperales*, q. v.— (III.) *Peryginous Exogens.* — Flowers hermaphrodite or polygamous; stamens growing to the side of either the calyx or the corolla; ovary superior, or nearly so. The alliances are, *Ficoidales*, *Daphnales*, *Rosales*, *Saxifragales*, *Rhamnales*, *Gentianales*, *Salanales*, *Cortusales*, *Echiales*, *Bignoniales*, q. v.—(IV.) *Epyginous Exogens.*— Flowers hermaphrodite or polygamous; stamens growing to the side of either the calyx or corolla; ovary inferior, or nearly so. The alliances are, *Campanales*, *Myrtales*, *Cactales*, *Grossales*, *Cinchonales*, *Umbellares*, q. v., and *Asarales*.

A brief notice of the progress of systematic *B.* may conclude this attempt to elucidate its leading principles. One of the earliest methodical arrangements was that of Cæsalpinus, a Roman physician attached to the court of Pope Sixtus V. This was entirely artificial; and the same may be affirmed of the several systems of Gesner, Morison, Rivinus, and Tournefort. That propounded by Tournefort was for a long time adopted by the French school, but was ultimately displaced by the attractive scheme of Linnæus, who must be looked upon as the great promulgator of the artificial method of classification. The first attempt at arranging plants according to their natural affinities was made by an English botanist, John Ray, in the year 1682. His scheme was necessarily very imperfect, for the number of plants then known was comparatively small; still it was in its leading features correct, and has really formed the foundation of every later system. It was long neglected, and did not receive the attention it deserved until Jussieu entered the field, and developed Ray's views of the natural affinities in the vegetable kingdom. Jussieu's method was first made known in the year 1789, just eleven years after the death of Linnæus. Since that time, the natural method has been advanced by the labors of De Candolle, Brown, Endlicher, Lindley, and many others.—4. *Geographical Botany* treats of the manner in which plants are affected by climate and station, and endeavors to determine the conditions under which particular families or species of plants are confined to certain zones of latitude and altitude. It is a study of great interest, and one which cannot be successfully prosecuted without an intimate acquaintance with most of the sciences. Of course, so long as there are vast tracts of continents unexplored by botanical travellers, the knowledge upon which this department is founded must be imperfect. (See DISTRIBUTION OF PLANTS.) —5. *Fossil Botany* investigates the nature of the plants found in a fossil state in the various geological formations. It is therefore at once a branch of botany and of geology. (See PALÆONTOLOGY.) The practical bearings of botany are most important, and are sometimes treated separately in manuals of the science, under the head of *Economic Botany*. All the principal plants affording food, timber, medicine, fibres, dye-stuffs, and other useful products, are noticed in this work under the names of the genera which include them. For further details of the structure and classification of plants, the reader may consult with advantage Lindley's *Introduction to Botany*, *Elements of Botany*, and *Vegetable Kingdom*, and the works of Balfour, Henfrey, Henslow, Olivir, and Asa Gray.

Bot'any, in *Iowa*, a post-office of Shelby co.

Bot'any Bay, a bay of New South Wales, Australia, 5 m. S. of Sydney; Lat. 34° S., Lon. 151° 15′ E. It was discovered by Capt. Cook, on his first voyage, in 1770, and named by him from the great number of new plants found in its vicinity. In 1787 it received England's first penal colony in the East; and though it was supplanted the very next year by Port Jackson, yet it long continued to be the popular designation, not merely of this penal settlement, but of the Australian convict settlements generally.

Bot'any Bay Gum, *n.* A gum-resin produced by the *Xanthorrhœa hastilis*, or *resinifera* of Australia.

Bot'any Bay Oak, *n.* (*Bot.*) A wood resembling in color full red mahogany, and used for veneering the backs of brushes, and for turnery, &c.

Botar'go, *n.* [Sp. *botarga*, a sort of loose, baggy breeches; contraction of *botalarga*, a wide leather bag.] A kind of sausage-roll, or cake, made of the roe of red mullet, and much used in Italy, Spain, &c., as an appetizer.

Bota'via, in *Iowa*, a post-office of Jefferson co.

Botch, (*boch,*) *n.* [It. *bozza*. Of the same origin as *boss.*] A swelling or pustule on the skin; an eruptive discoloration of the epidermis.

"*Botches* and blains must all his flesh emboss." — *Milton.*

—That which resembles a botch: a part or patch added clumsily or unsuitably.

"Yet, making here a perfect *botch*,
Thrusts your poor vowel from his notch." — *Swift.*

—Ill-finished work, so as to appear worse than the rest; a clumsy, bungled piece of mending.

"To leave no rubs or *botches* in the work." — *Shaks.*

—*v. a.* To mark with botches.

"Young Hylas, *botch'd* with stains too foul to name,
In cradle here renews his youthful frame." — *Garth.*

—To mend, repair, or patch in a clumsy, awkward manner, as clothes, or anything that has undergone renovation.

"Their coats, from *botching* newly brought, are torn." — *Dryden.*

—To put together unsuitably or unskilfully; to express or perform bunglingly or awkwardly.

"They aim at it,
And *botch* the words up fit to their own thoughts." — *Shaks.*

Botch'er, *n.* One who botches; a bungler; a mender of old clothes, whether a tailor or cobbler.

"*Botches* left old clothes in the lurch,
And fell to turn and patch the church." — *Hudibras.*

Botch'ery, *n.* Botching; clumsy workmanship, bungling. (R.)

Botch'y, *a.* Marked with botches; full of botches.

"Were not that a *botchy* sore?" — *Shaks.*

Bote, *n.* [See BOOT.] (*Eng. Law.*) An allowance of wood for fuel, repairs, and the like, and which every tenant for life, unless restrained by covenant or agreement, may, of common right, take from the land for his reasonable service, without being impeachable for committing waste. The word is generally conjoined with another to express its nature; as *bridge-bote;* which is an allowance for making or repairing a bridge; *fire-bote*, or *house-bote*, for fuel; *plough-bote* and *cart-bote*, for making and repairing implements of husbandry; *hay-bote*, or *hedge-bote*, for repairing hedges and fences, &c. The term *bote* and its compounds, however, though technically proper, have in modern times somewhat fallen out of use.

Bote'less, *a.* Same as BOOTLESS, *q. v.*

Bote'roll, *n.* (*Her.*) The tag of a broadsword's scabbard.

Botetourt, (*bot'e-toort,*) in *Virginia*, a S.W. central co., bounded on the S.E. by the Blue Ridge. *Area*, 550 sq. m. Drained by James River, and also by Craig's and Catawba creeks. The celebrated Peaks of Otter rise near the confines of this co. *Surface.* Generally hilly. *Soil.* Tolerably good. *Cap.* Fincastle. *Pop.*, 14,860.

Bo'tetourt Springs, in *Virginia*, a post-village of Botetourt co.

Bot-fly, *n.* (*Zoöl.*) See GAD-FLY.

Both, *a.* and *pron.* [A. S. *butu, batwa* — *ba*, both, and *twa*, two.] The two taken by themselves; the one and the other; two separate persons or things combined together.

"As therefore *both* are equal in degree,
The lot of *both* he left to destiny." — *Dryden.*

—*conj.* As well; on the one side and on the other side; equally the former and the latter. (Followed by *and.*)

"*Both* the boy was worthy to be praised.
And Stimichon has often made me long
To hear, like him, so sweet a song." — *Dryden.*

Both, JOHN and ANDREW, two eminent painters, were natives of Utrecht. To perfect themselves in their art they went to Rome, where they remained several years. Claude Lorraine became the model of the elder, John, and his brother excelled in figures after the manner of Bamboccio; and thus qualified, they continued to assist each other until the death of Andrew, who was unfortunately drowned in a canal at Venice. John returned to Holland, where he continued to paint landscapes; but the death of his brother continually preying upon his mind, he D. in 1650, five years after him. Their pictures are much admired and sought after, and command high prices.

Both'er, *v. a.* To tease or perplex. (Vulgar.) See POTHER.

Both'er, *n.* State of annoyance, perplexity, or difficulty; one who, or that which, bothers; as, it is all a *bother*. (Used colloquially in a vulgar sense.)

Bothera'tion, *n.* A vulgarism to express the state of being bothered; perplexity; cause of trouble.

Bothnia, (*both'ne-a,*) the name formerly given to a country of N. Europe, extending along the east and west shores of the Gulf of Bothnia (*q. v.*), the eastern portion now being comprised in Finland, and the western forming the Swedish governments of Pitea and Umea.

Both'nia, (GULF OF,) is that part of the Baltic Sea, which separates Sweden from Finland. It begins at the island of Aland, and extends 400 miles in length, and 100 in extreme breadth, to Tornea, between Lat. 60°–66° N., Lon. 17°–25° 35′ E. It receives nearly all the great rivers of Sweden and Finland; but its depth is not greater than that of the Baltic generally.

Both'nian, Both'nic, *a.* Belonging to Bothnia, or to the gulf of that name.

Bothroden'dron, *n.* [Gr. *bothros*, pit, and *dendron*, tree.] (*Geol.*) A genus of fossil stems with dotted surfaces, occurring in the coal-measures, and distinguished from *Sigillaria* and *Stigmaria* by two opposite rows of deep oval pits, which appear to be the scars left by large cones or seed-bracts.

Both'well, a par. and village of Scotland, co. Lanark, 8 m. E. of Glasgow. About a mile distant, towards the S.E., the road to Hamilton is carried over the river Clyde by *Bothwell-bridge*, the scene of one of the most memorable events in Scottish history. The Covenanters, numbering from 4,000 to 5,000 men, having taken possession of the bridge, were attacked, on the 22d June, 1679, the bridge forced, and their army totally routed by the royal troops commanded by the Duke of Monmouth. Near the village is the magnificent ruin of Bothwell Castle, once an important fortress, and frequently referred to in Scottish history.

Both'well, JAMES HEPBURN, fourth EARL OF, a prominent character in Scottish history, was B. 1526. At the death of his father, in 1556, he became the most powerful noble in the south of Scotland, and opposed at first the party of the Reformation, but eventually joined it. In

1561, he was appointed one of the deputation sent to France to convey Mary, Queen of Scots, to her kingdom. He speedily grew into power, but his arrogant conduct made him so obnoxious that he was exiled from the court. In 1562, *B.*, in conjunction with James Hamilton, Earl of Arrau, endeavored to seize the young queen's person, for which offence he was compelled to flee the country, and was outlawed. In 1565, he returned to Scotland, rose into high favor at court, and it has been stated, enjoyed the queen's most intimate society. After the murder of Mary's husband, Darnley (*q. v.*), *B.* was publicly accused of participation in the crime; if, indeed, he was not the actual instigator of it; and was indicted and tried accordingly, but acquitted. In 1567, *B.*, at the head of an armed body of his retainers, carried off Queen Mary to his castle of Dunbar; a divorce from his wife followed, and he married the queen, at Holyrood, in the same year. After the deposition of Mary, *B.* fled to Denmark, where he was lodged in prison, and D. in 1577. His titles and estates were forfeited to the crown

Both'wick, in *Virginia*, a post-office of Dinwiddie co.

Botryeh'inm, *n.* (*Bot.*) A genus of plants, order *Ophioglossaceæ*.

Botryla'riæ, *n. pl.* (*Zoöl.*) A family of singular compound *Tunicaries*, or *Ascidians*, in which several distinct individuals are arranged in a circle round a central aperture common to the rectum of each, while the mouths are distinct and placed at the circumference.

Bot'ryogene, *n.* (*Min.*) A hydrated sulphate of iron, composed of 19 per cent. of sulphate of protoxide of iron, 48·3 sulphate of peroxide of iron, and 32·7 water. It is found in the great copper-mine of Fahlun, in Sweden, in small crystals of a deep hyacinth-red color, passing into ochre-yellow in massive varieties; and is often aggregated into reniform and botryoidal shapes, consisting of globules with a crystalline surface like that of a bunch of grapes.

Bot'ryoid, Botryoi'dal, *a.* [Gr. *botros*, a cluster of grapes, and *eidos*, form.] (*Bot.*) When a part (the inflorescence, for example) is clustered like a bunch of grapes. (*Min.*) When the surface of a mineral consists of a group of sections of clustered globular prominences. When the prominences are larger and less globular, the appearance is expressed by the terms *mammillated* or *mammillary*. The shapes frequently assumed by Chalcedony and Hæmatite, and certain ores of copper and manganese, are familiar examples of these modes of aggregation.

Bot'rytis, *n.* (*Bot.*) A genus of microscopic Fungi, or moulds, chiefly remarkable as containing the parasitic species of fungus which plays so important a part in the development of potato disease. This species is best known as *B. infestans*, though it is sometimes referred to the genus *Peronospora*. The fungous disease in silk worms, called muscardine, is attributable to another species, *B. Bassiana*. The nomenclature of these minute fungi is so fluctuating, owing to increased facility for studying their organization, that the species above referred to may not improbably soon bear other names.

Bots, Botts, *n. pl.* (*Zoöl.*) The larvæ or caterpillar of the gad-fly, belonging to the genus *Œstrus*, of which there are numerous species. They infest horses and cattle, and are distinguished by passing the larval state of their existence within some animal, and feeding on the juices or substance of that animal.—See GAD-FLY.

Bot'ta, CARLO GIUSEPPE, an Italian, who studied medicine at the university of Turin, and in 1786 took a doctor's degree. He wrote several historical works, and received a pension, with the honor of knighthood, from Charles Albert, king of Sardinia. He wrote a *History of Italy*, and a continuation of Guicciardini's history from 1530 down to 1789; upon the merits of which public opinion is divided. He is also the author of a *History of American Independence*, which has been highly spoken of in the United States. B. at San Giorgio, Piedmont, 1766; D. at Paris, 1837.

Bot'ta, PAUL EMILE, a French archæologist, son of the above, B. at Paris, 1805. He became French consul at Mosul, and early distinguished himself as a naturalist. After spending some years in Egypt, and making a journey through a portion of Arabia, he settled at Mosul, and in 1843 disentombed an Assyrian palace in the mound of Khorsabad, 14 miles from the seat of his consulship. This was before the discoveries made by Mr. Layard; so M. Botta may be considered the first who led the way in the path of Assyrian remains. D. 1870.

Botticel'li, ALESSANDRO, a Florentine artist, B. 1440. He studied painting under Lippi, whose manner he successfully imitated, and was one of the earliest engravers, having learned the art from Baldini, and applied it to the illustration of Dante's works, printed 1488. Two pictures of his *Venus Rising from the Sea*, and *Venus adorned by the Graces*, are highly spoken of. D. 1515.

Bottle, (*bot'tl,*) *n.* [Fr. *bouteille*, from L. Lat. *buticula*, dimin. of *butta*, a cask or butt; Sp. *botella*; It. *bottiglia*. See BUTT.] Literally, something round, swelling, or protuberant; specifically, a hollow round vessel of glass, leather, &c., with a narrow mouth, for holding liquors, as, a water-*bottle*.

"His cold thin drink out of his leather *bottle*,
Is far beyond a prince's delicates." — *Shaks.*

—The contents of a bottle; as much as a bottle will hold; as, a *bottle* of wine.

"He was all for love, and a little for the *bottle*." — *Dibdin.*

A bottle of hay. A bundle of hay or straw.

"Methinks I have a great desire to a *bottle of hay*; good hay, sweet hay, hath no fellow." — *Shaks.*

(*Hist.*) *B.* are now usually made of glass or earthenware; but the first *B.* were made of the skins of animals, mostly goats:—of this kind were the *B.* spoken of on Scripture. Skin *B.* are still used in Southern Europe for the transport of wine, and by tribes of Africa and Asia for carrying water. The ancient Egyptians made *B.* of most elegant form, and exquisite workmanship, of alabaster, stone, gold, ivory, and other substances. The Italian peasants carry, slung around their necks, *B.* made of the rind of the gourd, which, when dry, is as

Fig. 401.—GOAT-SKIN BOTTLE.

hard as wood. The accompanying engraving shows the form and nature of an ancient goat-skin *B.*, out of which a water-carrier is offering to sell a draught of water.

Bot'tle, *v. a.* To put into or enclose in bottles; as, to *bottle* wine.

"You may have it a most excellent cider-royal, to drink or to *bottle*." — *Mortimer.*

—*v. i.* To fasten up or deprive of liberty temporarily; as, to be *bottled* up.

Bot'tle-Ale, Bot'tled-Ale, *n.* Ale contained in bottles.

Bottle-companion, Bottle-friend, *n.* A drinking-associate; a companion in a drinking-bout.

"Sam, who is a very good *bottle-companion*, has been the diversion of his friends." — *Addison.*

Bottled, (*bot'ld,*) *p. a.* Put into bottles; enclosed in bottles; as, *bottled* porter. — Protuberant; bottle-shaped. To hold in durance or restraint for a certain time; as, a *bottled* voter.

Bot'tle-flower, *n.* (*Bot.*) A name of *Setaria glauca*.

Bot'tle-glass, *n.* A composition for manufacturing bottles, consisting of sand and lime, clay, and alkaline ashes of any kind.—See GLASS.

Bot'tle-gourd, *n.* (*Bot.*) See CALABASH.

Bot'tle-green, *n.* A dark green tint, like that of a green glass bottle.

Bot'tlehead, *n.* (*Zoöl.*) See DELPHINIDÆ.

Bot'tle Hill, in *New Jersey*. See MADISON.

Bot'tle-holder, *n.* A slang term for a person who aids and supports a professional boxer or prize-fighter, between the rounds of a fight.

Bot'tle-nosed, *a.* Having a bulbous or bottle-shaped nose; as, the *bottle-nosed* whale.

Bot'tle-screw, n. A cork-screw; a screw for extracting corks out of bottles.

"A good butler always breaks off the point of his *bottle-screw* in two days, by trying which is hardest, the point of the screw, or the neck of the bottle." — *Swift.*

Bot'tling, *n.* The act of putting liquid into bottles; as, a *bottling*-store.

Bot'tom, *n.* [A. S. *botm*; Swed. and Goth. *bottn*; Ger. *boden*; O. Ger. *bodam*; Icel. *botn*; Dan. *bund*; allied to Gr. *bythos*, *bathos*, and *byssos*; Lat. *fundus*; W. *bon*, a stem, a base.] The lowest or deepest part of anything; as, the *bottom* of a well, river, or vessel.

"Inestimable stones, unvalued jewels,
All scattered in the *bottom* of the sea." — *Shaks.*

—Base; foundation; groundwork (either literally or figuratively); the ground under the water's surface; as, to get to the *bottom* of a mystery.

"His proposals and arguments should with freedom be examined to the *bottom*." — *Locke.*

—A dale or valley; low land formed by alluvial deposits in the vicinity of a river; as, a well-timbered *bottom*.

"On both the shores of that fruitful *bottom*." — *Addison.*

—Stamina; latent strength; power of endurance; as, a man of pluck and *bottom*.

—*pl.* Dregs; grounds; lees; sediment; as, the *bottoms* of a cask of beer. — A ball or skein of thread or string.

"Each Christmas thy accounts did clear,
And wound their *bottom* round the year." — *Prior.*

(*Naut.*) That portion of a vessel which is under water: but in a more general sense it stands for the ship itself; as, goods carried in foreign *bottoms*.

"He put to sea upon his own *bottom*." — *Norris.*

—(*pl.*) (*Mining.*) The deepest working parts of a mine, wrought either by sloping, driving, or otherwise breaking the lode. — *Bottoms in fork.* A term in use among the Cornish miners, England. When all the bottoms are unwatered, they say, "*the bottoms are in fork*;" and to draw out the water from them, or any dippa, or any other particular part of a mine, is said to be "*forking the water*;" and, when accomplished, such dippa, &c. is "*in fork*." Likewise when an engine has drawn out all the water, they say, "the engine is *in fork*."

Bot'tom, *v. a.* To furnish with a seat or bottom; as, to *bottom* a kettle.

"For Fanny sat there,
And sacred to me is that cane-*bottomed* chair." — *Thackeray.*

—To found or build upon; to fix upon as a base or support; preceding *on* or *upon*.

"Action is supposed to be *bottomed upon* principle." — *Atterbury.*

—To wind upon something; to twist thread around a thing.

"Therefore, as you unwind your love for him,
Lest it should ravel, and be good to none,
You must provide to *bottom* it on me." — *Shaks.*

—*v. i.* To rest upon, as its ultimate support.

"Find out upon what foundation any proposition advanced, *bottoms*." — *Locke.*

Bot'tom-bed, *n.* (*Geol.*) A name sometimes given to some partially, or doubtfully, fossiliferous strata which immediately underlie the Silurian system in Wales.

Bot'tom Captain, *n.* (*Mining.*) A superintendent over the miners in the bottoms.

Bot'tom-glade, *n.* A valley or dale; a low, open glade.

"The hilly crofts
That brow this *bottom-glade*." — *Milton.*

Bot'tom-grass, *n.* Grass growing on bottom-lands.

Bot'tom-heat, *n.* (*Gardening.*) A term applied in horticulture to the temperature communicated to certain soils, either by fermenting or decomposing substances placed underneath them, for which purpose leaves, fresh dung, and the refuse bark of the tan-yard are often used; or by means of flues or hot-water apparatus. The system is applied to the cultivation of pine-apples, grapes, cucumbers, and other plants grown in hot-houses, pits or frames. It is one of the most important agents in the artificial cultivation of tender plants, of whatever kind, whether flower-bearing or fruit-bearing.

Bot'tom-land, *n.* See BOTTOM.

Bot'tomless, *a.* Without a bottom; fathomless; as, a *bottomless* abyss.

"Him, the Almighty Pow'r
Hurl'd headlong flaming from th' ethereal sky
To *bottomless* perdition." — *Milton.*

Bot'tom-lift, *n.* (*Mining.*) The deepest, or bottom tier of pumps.

Bot'tom-rail, *n.* (*Joinery.*) The lowest horizontal rail of a frame door.

Bot'tomry, *n.* (*Marit. Law.*) It is in effect a mortgage of a ship, being an agreement entered into by an owner or his agent, whereby, in consideration of a sum of money advanced for the use of the ship, the borrower undertakes to repay the same, with interest, if the ship terminate her voyage successfully; and binds, or hypothecates, the ship for the performance of the contract. The instrument by which this contract is effected is sometimes in the shape of a deed poll, and sometimes in that of a bond. On bottomry contracts the lender runs the risk of the voyage, and in consideration of the risk the interest he may take is unlimited. The master has authority to hypothecate a ship or its freight, at a foreign port, in case of necessity, for the purpose of the voyage. In such case, if the loan be not repaid within the time prescribed, the agent of the lenders applies to the Court of Admiralty, with certain affidavits, and procures authority to arrest the ship, which may be sold, if necessary, under the authority of the Court. Where several loans of this description have been made on the same voyage, the last lender is entitled to priority of payment out of the proceeds of the sale.

Bot'tomry-bond, *n.* (*Mar. Law.*) A deed or instrument drawn up for the security of money advanced on bottomry.

Bot'tomry-premium, *n.* (*Com.*) The premium, or interest of money, advanced on bottomry.

Bot'tony, Bot'tonny, *n.* (*Her.*) A cross, the ends of which terminate in three semicircular projections, giving them an appearance resembling the trefoil in form.

Botts'ford, in *Georgia*, a village of Sumter co., 112 m. from Milledgeville.

Botts'ville, in *Missouri*, a post-office of Linn co.

Botu'liform, *a.* [Lat. *botulus*, a sausage, and *forma*, form, shape.] (*Bot.*) Sausage-shaped.

Botzen, or BOLZANO, (anc. *Pons Drusi*,) a town of Austria, in the Tyrol, cap. of a circ. in a pleasant valley, at the confluence of the Eisach and Talfer, and close to their embouchure into the Adige, 32 m. N.N.E. of Trent. It is a thriving, well-built town, in the Italian style, has a castle, several convents, a college, and manufactures of silk stockings. Being intersected by high roads leading to Switzerland, Austria, and Italy, with a station on the railroad over the Alps, from Innsbruck to Verona, *B.* has an extensive transit trade. It is also celebrated for its fairs, which are attended by a great concourse of French, Germans, and Italians. The surrounding country produces excellent wine, and fruits in abundance. *Pop.* 8,103.

Bouchain, (*bōō'shain,*) a fortified town of France, dep. Nord, cap. cant. on the Scheldt, 12 m. S.E. of Douai. The fortifications are of very considerable strength, and the adjacent country may be laid under water. The English, under the Duke of Marlborough, took it in 1711, after a memorable siege; but being retaken by Marshal Villars, in the following year, it was finally ceded to France at the treaty of Utrecht. *Pop.* about 1,800.

Bouchardat, (*boo-shar-da'*,) ADOLPHE, a French pharmaceutical author, and member of the Academy of Medicine, B. 1810. In 1852 he was appointed to the Chair of Hygiene in the above institution. His principal works are, *Eléments de Matière Médicale et de Pharmacie* (1838); *L'Annuaire de Therapeutique* (1842); *Formulaire Vétérinaire* (1840); and *Repertoire de Pharmacie*, published monthly since 1847.

Bouche, (*boosh,*) *n.* [Fr., mouth.] (*Gunnery.*) A piece of copper containing the vent or orifice through which the charge of a gun is ignited.

Boucher, FRANÇOIS, (*boo-sha'*,) a French painter, B. at Paris, 1703, was appointed painter to Louis XV. after the death of Vanloo. *B.* was an artist of much ability, and equally facile in the production of figure or landscape pictures, — a facility, however, which was very fatal to the claims his genius might otherwise have had on posterity. In many of his paintings, picturesque effect is the only thing sought after, no matter at what cost to truth. He has been called the "Anacreon" of painting, on account of the amorous character of many of

his works; mythological and pastoral subjects were also great favorites with him. D. 1770.

Bou'ches-du-Rhône, a maritime dep. of the S. of France, situated, as its name implies, at the mouths of the Rhône. It is bounded on the E. by the dep. Var; N. and W. by the Durance, Rhône, and the W. arm of the latter which separate it from the depts. of Vaucluse and Gard; and S. by the Mediterranean. *Area*, 2,331 Eng. sq. m. Surface and soil, various, but the latter generally inferior. A great part of the former is occupied by lagoons. The herring and anchovy fisheries are extensively carried on. It is divided into three arrond., viz., Marseille, Aix, and Arles-sur-Rhône. *Princ. towns.* Marseille (cap.), Arles, Aix, &c. *Pop.* 547,903.

Boucicault, JOHN LE MEINGRE, (*boo'se-ko,*) COUNT DE BEAUFORT, and Marshal of France, who flourished in the 15th century. He was the son of the first marshal of this name, and was early inured to arms. At the battle of Bosbec, in 1382, *B.* served as page of honor to Charles VI., and was knighted. In 1396, he went with the Count de Nevers, (afterwards Duke of Burgundy,) on a crusade against the Turkish sultan, Bajazet. At the battle of Nicopolis, *B.* the count, and most of his officers, were taken prisoners. The captives in general were massacred, but Nevers and *B.* were exempted, and allowed to return home. The latter, in 1400, was sent with a small body of French troops to assist in the defence of Constantinople against Bajazet, when he distinguished himself by his ability and courage; but after a year's service he returned to France. He then became governor of Genoa, which post he held for many years, and added Pisa to the French dominions. In 1409, *B.* seized on the city of Milan, whither he had been invited by the Guelph faction, one of the two grand political parties, whose quarrels at that period interrupted the peace of Italy. Their enemies, the Ghibellines, took advantage of *B.*'s absence to expel the French from Genoa, and he was obliged, after suffering a defeat, to retire to France. In 1415, he commanded the van of the French army at Agincourt, where he was taken prisoner. He died in England, in 1421. This great general was fond of music and poetry; and is said to have composed ballads, rondos, and virelays, after the manner of the age in which he lived.

Boucicault, DION, a celebrated dramatic author and actor, b. in Dublin, 1822. He was educated at the London University, and, in 1841, commenced his literary career with the production of *London Assurance*, at Covent Garden Theatre. He visited the U. States in 1853, and did not return to England till 1860, when he brought out the *Colleen Bawn*, which attained an immense success. This was followed by the *Octoroon*, in 1861. *B.* then became lessee of Astley's Theatre, London, but was unfortunate in the speculation. *B.* is the author of a large number of original and highly successful pieces, as well as of adaptations from the French, the best known, in addition to the above-mentioned, being *Old Heads and Young Hearts*, *Love in a Maze*, *Used Up*, *The Willow Copse*, *Janet Pride*, *Louis XI.*, *The Corsican Brothers*, *The Colleen Bawn*, *Arrah na Pogue*, *The Long Strike*, *Flying Scud*, &c. As an actor, *B.* excelled in the delineation of Irish character. In 1867, in conjunction with Charles Reade, he produced the novel entitled *Foul Play*, which became very popular both in England and the United States, and which he afterward adapted to the stage. In 1874, the *Shaughraun*, in which Boucicault took the leading rôle, was produced in the United States with marked success. *B.* was equally successful in drama, comedy and farce. Died Sept. 18, 1890.

Boudoir, (*boo'dwaw,*) *n.* [Fr.] A lady's small private apartment, in which she receives only her most intimate friends. *B.* became very fashionable in France during the reign of Louis XV., and were frequently adorned in the most luxurious and fantastic manner.

Bouet-Willaumez, LOUIS EDOUARD, COMTE DE, and vice-admiral of the French navy; B. 1808. He joined the naval service in early life, was attached to the naval station of La Plata, and took part in the bombardment of Mogador. In 1838, he was appointed to take a survey of the W. coast of Africa, the results of which appeared in a volume entitled *Description Nautique des Côtes comprises entre le Senegal et l'Équateur*, in 1849. In 1854, he participated in the bombardment of Sebastopol, and was promoted to be vice-admiral in 1860. *B.* is also author of the following works: — *Campagne aux Côtes Occidentales d'Afrique* (1850); *La Flotte Francaise et les Colonies* (1852). D. 1871.

Boufflers, LOUIS FRANÇOIS, DUKE DE, (*bouf'flair,*) a distinguished general and Marshal of France, B. 1644. He early testified great military talents under Crequi and Turenne, and gained signal honor by the defence of Lille, in 1708. The siege lasted four months, and when obliged to submit, Prince Eugene observed to *B.*: "I am very proud in having taken Lille, but I should still prefer the glory of having defended it like you." *B.* was as distinguished for his generosity of character and munificence, as for bravery and military skill. When William III. of England took Namur, in 1695, he made *B.* a prisoner in violation of the articles of capitulation. On his remonstrance against this conduct, he was answered that it was in the way of reprisal, the French having detained the garrisons of Dixmunde and Denise in the same manner. "In that case," replied the marshal, "my garrison ought to be arrested, and not I." "Sir," was the reply, "you are valued at more than 10,000 men." D. 1711.

Bougainville, (*boo-gan-vecl',*) LOUIS ANTOINE DE, a noted French navigator of the 18th cent. In 1766, he commanded an expedition of discovery fitted out by the French govt., with which he went to the Society Islands, the New Hebrides, New Guinea, &c., and after sailing round the world returned home. In the course of this voyage, he made many important discoveries, and obtained much curious information relative to the countries he explored, and the manners and customs of their inhabitants. His *Voyage round the World*, translated from the French, was published in London, in 1772, 4to. D. at Paris, 1811.

Bouget, Boujet, (*boo'zha,*) *n.* [Fr.] (*Her.*) An olden water-bucket, frequently borne in armorial shields.

Bough, (*bou,*) *n.* [A.S. *boga*, *boh*, or *bogh*, kindred with *bugan*, to bow, to bend; Goth. *baug.*] The large branch or arm of a tree that bows or bends outwards from a trunk.

> "Under some favorite myrtle's shady *boughs*,
> They speak their passions in repeated vows." — *Roscommon.*

Bought, (*bawt,*) *pret.* and *pp.* of BUY. *q. v.*

Bought, Bout, (*bawt,*) *n.* [Du. *bogt.* See BIGHT.] A bend; a flexure or curvature; a twist; a liuk; a knot.

> "In notes, with many a winding *bought*,
> Of linked sweetness, long drawn out." — *Milton.*

—That part of a sling which holds the stone.

Bougluten, (*bawt'n,*) *a.* A term locally used in the U. States, in the sense of purchased; not produced at home; bought.

Bougie, (*bōō'zhē,*) *n.* [Fr. *bougie*, wax-caudle.] (*Surg.*) A slender flexible tube, intended for introduction into the urethra, œsophagus, or rectum, when those passages are obstructed by stricture or other disease.

Bouie River, (*boo'ee,*) in *Mississippi*, a small stream embouching into Leaf River, Perry co.

Bouillaud, (*bōōl'yoh,*) JEAN BAPTISTE, an eminent French physician and author, B. 1796. In 1848, he became Dean of the Faculty of Medicine of Paris. His principal works are, *Leçons Clinques sur les Maladies du Cœur et des gros Vaisseaux*, (1854;) *De l'Influence des Doctrines ou des Systèmes Pathologiques de la Thérapeutique*, 1859, &c.

Bouilli, *n.* (*Cookery.*) Boiled meat; meat stewed with vegetables.

Bouillon, (*bōōl'yong.*) (*Cookery.*) Soup; broth; a nutritive liquid aliment of boiled meats, &c.

(*Farriery.*) A fleshy excrescence drawing out a horse's frush, and so obliging him to halt.

Bouil'lon, GODFREY DE. See GODFREY DE BOUILLON.

Boulainvilliers, (*bōō-lan-ve'yah,*) HENRI DE, COUNT DE ST. SAIRE, a French historian, B. 1658. He was the author of *Historical Memoirs of the Ancient Government of France till the Reign of Hugh Capet; History of the Peerage of France*, &c. *B.* was called by Voltaire the "most learned gentleman" in France. D. 1722.

Boulauge'rite, *n.* (*Min.*) A sulphuret of lead and antimony.

Boul'der, Bowl'der, *n.* [From BOWL.] A smooth, round stone, such as is found on the sea-shore; a large pebble.

(*Geol.*) A fragment of rock rounded by attrition, lying on or within the surface, and not derived from the rocks on which they lie. In many cases these *B.* have been transported hundreds of miles, and sometimes only a few yards; but they have always been moved from their original position by the action of water or ice. A boulder of granite, 42 ft. long, 27 ft. broad, and 21 ft. high, has been used as a plinth of the statue of Peter the Great at St. Petersburg. Small *B.* of foreign rocks have been found in chalk and other aqueous rocks.

Boul'der, *a.* Belonging to, or consisting of, boulders.

Boul'der, in *Colorado*, a Northern county, bounded on the W. by the Rocky Mountains, and traversed by Boulder Creek. *Area*, about 600 sq. m. *Soil*, productive, and with many gold and iron mines yielding a fair amount of ore *Cap.* Boulder City.

BOULDER CITY, a thriving city of *Col.*; cap. of ab. co., 45 m. from Denver, and the terminus of several R. R. The State University is at *B.*

Boul'der, in *Iowa*, a twp. of Lynn co.

Boul'der Clay, *n.* (*Geol.*) A deposit, often very extensive, consisting of boulders of various size, angular or rounded, mixed with sand and clay, and lying generally in an unstratified position unconformably to the other rocks on the earth's surface. Although there is no reason why such a deposit should not have been made at any geological period, *B. C.* seems to be of definite age in the northern hemisphere, or at least is limited to a certain geological period. It is one of those deposits spoken of collectively, as *Drift*, and would seem to be due to a time not very distant, when glaciers covered much of north European land, and icebergs drifted, and were stranded over the shoals that have since been raised to form the land.—See GLACIAL DRIFT.

Boul'der Creek, in *Montana*, a branch of the Madison fork of the Missouri river, taking a N.W. course.

Boul'der Valley, in *Montana*, the capital of Jefferson co.

Boul'der-wall, *n.* A wall built up of large stones or boulders.

Boulē, *n.* [Gr., a council.] (*Hist.*) The name by which the Athenian senate of ancient days was designated, the constitution of which was as follows: When the people were divided into four tribes, each of these, according to the regulation of Solon, elected 100 representatives, thus making in all a deliberative body of 400 members. But when Cleisthenes increased the number of tribes to ten, the complement of the senate was raised to 500, fifty of which were sent by each tribe: when the tribes were finally increased to twelve, 100 more senators were added. All free-born Athenian citizens above 30 years of age were eligible to this office; but according to law they were obliged to undergo a strict examination of their characters and morals. The senate was originally instituted by Solon to be a check on the assembly of the whole people, (*ecclesia,*) before which, according to the Athenian constitution, no measures were allowed to be brought until they had been approved by the senate. — See PRYTANES.

Boule, (*bool,*) *n.* [Fr.] (Sometimes called BOULE-WORK.) (*Cabinet-making.*) A kind of marqueterie, or inlaid work in woods, gilt-metal, or tortoise-shell; so called from the name of a French cabinet-maker, (or *obéniste,*) who was greatly distinguished for ornamental work of this kind in the reign of Louis XIV. This name is often written, in a corrupted manner, *buhl.*

Boulet, (*bōō-lēt',*) *n.* [Fr.] (*Manege.*) A horse with a bent or misplaced pastern-joint.

Boulevard, (*bōō'le-vär',*) *n.* [Fr.] In its original meaning, a bulwark or rampart of a fortified place; in its modern sense, applied to a public promenade or avenue, occupying the site of an ancient fortification. The Boulevards of Paris are the most magnificent of their kind.

Bouley, (*bōō'lai,*) HENRI, a French surgeon, and professor of clinical medicine and surgery at the school of Alfort, and a member of the Academy of Medicine, is a voluminous writer on medical subjects. His principal work, *Nouveau Dictionnaire Pratique de Médecine, de Chirurgie, et d'Hygiéne Vétérinaires*, was published in 1855–7.

Boulogne, (*bōō-loyn',*) or, as it is sometimes called, BOULOGNE-SUR-MER, a seaport town of France, dep. Pas de Calais, cap. arrond., on the Lanne, near its entry into the English Channel, 19 miles S.W. of Calais, and 132 N.N.W. of Paris. *B.* is divided into the upper and lower towns. The former is pretty well built, but is irregularly laid out. It contains the cathedral, the ancient episcopal palace, and other public buildings. It also contains the house where Le Sage, the author of *Gil Blas*, lived and died. The lower, or new town, is situated on the bottom of a hill, and is the most populous, most commercial, and best built. A magnificent column, dedicated by the grand army collected here in 1805, to Napoleon, but not finished till 1821, stands on a hill about a mile from the town; it is crowned by a gallery surmounted by a dome, and is 164 feet high. The harbor has been vastly improved of late years; ships may anchor at from ½ to ¾ m. off the harbor, in from 6 to 9 fathoms. A good deal of trade is carried on, and the herring, mackerel, and cod-fisheries are vigorously prosecuted. *Manf.* Coarse woollens, sail-cloth, earthenware, bottle-glass, cordage, leather, &c. *B.* is much resorted to by English families, of whom, too, there is quite a little colony permanently established here. *B.* is very ancient; under the Roman sway it was known as *Gesoriacum Navale*, and *Bononia*, whence its modern name is derived. During the Middle Ages, and in more modern times, this town has been repeatedly besieged and taken. In the early part of the present century, it rose into celebrity from Napoleon I. having collected a large armament here, and made it the head-quarters of the army avowedly intended to invade England.

Boulogne', a village of France, dep. Seine, between the Seine and the wood of the same name (the well-known *Bois de Boulogne*), 4 m. W. of Paris, and forming a suburb of the French metropolis, by means of the "chemin-de-fer de ceinture," or "girdle-railway." *B.* is handsome; the adjoining "Bois" is, in the summer season, the favorite promenade of the Parisian fashionables. The *Château de Madrid*, in this wood, built by Francis I., was demolished in the reign of Louis XVI.; and only a small part now remains of the *Château de la Muette*, sometime occupied by Louis XV.

Boult, *n.* See BOLT.

Boul'tel, Boul'tin, *n.* (*Arch.*) The name given to a moulding whose section is nearly the quadrant of a circle, whose diameter being horizontal, the centre is convex with respect to a vertical to such diameter. It is more usually called the *ovolo*, or the *quarter-round.*

Boul'ton, MATTHEW, F.R.S., a celebrated English engineer, B. at Birmingham, in 1728. On the completion of his education, he engaged in business as a manufacturer of hardware, and as early as 1745 he is said to have invented and brought to great perfection inlaid steel buckles, buttons, watch-chains, &c., of which large quantities were exported to France, where they were re-purchased with avidity by the English of that day, as "the offspring of French ingenuity." In 1762, *B.* finding his manufactory at Birmingham too confined for his purposes, purchased a lease of the Soho, about 2 m. distant, in the co. of Stafford. This spot, then a barren heath, was gradually converted into an extensive manufactory and school of the mechanical arts, where ingenious men found ample employment for their talents from the liberal proprietor. The introduction of that important machine, the steam-engine, led to a connection between *B.* and James Watt, of Glasgow, who became trade-partners in 1769. Among the many great undertakings in which the new firm engaged, one of the most useful and important was the improvement of the coinage. In beauty and accuracy of execution, the coins struck at the Soho manufactory have rarely been surpassed. About 1793, was invented by them, a method of copying, by a mechanical process, oil-paintings, so as to produce facsimiles of the originals, sufficiently accurate to deceive a practised connoisseur. The various mechanical inventions and improvements which emanated more or less directly from the subject of this article, are too numerous to admit of specification. His long life was almost uninterruptedly devoted to the advancement of the useful arts, and the promotion of the commercial interests of his country. *B.* was a member of the principal learned societies of Europe, and D. in 1809.

Bounce, (*bouns',*) *v. i.* (*imp.* BOUNCED, *bounst.*) [Du. *bonzen*, from *bons*, a blow, a thump.] To leap or spring; to fly or rush out suddenly; as, she *bounced* out of the room in a rage.

> "Out *bounc'd* the mastiff of the triple head;
> Away the hare with double swiftness sped." — *Swift.*

—To strike against anything so as to produce a dull sound; to thump so as to make a sudden noise.

"Just as I was putting out my light, another *bounces* as hard as he can knock." — *Swift.*

—A vulgarism for to brag, vaunt, boast, bully; as, I *bounced* him out of it.

"With thee e'en clumsy wits attempt to *bounce*." — *Byron.*

—To be bold, resolute, or strong.

"Forsooth the *bouncing* Amazon,
Your buskin'd mistress, and your warrior love,
To Theseus must be wedded." — *Shaks.*

—*v. a.* To spring or leap against any thing so as to rebound; to run against a thing violently.

"The fright awaken'd Arcite with a start,
Against his bosom *bounc'd* his heaving heart." — *Dryden.*

Bounce, *n.* A strong, sudden blow or thump; as, give him a *bounce* on the ear.

"The *bounce* burst ope the door." — *Dryden.*

—A sudden spring, leap, or bound; as, he gave a *bounce* up on his feet; hence (*U. S. slang*), discharge, expulsion.

—A boast; a threat.

—A bold asseveration implying a falsehood; as, give me none of your *bounce*.

—A sudden crack or noise.

"Two hazel-nuts I threw into the flame; . . .
This, with the loudest *bounce* me sore amaz'd,
That, in a flame of brightest color blaz'd." — *Gay.*

Bounce'er, *n.* One who bounces; a heavy, unwieldy individual.

—A boaster; a bully; an empty threatener.—A person employed to eject disorderly characters from a public resort.

—A boast; a bold lie; a liar.

—Something big, stout, and heavy.

Bounc'ing, *a.* Stout; strong; large; heavy; buxom; as, a *bouncing* girl.

"Many tall and *bouncing* young ladies." — *Thackeray.*

Bounce'ingly, *adv.* Boastingly; in a bouncing manner.

Bound, *n.* [O. Fr. *bonne*, bound; Fr. *borne*. See BOURNE.] That which limits or confines; a boundary; an extent; a limit.

"Illimitable ocean! without *bound*,
Without dimension." — *Milton.*

—*pl.* (*Mining.*) The right to tin ore within a certain district.

Bound, *n.* A leap; a jump; a spring; a rebound.

"Dex'trous he 'scapes the coach with nimble *bounds*,
Whilst ev'ry honest tongue 'stop thief!' resounds." — *Gay.*

(*Dancing.*) A spring from one foot to the other.

Bound, *v. a.* To limit; to restrict; to restrain; to confine; to circumscribe; to border; to terminate.

"A lofty tow'r, . . . which Phlegethon surrounds,
Whose fiery flood the burning empire *bounds*." — *Dryden.*

—To state the boundaries of a place or country; as, to *bound* a State.

Bound, *v. i.* [Fr. *bondir*. Etymol. uncertain.] To leap; to jump; to spring; to move forward by leaps; as, to *bound* over a fence.

"Warbling to the varied strain, advance
Two sprightly youths, to form the *bounding* dance." — *Pope.*

—To rebound, to fly back by re-percussion, as an elastic ball.

"Mark then a *bounding* valour in our English,
That being dead, like to the bullet's grazing,
Burst out into a second course of mischief." — *Shaks.*

—To cause to bound, spring, or leap.

"If I might . . . *bound* my horse for her favours,
I would lay on like a butcher, and sit like a jackanapes,
Never off." — *Shaks.*

Bound, *imp.* and *p.* of BIND, *q. v.*

Bound, *a.* [Icel. *boen*, *boin*, pp. from *bua*, to make ready.] Ready: prepared; ready to set out; destined; going, or intending to go; as, that ship is *bound* for London.

"Willing we sought your shores, and hither *bound*,
The port so long desir'd at length we found." — *Dryden.*

—Used also in composition as a compound word; as homeward-*bound*, &c.

Bound'ary, *n.* [See BOUND.] A visible mark designating a bound or limit; a bound; border; confines; frontier; termination; as, the *boundary* of crime.

"He suffers the confluence and clamours of the people to pass all *boundaries* of law." — *King Charles I.*

Bound'ary, in *Indiana*, a post-office of Jay co.

Bound'-bailiff, *n.* (*Eng. Law.*) A sheriff's officer appointed to serve proeesses, after giving *bond* for the faithful performance of such duty.

Bound Brook, in *New Jersey*, a thriving R. R. town of Bridgewater township, Somerset co., on the Raritan river, 7 m. N.W. of New Brunswick, and 35 m. W.S.W. of New York. *Pop.* (1897) ab. 2,500.

Bounden, (*bound'n*,) *a.* [From BIND.] Appointed; obligatory; indispensable; as, a *bounden* duty.

"I rest much *bounden* to you; fare you well." — *Shaks.*

Bound'er, *n.* One who, or that which, limits a boundary or jurisdiction.

Bound'ing, *p. a.* Moving with a bound or elastic spring; as, a *bounding* pulse.

Bound'ing-stone, Bound-stone, *n.* A stone used in play.

"A sceptre 's but a plaything, and a globe
A bigger *bounding-stone*." — *Dryden.*

Bound'less, *a.* Without bound or limit; unlimited; unconfined; illimitable: as, the *boundless* heavens.

"O'er the glad waters of the dark blue sea,
Our thoughts as *boundless*, and our souls as free." — *Byron.*

Bound'lessly, *adv.* Without bound or limit.

Bound'lessness, *n.* Quality of being boundless or without limits.

"God has corrected the *boundlessness* of his voluptuous desires, by stinting his capacities." — *South.*

Boun'teous, *a.* [See BOUNTY.] Liberal; kind; bountiful; munificent; generous; beneficent; profuse in bestowing gifts; as, a *bounteous* hand.

"*Bounteous*; but almost *bounteous* to a vice." — *Dryden.*

Boun'teously, *adv.* Liberally; generously; largely.

"He *bounteously* bestowed unenvied good on me." — *Dryden.*

Boun'teousness, *n.* Liberality; the quality of being bountiful.

Boun'tiful, *a.* [*bounty* and *full.*] Free to give; liberal; munificent; generous.

"As *bountiful* as mines of India." — *Shaks.*

Boun'tiful, in *Utah Territory*, a village of Davis co., 10 m. N. of Salt Lake City.

Boun'tifully, *adv.* In a bountiful manner.

"And now thy alms is given,
And thy poor starveling *bountifully* fed." — *Donne.*

Boun'tifulness, *n.* The quality of being bountiful; liberality.

Boun'ty, *n.* [Fr. *bonté*; Lat. *bonitas*, from *bonus*, good.] Munificence; generosity; beneficence; kindness in granting gifts or favors; liberality.

"Such moderation with thy *bounty* join,
That thou may'st nothing give that is not thine." — *Denham.*

—That which is given bountifully; munificence of gifts; as, Her Majesty's *bounty*.

"Though I question not but her royal *bounty* will extend itself to them." — *Addison.*

(*Mil.*) The money given to a recruit for the army after his attestation and final approval. The amount of *B.* given in this country during the late war, sometimes rose as high as $900. In England, the sum has varied very much from time to time according to the difficulty of obtaining recruits. At the present time a recruit in that country receives a *B.* of $5, and a free kit. — The system of large *B.* is a great temptation to soldiers to desert after receiving them, and enlist again in other regiments (usually called *bounty-jumping*), and most thinking men consider that a higher rate of pay would have a better effect than *B.*

(*Com.*) *B.*, in English commerce and the arts, is a premium paid by the government to the producers, exporters, or importers of certain articles, or to those who employ ships in certain trades, whence the profits resulting from these respective branches of industry are alleged to be insufficient. Bounties on production are generally given with the view of encouraging the establishment of some new branch of industry, or of fostering and extending a branch that is believed to be of paramount importance. *B.* on *exportation* and *importation* are granted in England, as in France, to the exporters of certain commodities on their taking oath, or in some cases giving bond, not to re-land the same in England or in France respectively. Public opinion was formerly much divided as to the advantage of granting bounties; but, at present, the impolicy of such a practice appears to be almost universally admitted.

Bouquet, (*bō-kā'*,) *n.* [Fr., from L. Lat. *boscum*, a wood; It. *bosco*; Ger. *busch*, a wood of small growth.] A bunch of flowers; a nosegay; as, the lady carried a *bouquet*.—A pleasant perfume; as, "Jockey Club *Bouquet*."

BOUQUET OF WINE, (*bō-kā'*,) *n.* [Fr.] The name given to the aroma of wine, due to the presence of certain fragrant ethers, especially of œnanthic, pelargonic, and acetic ether, formed during the fermentation, or subsequent storing, of the wine. It is to the increased quantity of such fragrant ether that the superior bouquet of many old wines is due.

Bou'quetin, *n.* (*Zoöl.*) See IBEX.

Bourbeuse, (*boor'buz'*,) in *Missouri*, a small stream rising in Crawford co., in the E. part of the State, and flowing N.E. into the Maumee River, in Franklin co., 8 m. S.E. of Union.

Bourbon, (*bōōr'bong.*) (*Hist.*) The name of an illustrious French family, that for centuries formed, perhaps, the greatest dynastic power in Europe; derived from the seigneurie of Bourbon in the *ci-devant* prov. of Bourbonnais. Henri IV. of Navarre, who succeeded to the French throne on the extinction of the male line of the house of Valois, in 1589, was the first sovereign of France of the Bourbon blood. His father, Antoine de *B.*, Duc de Vendôme by his marriage with Jeanne d'Albret in 1548, became King of Navarre in 1555. He was descended through the younger branch — the elder having become extinct on the death of the Constable de Bourbon (*q. v.*), in 1527 — from Robert de Clermont, youngest son of Louis IX. By his marriage in 1272 with Beatrix of Burgundy, Robert de Clermont obtained the Bourbonnais, the Charolais, and the lordship of St. Just. His son Louis I. was created *Duke of Bourbon* by Charles IV. of France in 1327. The *B.* reigned in France from the accession of Henri IV. in 1589, till the death of Louis XVI. in 1793. They were restored in the person of Louis XVIII. in 1814; expelled in 1815, during the Hundred Days; and again restored, after the fall of Napoleon I., in 1815. The rule of the elder branch ceased on the abdication of Charles X. in 1830. Louis Philippe, of the *Orleans*, or younger branch of the *B.* known as *Bourbon-Orleans*, and which owes its origin to Philippe, Duke of Orleans, the brother of Louis XIV., then succeeded to the throne, and their line ceased to reign in France on his abdication in 1848. In 1865, the family numbered 73 members, 50 of whom, including the ex-royal family of Naples, were in exile. The collateral branches of the *B.* family consisted of the *Condé* branch, taking its title from Condé, in Hainault, which came into the possession of the *B.* by the marriage, in 1487, of François de *B.*, Comte de Vendôme, with Marie de Luxembourg, heiress of St. Pol, Enghien, Soissons, and Condé. Their son Charles had several children, and one of these, Louis, assumed the title of *Prince de Condé*. (See CONDÉ.) This line became extinct in 1830. — The *Spanish B.* are descended from Philippe, Duke d'Anjou, grandson of Louis XIV., who was made *King of Spain* under the title of Philip V. in 1700. — The *Neapolitan* branch is descended from Charles, third son of Philip V. of Spain, made *Duke of Parma* in 1731, and *King of Naples* in 1735.—The *Conti*, a branch of the Condé, is descended from Louis, the first Prince de Condé, who married Eleanore de Roye, Dame de Conty or Conti, by whom he had two sons, Henri de *B.*, Prince de Condé, and François, who took the title of *Prince de Conti*.—The heir-male of the elder branch of the *B.* ceased with HENRI, DUKE DE BORDEAUX (Comte de Chambord), *q. v.*; and the representative of the younger, or Orleans branch of the family, was, until 1894, the COMTE DE PARIS (*q.v.*).—Of the *B.* race, there have flourished 8 kings of France, 6 kings and 1 queen of Spain, 6 kings of Naples, and 1 king of Sicily, besides sovereign dukes and princes, as those formerly ruling over Parma, Modena, and Lucca.

Bour'bon, CHARLES, DUKE DE, better known in history as the CONSTABLE DE BOURBON, was the son of Gilbert de *B.*, Count de Montpensier, and was B. in 1489. His high birth and natural qualities endeared him to Francis I., who conferred on him, at the age of twenty-six, the great dignity of *Constable of France*. Being appointed viceroy of the Milanese, he gained the hearts of all ranks of people there by his courteous behavior, and proved his courage in the battle of Marignano. As being the head of the great house of *B.*, he unfortunately incurred the enmity of Louise de Savoy, the king's mother, who infused a jealousy of the Constable into the mind of her son, who recalled him from the government of Milan, and suspended his pensions. On the death of his duchess, *B.* endured still greater persecution, for Louise, suddenly changing her hatred into affection, caused a treaty of marriage between them to be proposed to the Constable. He rejected her advances with contempt; which caused a renewal of her enmity with still greater violence, and, in conjunction with the Chancellor Du Prat, she instituted a process against him for the estates he possessed in right of his wife, and obtained an order for their sequestration. This drove *B.* to despair, and he renewed some former negotiations with the Emperor Charles V., and on that monarch promising him his sister in marriage, with a large dowry, the Constable joined him, and the King of England, in a meditated invasion of France. This conspiracy being discovered by Francis, *B.* made his escape to Italy, where he was declared the Emperor's lieutenant-general, and in concert with Pescara (see AVALOS), defeated the French forces under Bonnivet, in 1524. In 1525, *B.* gained the famous battle of Pavia, in which Francis was taken prisoner. On his return, Charles received him with great distinction, but, notwithstanding, did not perform his promise of giving him his sister; but on the death of Pescara, created him general-in-chief of his forces in Italy, and gave him a grant of the duchy of Milan, of which he forcibly took possession, driving out the rightful duke, Sforza. In order to satisfy the rapacity of his troops, *B.* was obliged to make great exactions on the citizens of Milan. This only satisfied them for a time, and bent on a mission of plunder, he marched with his army to Rome, the possession of which place was to repay all their toil. On the 5th May, 1527, they came in sight of that capital, and the next morning commenced the attack. *B.* was conspicuous by a white scarf which he wore over his armor, and commenced a furious assault on the walls, which was repelled with equal valor. Seeing his troops begin to waver, *B.* seized a scaling-ladder from a soldier standing by, and was in the act of ascending, when he was pierced by a musket-ball, and fell. Feeling that his wound was mortal, the Constable desired that his body might be concealed through a fear of discouraging his men, and then instantly expired. Although a traitor to his country, *B.* undoubtedly received great provocation, and it is to be lamented that his military skill and daring valor were not exercised in a better cause.

Bour'bon, (Isle of,) also called ISLE DE LA RÉUNION, an island belonging to France, in the Indian Ocean, in Lat. 20° 51′ 43″ S., Lon. 55° 30′ 16′ E., 90 m. W.S.W. of the island of Mauritius, and 440 E. of Madagascar. Shape, oval; greatest length, N.W. to S.E., 38 m.; greatest breadth, 28 m. *Area*, abt. 900 Eng. sq. m. *Desc.* The island is geologically formed by two systems of volcanic mountains, one at either extremity; the central point of the most northerly system, the *Piton des Neiges*, the highest summit in the island, is 10,355 feet above the level of the sea; the highest point of the southerly system is the *Piton de Fournaise*, an active volcano, 7,218 ft. in height. These two volcanic centres are connected by a mountain-chain running N. and S., which divides the island into two parts — that on the E. side being called the windward, and that on the W. the leeward division (*Parties du Vent* and *Sous le Vent*), in consequence of the prevailing winds in *B.* being from E. to S. There are no plains of any size; although the island is watered by many small rivers, none of them are navigable; there are several lakes, one occupying an extent of about 40 acres. This island has no safe roads, nor any harbor—circumstances which prove serious drawbacks to its prosperity. *Clim.* Healthy and agreeable; though the ordinary tranquillity is sometimes broken by violent hurricanes. From Dec. to May is the hot and rainy season, with a mean temp. of 80° Fahr.; during the remaining or temperate months the mean is 76° Fahr. *Soil*, very fertile; while the surface comprises arable, pasture, and waste lands, and wooded bottoms. *Prod.* Sugar-cane, coffee, cloves, grain, tobacco, &c. Most of the tropical varieties of fruits flourish, and the coasts, besides yielding fish and turtles, furnish also coral and ambergris. *Manf.* Bricks, leather, tin-ware, palm-leaf bags, &c. Its commerce is

nearly absorbed altogether by France. *Principal Towns.* St. Denis (the capital), St. Paul and St. Benoit. *Pop.*, 1895, about 180,000. *B.* was discovered in 1855, by Mascarenhas, a Portuguese navigator, whose name it bore till the French took possession of it in the next century. The British captured it in 1810, but it was restored to France in 1815.

Bour'bon (*bŭr'bon*), in *Indiana*, a town of Marshall county, in a township of the same name, 13 m. E.S.E. of Plymouth. *Pop.* (1897), about 2,000.

Bour'bon, in *Kansas*, a S.E. county embracing an area of 720 sq. m., and situate on the confines of Missouri. It is watered by the Marmaton and Little Osage rivers. *Surface*, for the most part, prairie. *Soil*, fertile. *Cap.* Fort Scott.

Bour'bon, in *Kentucky*, a N. central county, containing an area of about 300 sq. m. The South Licking River bounds it on the N.E., and it is also watered by Stonor's, Strond's, and Hinkston creeks. *Surface*, undulating. *Soil*, very rich, producing large quantities of corn and wool. Sulphur and chalybeate springs are found here. *Cap.* Paris.

Bour'bon, in *Missouri*, a post-village of Crawford co., 77 m. S.W. of St. Louis.

Bour'bonism, *n.* [Fr.] The political doctrines of the adherents of the royal house of Bourbon.

Bour'bonist, *n.* An adherent of the Bourbon dynasty; one who is attached to the cause of Legitimacy, in France.

Bourbon-l'Archambaud, a town of France, dep. Allier, cap. of a cant. 13 m. W. of Moulins. It is situated at the bottom of a valley, in a rich and finely variegated country. The towers are all that now remain of the famous *Chateau de Bourbon* (the cradle of the royal race of Bourbon), rebuilt in the 13th century. The "Holy Chapel," erected in the 15th century by Anne of France, and so much admired, was destroyed at the Revolution. *B.* is now celebrated only for its mineral springs, which are said to be highly efficacious in cases of paralysis, rheumatism, gun-shot wounds, &c. *Pop.* abt. 4,000.

Bourbonnais, (*bōōr-bon-nay'*,) a *ci-devant* province of France, now forming the dep. of Allier, with a part of that of Cher. It was bounded on the N. by Berri and the Nivernais; E. by Burgundy; S.E. by the Lyonnais; S. by Auvergne; S.W. by La Marche, and on the W. by Berri. Its form was very irregular, its greatest length 92 m., and breadth 56. Monlins was the capital.

Bourbonnais Grove, (*bōōr'bon-nay,*) in *Illinois*, a post-township of Kankakeeco., on the river of the latter name.

Bourbonne-les-Bains, a town of France, dep. Haute-Marne, cap. of a cant., at the confluence of the Borne and the Apance, 21 m. E.N.E. of Limoges. The town is pleasantly placed on the plateau and declivity of a hill, and has some fine promenades and fountains. As its name denotes, it owes its celebrity to its hot baths, which occupy the site of a thermal establishment of the Romans. The modern buildings attached to the baths, including the Hôtel de Ville, a recent erection, most part of which is appropriated to the use of visitors, are among the finest of the kind in France. The heat of the water varies from 40° to 52° Reaumur, or from about 120° to 156° Fahr. They are principally employed in cases of paralysis and rheumatism. *Pop.* 4,488.

Bour'bonton, in *Missouri*, a post-village of Boone co., 25 m. N. of Columbia.

Bourbon-Vendée, or NAPOLEON-VENDÉE, a town of France, cap. of dep. Vendée, on the Yon, 40 m. S. of Nantes. After the establishment of the imperial government, and the pacification of Vendée, it became necessary to select a place for its capital, and *B.* (formerly called *Roche-sur-Yon*) was fixed upon. Napoleon gave the town, which had to be entirely re-created, his own name, which it bore till 1815, when with the Bourbon restoration it recovered its old name. But the accession of Napoleon III. once more brought back the imperial prefix, by which the place is still officially known; though the people mostly adhere to the original name. It is a fine and prosperous town, and the centre of an extensive trade in grain. *Pop.* 9,127.

Bourdaloue, (*boor-dăl-ōō'*,) LOUIS, a Jesuit, and one of the greatest preachers France ever produced, was B. in 1632. The extreme popularity of his sermons induced his superiors to call him to Paris to take the yearly course at their church of St. Louis, where his eloquence attracted crowds of all ranks, and he became the favorite preacher of Louis XIV., who on the revocation of the Edict of Nantes, sent him into Languedoc to convert the Protestants there. His style is represented by D'Alembert as solid, serious, and, above all, strictly logical. Towards the latter part of his life he quitted, or rarely ascended, the pulpit, and devoted himself to attending the sick, visiting the prisons and other works of charity; and died in 1704 universally lamented, and long to be remembered as the most eloquent and attractive of preachers. His moral character was also excellent, and for a Jesuit he was very liberal in his opinions.

Bourdon, SEBASTIEN, (*boor'dong,*) an eminent French painter, B. at Montpelier, 1616. When only 18 he went to Rome, and on his return to France executed his "chef d'œuvre." *The Crucifixion of St. Peter*, for the church of Nôtre Dame, Paris. In 1652, he repaired to Sweden, where Queen Christina appointed him her painter. He was the friend of Claude Lorraine, whose style, as well as that of Sacchi and Caravaggio, he occasionally imitated with success. D. 1671.

Bourdon, (*boor-dong'*,) *n.* [Fr., a staff.] A pilgrim's staff. (*Mus.*) The drone, or bass, in some musical instruments, and the pipe, or string, that plays it. The bass pipe in the bagpipe is so-called. Also an organ stop of deep tone, usually one of 16 feet, in the pedal organ and sometimes carried throughout the swell-organ.

Bourdon'naye, (La). See LA BOURDONNAYE.

Bour'gas, or **Bour'ghas,** a sea-port of European Turkey, in Roumelia, on the Black Sea, at the bottom of the gulf of the same name, 70 m. N.E. of Adrianople; Lat. 42° 29′ 20″ N., Lon. 27° 28′ E. It is neatly built on a promontory. The gulf of *B.* is open to the E.; the anchorage is to the S. of the town, and has a depth of from 5 to 12 fathoms. *Manf.* Pottery; agricultural produce and wine are also largely dealt in. *Pop.* 6,602.

Bourg, (Grand,) or MARIGOT, (*gron'bor,*) a town of the French Antilles, W. Indies, and cap. of the island of Marie-Galante. It is a garrisoned place. *Pop.* abt. 2,000.

Bourg, (Petit,) (*peh-tee'boor,*) a town of the island of Guadaloupe, in the French Antilles, W Indies, 5 m. W.S.W. of Pointe-à-Pitre. *Pop.* about 3,500.

Bourg-de-Pe'age, a town of France, dep. Drôme, cap. cant. on the Isère, 10 m. N.E. of Valence. It is a neat, well-built place, and has manuf. of hats, coarse silk, cordage, leather, &c. *Pop.* 4,690.— See ROMANS.

Bourg-en-Bresse, (*boorg'ang-brase,*) a town of France, cap. of the dep. Ain, on the Reyssousse, about 20 m. E.N.E. of Macon. *Manf.* Linen, cotton, hosiery, &c. *Pop.* 8,922.—It is the birthplace of Lalande, the astronomer.

Bourgeois, (*boor-zhwaw',*) *n.* [Fr.] In France, a citizen of the middle class of society, inhabiting a town.

Bourgeois, (*bur-jois',*) *n.* (*Printing.*) A kind of printing-type, intermediary between *Brevier* and *Long Primer*, as in the following line:

"Procrastination is the thief of time."

Bourgeoisie, (*boor-zhwaw'ze,*) *n.* [Fr., from *bourg*, a town.] A French term, literally signifying the inhabitants of a town, and employed to denote a class of society in France who inhabit the towns, and are intermediate between the nobility and the lowest class of the people, including merchants and manufacturers down to master tradesmen. Under the ancient monarchy it comprised all those who were called upon to partake of the duties, or participate in the expenses, of the town in which they were domiciled. The *B.* of the large towns have often played an important part in the history of the country. They are not to be confounded with the *citoyens*, a general term applied to all who are members or citizens of the State.

Bourgeon, (*bŏr'jon,*) *v. i.* [Fr. *bourgeon*, the young bud or sprig of a vine, from *bourre*, cow's-hair, in Bot. the down on a sprout, from L. Lat. *burra;* O. Fr. *abourrionner*, to bud or sprout forth.] To become downy; to sprout; to bud; to shoot forth, as a branch. (R.)

"O that I had the fruitful heads of Hydra,
That one might *bourgeon* where another fell!" — *Dryden.*

Bourges, (*boorj',*) (anc. *Avaricum,*) a walled city of France, dep. Cher, of which it is the cap., seated in an extensive plain, watered by the Auron and the Evre, 122 m. S. of Paris. The town stands at the foot of an eminence, and contains some fine old buildings. At the head of these is the cathedral, one of the finest Gothic edifices in France, begun in 845, but not finished for some subsequent centuries. It is 348 ft. in length, by 123 in breadth, and has several towers, the highest of which has an elevation of 221 ft. The palace of the archbishop is also a fine structure, with gardens laid out by Le Nôtre. The Hotel de Ville, built by the celebrated Jacques Cœur (*q. v.*), is a splendid Gothic mansion, whose erection cost an immense sum. *B.* was the residence of the ancient Dukes of Berri. It is, on the whole, a fine and flourishing city, possessing colleges, schools, and institutions of literature and art. *Manf.* Fine and coarse cloths, hosiery, and excellent cutlery. *B.* is one of the most ancient French cities. It was taken by Cæsar, B. C. 52, and was for 475 years the capital of Aquitaine. It has suffered much at different periods from war, fire, and pestilence. Several councils have been held in it; and here, in 1483, the ecclesiastical constitution, denominated the *Pragmatic Sanction*, was accepted by the French clergy. Louis XI. was born in this city, and to mark his respect for his native place, not only gave it a university, (suppressed at the Revolution,) but also conferred on its mayors and magistrates the privilege of nobility. Bourdaloue was also born here.

Bourgeuil, (*boorg'ile,*) a town of France, dep. Indre-et-Loire, cap. cant., in a fine valley on the Doigt, 9 m. N.N.W of Chinon. *Pop.* abt. 4,000.

Bourgogne, *n.* See BURGUNDY.

Bour'goin, a town of France, dep. Isere, cap. cant., on the Bourbre, 9 m. W. of La Tour-du-Pin. *Manuf.* Calicoes and paper. *Pop.* 5,336.

Bourg-(St.)-Andeol, a town of France, dep. Ardêche, agreeably situated on the Rhone, 9 m. S. of Viviers. It is a spacious and well-built place. *Manf.* Silk and wine. *Pop.* 5,100.

Bourignonists, (*boo'reen-yon-ists,*) *n. pl.* (*Eccl. Hist.*) The followers of Antoinette Bourignon de la Porte, a fanatic, B. at Lille, in Flanders, in 1616. Bayle says she was so ugly that it was debated for some days after her birth, by her family, whether she should be stifled as a monster. She took the habit and order of Augustine, in 1658, and travelling in Holland, France, and Scotland, taught that religion consists in internal emotions. She published a great many works. Driven from place to place, she D. in Friesland, in 1680. Her tenets obtained a temporary popularity in Scotland, for, in 1701, a minister at Aberdeen was deposed for holding them.

Bour'los, or **Boor'los,** a lake or lagoon of Egypt, between the Damietta and Rosetta branches of the Nile, parallel to the Mediterranean, from which it is everywhere separated by a narrow neck of land, except at one point where it communicates with the sea by a narrow channel, anciently the Sibbenitic mouth of the Nile. Its length is about 38 m.; and 17 its maximum breadth. It is connected with the Nile by several canals; and is mostly shallow and marshy, being navigable only along its N. shore.

Bourmont, (*boor'mŏng,*) LOUIS AUGUSTE VICTOR DE GHAISNE, COMTE DE, Marshal of France, B. in Anjou, 1773. He served as an officer under the Prince of Condé, and from 1793 to 1796 was actively engaged in the anti-revolutionary struggle in La Vendée. Subsequently, he obtained the favor of the First Consul. Under the Empire he was soon raised to the rank of brigadier-general. In the campaigns of 1813 and 1814, he distinguished himself upon a number of occasions, particularly in the battle of Dresden, and by the defence of Nogent, on account of which Napoleon promoted him to the rank of a general of division. On 31st March, 1814, he declared for the Bourbons, and received the command of a military division during the first Restoration; yet, on Napoleon's return he went over to him, and was intrusted with the command of a division of the army of the Moselle. On the evening before the battle of Ligny, he deserted, and betook himself to Louis XVIII. at Ghent. There can be no doubt that *B.* was singularly ungenerous in choosing such a moment to resign, nor is there anything in his career to make us suppose he was actuated by any high principle in what he did. His evidence went a considerable way in bringing about the condemnation and execution of Marshal Ney, and this double infamy the French never forgave him. He received high military employment under Louis XVIII. Distinguishing himself in the Chamber of Peers as a zealous supporter of the king, he was appointed minister of war in 1829, and in this office displayed great activity. When the expedition against Algiers was undertaken in April, 1830, he received the chief command of the troops, and the rapid success of the expedition was ascribed to his prudence and energy. For this he received the marshal's baton on 22d July, but on the revolution taking place in that month, he was superseded in his command, and went to England to share the exile of Charles X. D. 1846.

Bourn, Bourne, (*bŏrn,*) *n.* [Fr. *borne;* O. Fr. *bonne*, a bound; A. S. *burna;* Goth. *brunna.*] A bound; a limit; a goal.

"That undiscover'd country, from whose *bourne*
No traveller returns."—*Shaks.*

—A brook; a rivulet; a small stream; a burn.

"No swelling Neptune . . . can make me ever mourn:
My little boat can safely pass this perilous *bourn.*"—*Spenser.*

Bourne, HUGH, the founder of the sect of Primitive Methodists, or *Ranters*, B. in Staffordshire, England, 1772. In the course of his life he visited Scotland, Ireland, Canada, and the U. States, where his ministrations were attended with great success. D. 1852.

Bourne'mouth, a fashionable watering-place of England, in Hampshire, 6 m. W. by S. of Christchurch. *Pop.*, about 37,800 in 1895.

Bourne'ville, in *Ohio*, a post-village of Ross co., 11 m. S. W. of Chillicothe.

Bourn'less, *a.* Wanting limits.

Bour'nonite, *n.* (*Min.*) A compound of sulphur, lead, antimony, and copper.

Bournous, BURNOUS, (*bŭr'nooz,*) *n.* [Fr.; from Ar. *burnus*, a high-crowned hat; Sp. and Port. *al bernoz*, a hooded upper garment of Moorish origin.] A large woollen mantle with a hood, which is thrown over the head in rainy weather. It is worn by the inhabitants of Algeria and N. Africa. The *B.* is placed over the rest of the attire, and is colored according to the taste of the wearer. White, however, is the principal color. Since the conquest of Algeria by France, the term has been applied to a lady's opera-cloak, with a hood attached behind, which somewhat resembles the Arabian *B.*

Bourns'burg, in *Missouri*, a village of Randolph co., 55 m. N.N.W. of Jefferson City.

Bourrelet, *n.* [Fr., a pad, a border.] (*Anat.*) A fibro-cartilaginous border, which surrounds certain articular cavities, such as the glenoid cavity of the scapula and the acetabulum; by which the depth of these cavities is augmented.

Bourrienne, (*boor'yane,*) LOUIS ANTOINE FAUVELET DE, Comte, the secretary and early friend of Napoleon I., B. at Sens, 1769, received his education in the military school at Brienne, where he formed the closest intimacy with the future emperor. In 1797, his former schoolfellow appointed him his secretary. He accompanied him to Egypt and to Italy, and in 1801 was nominated a councillor of state. In 1802 he was dismissed from his office, for being implicated in the dishonorable bankruptcy of the house of Coulon, army contractors; but in 1805 he was appointed ambassador to the States of the Circle of Lower Saxony, and in this capacity resided long at Hamburg. His tendency to peculation, however, necessitated his return to France, where he had to refund 1,000,000 francs into the public treasury. He now decidedly joined the party which sought the overthrow of the emperor, and the restoration of the Bourbons. As deputy in 1815 and 1821, he showed his weakness of character by opposing all liberal measures, and even institutions for the promotion of science and popular education. The revolution of 1830, and the loss of his fortune, (occasioned by extravagance,) caused his reason to give way, and he died in a lunatic asylum, 1834. His Memoirs concerning Napoleon, the Directory, the Consulate, the Empire, and the Restoration, *Mémoires sur Napoleon*, &c., (10 vols., Par., 1829,) gave many new explanations of the events of his time, but were declared by contemporaries to be in many respects untrustworthy.

Bourqueney, (*boor'ken-ai,*) FRANÇOIS ADOLPHE, BARON DE, a French diplomatist, B. 1800. In 1834, he was appointed secretary of the French embassy at the British

Court, and, afterwards, ambassador to Constantinople, remaining there till the revolution of 1848. He was known for his Orleanist predilections until, in 1853, he was appointed, by the Emperor Napoleon III., French ambassador at Vienna. He conducted the difficult negotiations which led to the treaty of Dec., 1854, by which the Austriau emperor confirmed his alliance with Napoleon against the emperor of Russia. At the close of the conferences of Paris, iu 1855, *B.* was raised to the dignity of senator. D. 1869.

Bourse (*bōōrs*), *n.* [Fr. *bourse*, purse, exchange; Sp. and Port. *bolsa;* from L. Lat. *bursa*, skin, purses being originally made from skin.] A public edifice, containing offices, display rooms and assembly halls, for the use of merchants, manufacturers, bankers, &c.; a general commercial exchange, as in Brussels. Paris, Philadelphia, &c.

Bourtange, or Bourtang, (*boor'tawng,*) a Dutch town and fortress in Gröningen, in au extensive morass, 12 m. from Winschoten. In 1593 it was taken by the Spaniards, and in 1795 retakeu by the French.

Bouse, *v. i.* See Booze.

Bons'sa, a province of Interior Africa, Lat. 10° 14′ N., Lon. 6° 11′ E., extending about 50 m. N. of the River Niger. *Surface.* Level, and wooded. *Soil.* Very fertile, producing corn, rice, cotton, yams, &c. *B.* abounds with the usual wild animals of Africa. It is considered, politically, a part of the great kingdom of Borgoo, of which it forms the largest, most powertul, and populous State. *Cap.* Boussa.

Boussa, a city, and cap. of the above prov., is situate on an island of the same name in the Niger, Lat. 10° 14′ N., Lon. 5° 20′ E. It presents the appearance of several small villages, aud possesses a melancholy interest from its being the spot where the celebrated African traveller Mungo Park (*q. v.*) met his death. *Pop.* Estimated at 18,000.

Boussingault, (*bōōs'in-go,*) Jean Baptiste Joseph Dieudonné, an eminent French chemist, and member of the Institute; b. in Paris, 1802. After finishing his education in the Mining School of St. Etienne, he accepted the offer made to him by an English company, of proceeding to S. America, to recover and work certain ancient mines which had been for many years neglected. All went well at first; but when the Spanish colonies declared their independence, an end was put to the enterprise. It was at this time that *B.* made the acquaintance of Humboldt, who was exploring the New World. *B.* having nothing better to do, entered the ranks of the insurrectionary army, and was attached to Gen. Bolivar's staff, more, however, as a savant than a soldier; and passed through Bolivia, Venezuela, and the countries situated between Carthagena and the month of the Orinoco. Soon after his return to France, he was appointed to a professorship of chemistry at Lyons. In 1839, he was appointed professor of agriculture in the Conservatory of Arts and Trades. Chemistry, applied to agriculture and the rearing of cattle, owes much to the labors of *B.*, especially his indications as to the quality of manures, and on the nutritive properties of the aliments destined for herbivorous animals. His principal works are, *Mémoires de Chimie Agricole et de Physiologie,* (Paris, 1854); *Traité d' Economie Rurale;* and *Annales de Physique and Chimie.* Died May 12, 1887.

Boustrophe'don, *n.* [Gr., from *bous*, an ox, and *strephō*, I turn.] (*Lit.*) A term descriptive of a mode of writing common among the early Greeks, until nearly the middle of the 5th century, B. C.; viz., in alternate lines from right to left, and from left to right, as fields are ploughed in furrows, having an alternate direction, whence the derivation.

Bou'sy, *a.* See Boozy.

Bout, *n.* [A.S. *bogeht*, crooked, bent, from *bugan*, to bend.] An attempt; a trial at anything; a set-to; a contest; as, a drinking-*bout.*

"The gentleman will . . . have one *bout* with you; he cannot by the duello avoid it." — *Shaks.*

—As much of an action as is performed at one trial; a turn; a single part of any action carried on by successive intervals; as, he beat him in the second *bout.*

"Ladies, that have your feet
Unplagued by corns, we 'll have a *bout!*" — *Shaks.*

(*Agric.*) One turn or course of a plough, when ploughing a ridge.

Boutade, (*bōōt'ad.*) [Fr.] An act of caprice; a whim; a fancy.

Boutant, *a.* (*Arch.*) See Arc-boutant.

Bou'tonville, in *New York*, a P. O. of Westchester co.

Bouts-rimés, (*bōō-re-mā',*) *n. pl.* [Fr., rhymed ends.] (*Lit.*) A kind of verses, the making of which forms a social amusement. Some one of the party gives out the rhymes, or eudings, of a stanza, and the others have to fill up the lines as they best may. In fixing the "bouts," it is usual to choose such as seem the remotest and have the least connection.

Boutte, in *Louisiana*, a post-office of St. Charles par.

Bouvier, (*boov'yā,*) John, an American jurist of French descent, b. in the dep. of Gard, 1787. He was of a Quaker family who emigrated to this country and settled in Philadelphia. He became a citizen of the U. States in 1812. In 1839, he published a *Law Dictionary, adapted to the Constitution and Laws of the U. States, and of the several States of the American Union;* a very reliable work, of which the new edition, revised by D. A. Gleason, and published in 1858, is frequently quoted in the present Encyclopedia. His greatest work, the *Institutes of American Law*, was published 2 months before his death, in 1851.

Bouvines, or Bovines, (*boo'veen,*) a village of France, dep. Nord, 12 m. S.E. of Lille, where Philippe-Auguste of France, (July 27, 1214,) with inferior numbers, defeated the army of Otho IV., Emperor of Germany, and his allies. The Counts of Flanders and Boulogne, and William Earl of Salisbury, were made prisoners.—Philip de Valois defeated here, in 1340, 10,000 English troops; and on May 17 and 18, 1794, the French defeated the Austrians at this place.

Boux'willer, or **Busch'weiler.** See Bischwiller.

Bo'va, *n.* [Lat.] (*Arch.*) The ancient uame for a wine-cellar.

Bo'vate, *n.* (*O. Eng. Law.*) Formerly, an ox-gang of land; *i. e*, as much land as can be ploughed by an ox in a year; usually estimated at about 15 acres.

Bo'vey-coal, *n.* (*Min.*) The lignites found at Bovey-Tracey, Devonshire, England, are called by this name. They are of the tertiary period, and have occasionally been used as fuel, chiefly for burning pottery, and for brick and tile making. They burn badly, with much smoke and disagreeable odor, and are of little use.

Bovevagh, (*bo-ve-vah',*) a parish of Ireland, co. Londonderry.

Bo'vid, *n.* [From Lat. *bos — bovis*, an ox.] (*Zoöl.*) Relating to ruminant animals of the *Bos* genus, as oxen, &c.

Bo'vidæ, *n. pl.* [Lat. *bos, bovis*, an ox.] (*Zoöl.*) A subfamily of the *Cavicornia*, or Hollow-horned Ruminant family, including those of the *Ruminantia*, which are characterized by having horns rounded, muzzle broad, usually naked, and without a vertical furrow at the end. The principal species are the Musk-ox, *Oribus moschatus;* the common ox, *Bos taurus;* the American Buffalo, *Bos Americanus;* the Aurochs, *Bos bubalus*, and the Grunting Cow, or Yak, of Tartary, *Bos grunniens.*

Bo'vina, in *Iowa*, a post-village of Tama co.

Bovina, in *Mississippi*, a post-village of Warren co., 12 m. E. of Vicksburg, and a considerable depot for the cotton of the adjacent country.

Bovina, in *New York*, a post-township of Delaware co., 60 m. W.S.W. of Albany.

Bovina, in *Wisconsin*, a township of Outagamie co., abt. 15 m. N.N.W. of Appleton.

Bovi'na Valley, in *New York*, a post-station in Delaware co.

Bovine, (*bō'vin,*) *a.* [L. Lat. *bovinus*, from *bos, bovis*, an ox.] Pertaining to oxen and cows.

"This animal is the strongest and fiercest of the *bovine* genus." *Barrow.*

Bo'vine, in *Indiana*, a post-office of Gibson co.

Bovi'no, (anc. *Vibinum,*) a fortified town of S. Italy, prov. Foggia Capitanata, 19 m. S.S.W. of Foggia. A battle took place near this place in 1734, between the Spaniards and the Imperialists, in which the former were defeated. *Pop.* 7,469.

Bow, (*bou,*) *v. a.* [A. S. *bugan, bygan;* O. Ger. *bingan;* Ger. *biegen.*] To bend; to curve; to arch; to inflect; to make curved or crooked.—Used in opposition to straightness; as, *bowed* legs.

"*Bow*, stubborn knees."—*Shaks.*

—To cause to deviate or change from a natural bias, or condition; to turn; to incline; to exercise paramount sway over; as, to *bow* to another's judgment.

"Not to *bow* and bias their opinions."—*Fuller.*

—To bend one's head or body ont of respect or civility; to make an act of obeisance by way of homage, courtesy, or condescension; as, to *bow* to a lady.

"They came to meet him and *bowed* themselves to the ground before him." — 2 *Kings* ii. 15.

—To depress; to crush; to prostrate; to cause to bend down in a snbdued manner; as, *bowed* with grief.

"Now wasting years my former strength confound.
And added woes may *bow* me to the ground.' — *Pope.*

—*v. i.* (*bou.*) To bend; to curve; to be inflected; to stoop; to make a reverence; to fall upon the knee; to yield; to submit; often used with *down;* as, *bowed down* with age.

"Rather let my head
Stoop to the block, than these knees *bow* to any,
Save to the God of heav'n, and to my king."—*Shaks.*

—*n.* (*bou.*) [A. S. *boga;* Ger. *beugen.*] A bending of the body, or an inclination of the head, in token of reverence, respect, civility, or submission.

"Juan, who found himself, he knew not how,
A general object of attention, made
His answers with a very graceful *bow.*' — *Byron.*

—*pl.* (*Naut.*) The two sides of the fore extremity of a vessel, as the *starboard* and *port* (larboard) *bows.*

On the bow. Said of that part of the horizon within 45 degrees on either side of the line ahead.

Bow, (*bō,*) *n.* [Ger. *bogen.*] (*Mil. and Sport.*) A curved instrument used in archery for the propulsion of arrows; an ancient weapon of offence; made of wood, horn, steel, or some other elastic substance. The force with which an arrow is propelled is proportioned to that with which the bow is bent, and to the quickness with which it recovers its former position.—See Arbalest, and Archery.

—Anything bent or in the form of a curve; as, the rain-*bow;* that part of a yoke, &c. fitting round the neck.

"As the ox hath his *bow*, Sir, the horse his curb, and the falcon his bells, so man hath his desire." — *Shaks.*

(*Mus.*) A stick of hard elastic wood, along which are stretched horse-hairs, the tension of which is regulated by a screw. It is used for playing upon instruments of the violin kind, and varies in size, the double-bass and violoncello bow being much stiffer and stronger than that of the violin.

(*Arch.*) Any part of an edifice that projects from a straight wall.—An arched buttress, or gateway.—Among draughtsmen, a *B.* denotes a beam of wood or brass, with three large screws that direct a lath of wood or steel to an arch, used in drawing flat arches, or in projections of the sphere.

(*Saddlery.*) (*s.* or *pl.*) Two pieces of wood laid archwise to receive the upper part of a horse's back, to give the saddle its due form, and to keep it tight.—*Webster.* See Hames.

Bow, in *New Hampshire*, a post-township of Merrimack co., 5 m. S. of the city of Concord, on the Merrimack River.

Bow and String Beam, *n.* (*Arch.*) A beam so trussed that the tendency of the straight part to sag when loaded is counteracted to some extent by the tension upon its two ends, by a bow of wood or metal attached to those extremities.

Bow and String Bridge, *n.* (*Arch.*) Sometimes called *bow-string* or *tension-bridge;* in which the horizontal thrust of the arch, or trussed beam, is resisted by means of a horizontal tie attached as nearly as possible to the chord line of the arch.

Bow'-bearer, *n.* An under-ranger of a forest, in England, employed to discover trespassers.

Bow'-bell, *n.* A cockney; one born within the sound of the bells of Bow Church, London.

Bow' Bells, *n. pl.* The bells of Bow Church, London, in the centre of the city.

Bow'-bent, *a.* [*bow* and *bent.*] Curved; crooked.

"A sibyl old, *bow-bent* with crooked age,
That far events full wisely could presage." — *Milton.*

Bow'-chaser, *n.* (*Naut.*) A gun placed in the bows of a ship, and used for firing at a chased vessel. Sometimes, by seamen, called *long Tom.*

Bow'-compass, *n.* (*Arch.*) A compass used in drawing arches of very long aisles; it consists of a beam of wood or brass with three long screws that bend a lath of wood or steel to any arch. — A small compass used in describing arcs too small to be accurately drawn by the common compass.

Bow'dich, Thomas Edward, an ingenious and enterprising man, who may be numbered among the victims of African exploration. He was born at Bristol, in June, 1790, and after some previous education at a grammar-school, he was sent to Oxford, but he stayed there only a short time, and was never regularly matriculated. At an early age he married, and engaged in trade at Bristol. Finding, however, the details of business exceedingly irksome, he determined to seek a more congenial occupation, and he accordingly solicited and obtained the appointment of writer in the service of the African company. In 1816 he arrived at Cape Coast Castle, where he was joined soon after by his wife. It being thought desirable to send an embassy to the negro king of Ashantee, *B.* was chosen to conduct it, and he executed with success the arduous duties of his situation. After remaining two years in Africa, he returned home, and soon after published his *Mission to Ashantee*, with a statistical account of that kingdom, and "Geographical Notices of other parts of the Interior of Africa," 1819. 4to. Having offended the company in whose service he had been engaged, and having therefore no prospect of further employment, yet wishing ardently to return to Africa, for the purpose of visiting its hitherto unexplored regions, *B.* resolved to make the attempt, with such assistance as he could obtain from private individuals. He, however, previously went to Paris, to improve his acquaintance with physical and mathematical science. His reception by the French literati was extremely flattering; and an advantageous appointment was offered him by the French government. While at Paris he published an exposure of the system of the African Committee, which induced the British government to take measures for the dissolution of the company. To obtain funds for the prosecution of his favorite project, *B.* also published a translation of Molier's *Travels to the Sources of the Senegal and Gambia*, and other works; by the sale of which he was enabled, with a little assistance from other persons, to make preparations for his second African expedition. He sailed from Havre in August, 1822, for Lisbon; thence he proceeded to Madeira, where he was detained several months, but at length arrived in safety in the river Gambia. A disease, occasioned by fatigue and anxiety of mind, here put an end to his life, Jan. 10, 1824. *B.* was a member of several literary societies in England and abroad. The able pencil of his widow furnished the illustrations for his literary productions.

Bowdich'ia, *n.* (*Bot.*) A genus of plants, order *Fabaceæ.*

Bowditch, (*bo'dich,*) Nathaniel, an American mathematician, b. at Salem, Mass., 1773, published in 1802, the *American Practical Navigator*, a work of the highest value and utility. In 1814–17, appeared his translation of the *Mécanique Celeste* of Laplace, with an able commentary,—a work which obtained for him admission as a Fellow of the Royal Society of London. D. in Boston, 1838.

Bowdoin, (*bō'din,*) in *Maine*, a flourishing post-township of Sagadahoc county, 20 miles S.S.W. of Augusta.

Bow'doin Centre, in *Maine*, a post-office of Sagadahoc co.

Bow'doin College. See Brunswick.

Bowdoinham (*bō'den-ham*), in *Maine*, a post-township of Sagadahoc co., on the Kennebec river, 25 m. S. by W. of Augusta. The river up to this place is navigable for large vessels; and ship building has been somewhat extensively carried on here.

Bow'don, in *Alabama*, a P. O. of Clay co.

Bow'don, in *Georgia*, a post-village of Carroll co., 56 m. W. by S. of Atlanta.

Bow'-drill, *n.* A drill worked by a bow and spring.

Bowelled, (*bou'eld,*) *p. a.* Having bowels or a belly; hollow.

Bow'elless, *a.* Without bowels; destitute of compassion.

Bowels, (*bou'elz,*) *n. pl.* [Ger. *bauch;* Fr. *boyau*, from L.

Lat. *botellum*, an intestine; O. Fr. *boel;* from the root of belly.] Specifically, the intestines or entrails of an animal, probably so called from their filling the belly; the vital parts; the guts.

"He smote him therewith in the fifth rib, and shed out his *bowels*." — 2 *Sam.* xx. 10.

—In a figurative sense, the interior part of anything; as, the *bowels* of the earth.

"Thus far into the *bowels* of the land
Have we march'd on without impediment." — *Shaks.*

—The seat of pity or kindness; hence, tenderness; compassion. "Thou thing of no *bowels*." — *Shaks.*

—*v. a.* To disembowel; to eviscerate; to take the bowels out.

Bow'en, in *Arkansas*, a twp. of Madison co.

Bow'enite, *n.* (*Min.*) A bright apple-green variety of serpentine, found at Smithfield, in Rhode Island. It is named after Mr. Bowen, by whom it was first described.

Bow'ensburg, in *Illinois*, a post-village of Hancock co.

Bow'en's Mills, in *Georgia*, a village of Irwin co.

Bow'en's Prairie, in *Iowa*, a post-village of Jones co., 50 m. N.N.E. of Iowa city.

Bow'enville, in *Georgia*, a post-village of Carroll co., on Snake's Creek, 130 m. W.N.W. of Milledgeville.

Bow'enville, in *Virginia*, a post-village of Fauquier co.

Bower, (*bou'er,*) *n.* [From Bow.] (*Naut.*) A name given to the two anchors, carried in the bows of a large ship, called respectively the *best-bower*, and the *small-bower;* as, she rode to her best *bower*.

—One who bows, or makes an obeisance.

(*Games.*) [Ger. *bauer*, a peasant, analogous to the knave in cards.] One of the two highest cards in the game of Euchre.—*Right Bower*, the knave of the trump suit, the highest card in the game.—*Left Bower*. The knave of the other suit of the same color as the trump, being the next highest in value.

Bower, (*bou'er,*) *n.* [A. S. *bur;* Icel. *bur*, a pantry; W. *bwr*, an enclosure.] Formerly, a chamber or inner apartment.

"Give me my lute in bed as I now lie,
And lock the doors of mine unlucky *bower*." — *Gascoigne.*

—A shady recess; a sheltered retreat; a cottage.

"To the nuptial *bower*
I led her blushing like the morn." — *Milton.*

—A covered place in a garden, formed of boughs or branches twisted and bent: an arbor.

"There 's a *bower* of roses by Bendemeer's stream." — *Moore.*

—*v. a.* To embower; to shelter with boughs; to enclose.

"Thou didst *bower* the spirit
In mortal paradise of such sweet flesh." — *Shaks.*

Bow'er, in *Pennsylvania*, a post-office of Clearfield co.

Bow'er Bank, in *Maine*, a township of Piscataquis co., 7 m. N. of Dover.

Bow'er-Bird, *n.* See CHLAMYDERA.

Bow'er Hill, in *Pennsylvania*, a post-village of Washington co.

Bow'erie, *n.* In Hindostan, a well descended by steps.

Bow'ers, in *Virginia*, a post-office of Southampton co.

Bow'er's Mills, in *Missouri*, a village of Lawrence co.

Bow'er's Station, in *Pennsylvania*, a post-village of Berk's co.

Bow'ersville, in *Georgia*, a village of Franklin co.

Bow'ersville, in *Ohio*, a post-village of Greene co.

Bow'ery, *n.* Containing bowers; covering; shady as a bower; as, a *bowery* glade.

"Landscapes how gay the *bow'ry* grotto yields.
Which thou, at creates, and lavish fancy builds." — *Tickell.*

Bow'ess, Bow'et, *n.* (*Falconry.*) A newly-fledged young hawk.

Bowge, *v. i.* See BOUGE.

Bowge, (*bouj'.*) *n.* (*Naut.*) A rope fastened to the middle of a sail, to make it stand closer to the wind.

Bow'-grace, (*bo-,*) *n.* (*Naut.*) A frame of old rope or junk placed round the bows and sides of a vessel to prevent the ice from injuring her. Sometimes written BON-GRACE.

Bow'-hand, (*bo-,*) *n.* (*Archery.*) The hand (*left*) that holds the bow.

"Surely he shoots wide on the *bow-hand*, and very far from the mark." — *Spenser.*

(*Mus.*) The hand (*right*) that draws the bow when playing the violin, &c.

Bow'ides, *n. pl.* (*Hist.*) A dynasty established in Persia, A. D. 932. There were 17 kings of this line, which lasted for 127 years, and became extinct in 1059.

Bowie, (*bo'e,*) in *Texas*, a N.E co., bordering on Arkansas. *Area*, 900 sq. m. Red River forms its N. boundary, and Sulphur Fork its S. *Surface*. Well-timbered. *Soil*. Very fertile, producing cotton and cereals, and pasturing large numbers of cattle. This county owes its designation to Col. James Bowie, introducer of the well-known *bowie-knife*. *Cap.* Boston.

Bow'ie-knife, *n.* A sharp-pointed weapon, from 10 to 15 inches long, and 3 broad, peculiar to the U. States, and bearing a close resemblance to the French *couteau de chasse*, or English *butcher's knife*. It was introduced into familiar use by Col. James Bowie, of Texas, who acquired an unpleasant notoriety by the skilful manner in which he wielded his favorite weapon in his hand-to-hand encounters with Mexicans and others. It is usually carried in a sheath about the person.

Bowing, (*bō'ing,*) *n.* Managing a bow when playing on a violin.

Bowingly, (*bou'ingly,*) *adv.* In a bending or bowing manner.

Bow-instrument, (*bo-,*) *n.* (*Mus.*) Any musical instrument whose tones are sounded by the application of a bow.

Bow Island, the largest island in the Lower Archipelago, South Pacific. It is of coral formation, shaped like a bow, and thinly populated; length about 30 m. and 5 m. broad. Lat. of the N.E. point 18° 6′ S.; Lon. 140° 51′ W. It was discovered by Bougainville in 1768, and named by Cook in 1769.

Bow-knot, (*bō'not.*) The doubling of a string in a slip-knot.

Bowl, (*bōl',*) *n.* [A.S. *bolla;* Dan. *bolle*, allied to Lat. *bulla*, a bubble, any small round body; O. Ger. *bolea.*] A round, concave vessel to hold liquors, rather wide than deep; as, a *bowl* of milk.

"Give me a *bowl* of wine;
I have not that alacrity of spirit,
Nor cheer of mind, that I was wont to have." — *Shaks.*

—The hollow part of anything; as, the *bowl* of the hand.

"If you are allowed a large silver spoon for the kitchen, let half the *bowl* of it be worn out with continual scraping." — *Swift.*

—In a figurative and poetical sense, a libation of wine, or generous liquor; as, "to quaff the flowing *bowl*."

"There St. John mingles with my friendly *bowl*,
The feast of reason and the flow of soul." — *Pope.*

—*n.* (*Pastimes.*) A spherical wooden ball, used for play by rolling it on a level plat of ground; hence, the game called *bowls*.

"Men may make a game at *bowls* in the summer, and a game at whist in the winter." — *Dennis.*

—*v. a.* To roll, as a bowl.

"And *bowl* the round nave down the hill of heaven." — *Shaks.*

—To pelt with anything rolled.

"Alas! I had rather be set quick i' th' earth,
And *bowl'd* to death with turnips." — *Shaks.*

(*Games.*) *To bowl out.* In cricket, to knock down the stumps of an adversary's wicket; as, in the first innings he was *bowled out*.

Bowl, (*bōl,*) *v. i.* (*Games.*) To play with bowls, or at bowling.

—To roll the ball on a level surface; as, at cricket, or skittles.

—To move rapidly, like a ball; as, that velocipede *bowls* along.

Bowl, (The.) See BANIAS.

Bowl'der, *n.* (*Geol.*) See BOULDER.

—*a.* Pertaining to bowlders, or boulders.

Bow'leg, *n.* A crooked leg; a leg curved inwards, in contradistinction to *bandy-leg*, i. e., a leg bending outward.

Bow-legged, *a.* Having bowed or crooked legs.

Bowler, (*bōl'er,*) *n.* (*Pastimes.*) One who plays at bowls; the person who impels the ball at cricket; as, he's a left-handed *bowler*.

Bow'less, *a.* Without a bow.

Bowline, (*bō'lin.*) *n.* [Sp. and Port. *bolina;* Fr. *bouline;* from Eng. *bow* and *line.*] (*Naut.*) A rope from near the middle of the weather edge or leech of a sail, leading forward. Its use is to keep the leech forward, that the wind may get at the after side of the sail when sailing close-hauled.

On a bowline. A term to denote a ship sailing close to the wind.

Bowline-bridles. The ropes which fasten a bowline to the leech of a sail.

Bowl'ing, *n.* Act or art of playing bowls; act of propelling the ball at cricket.

Bowl'ing, in *Illinois*, a thriving township of Rock Island.

Bowl'ing-alley, *n.* A covered place wherein bowls, or skittles, are played; as, a ten-pin *bowling-alley*.

Bowl'ing-green, (*bōl'ing-green,*) *n.* A level piece of ground rolled and kept smooth for bowling.

"A bowl equally poised, and thrown upon a plane *bowling-green*, will run necessarily in a direct line." — *Bently.*

(*Gardening.*) A parterre in a grove, laid with fine turf, with compartments of various figures, dwarf-trees, and other decorations.

Bowl'ing Green, in *Georgia*, a village of Oglethorpe co., 57 m. N. of Milledgeville.

Bowl'ing Green, in *Illinois*, a post-village of Fayette co., 50 m. N.E. of Springfield.

Bowl'ing Green, in *Indiana*, a post-village, former cap. of Clay co., on Eel river.

Bowl'ing Green, in *Kentucky*, a flourishing city, cap. of Warren co., on Barren river, 145 m. S.W. of Frankfort. This place is seated at the head of river navigation, and carries on a thriving trade. *B. G.* was strongly fortified and held by the Confederates after the outbreak of the Civil War, but after the surrender of Fort Donelson, it was considered by them to be untenable and was consequently abandoned, after the destruction of property valued at $500,000. *Pop.*, 1890, 7,803; 1897, abt. 8,400.

Bowl'ing Green, in *Missouri*, a town, cap. of Pike co., 70 m. E. of Jefferson City. There are extensive stone quarries in the vicinity. *Pop.* (1897), abt. 2,000.

Bowling Green, in *Tennessee*, a village of Stewart co.

Bowling Green, in *Virginia*, a twp. and village, cap. of Caroline co., 45 m. N. of Richmond.

Bowls, (*bolz.*) (*Games.*) A favorite pastime in the U. States, as in Europe generally, but somewhat differing in every country. The American *B.* are played in saloons fitted with alleys of from fifty to sixty-five feet in length, and about four in width. The alley has a "gutter," as it is called, on each side, and is lightly convex in the centre, regularly bevelled to the sides. At the further extremity of the alley are set up, in the form of a pyramid, ten pins, usually of ash-wood, about a foot in height and 2 lbs. in weight. The apex of the pyramid is turned towards the bowler, who rolls wooden balls, generally of lignum vitæ, with the object of knocking down as many of the pins as possible at each roll. The pins, when set up, are called a frame, and at each frame the bowler rolls three balls, when the number of pins rolled down is counted to him, and the frame is set up again for the next bowler. A game ordinarily consists of ten frames, or thirty balls. If the bowler takes all the pins with his first ball, he counts ten; the frame is again set up for his second ball, when, if he again takes all, he counts ten more, and the frame is again set up for his third, when, whatever number he scores with the three balls, count to him as if all had been made off one frame. If he take all the ten pins with his first two balls, he is entitled to a fresh frame for his third or last ball. This is technically called getting a spare, or double spare.

Bowling Green, in *Ohio*, the flourishing cap. of Wood co., 130 m. N. N.W. of Columbus, and 20 m. S. of Toledo. *Pop.* in 1890, 3,467; in 1897, abt. 4,750.

—A township of Marion co.

—A township of Licking co.

Bow'man, WILLIAM, F. R. S., an eminent English surgeon, born in 1816. He was Professor of Physiology and General and Morbid Anatomy at King's College, London, Surgeon to the Royal Ophthalmic Hospital, the author of *Lectures on the Parts Concerned in the Operations of the Eye; Observations on Artificial Pupils; Physiological Anatomy and Physiology of Man*, and a member of the principal learned societies of Europe.

Bow'man, (*bō'man,*) *n.; pl.* BOWMEN. An archer; he that shoots with a bow.

Bow'man, (*bou'man,*) *n.* (*Naut.*) He who pulls first oar in a boat.

Bow'man's Creek, in *Pennsylvania*, a post-office of Wyoming co.

Bow'man's Mills, in *Virginia*, a post-office of Rockingham co.

Bow'man's Mountain, in *Pennsylvania*, in the S. of Wyoming co., lies E. of Bowman's Creek, a tributary of the Susquehanna.

Bow'man's-root, *n.* (*Bot.*) See GILLENIA.

Bow'mansville, in *New York*, a post-office of Erie co.

Bow'mansville, in *Pennsylvania*, a post-office of Lancaster co.

Bow'manville, in prov. of Ontario, a flourishing town of Durham co., on Lake Ontario, 42 m. N.E. of Toronto.

Bowne, in *Michigan*, a thriving post-township of Kent county.

Bow'-net, *n.* A contrivance for catching lobsters and crawfish, called also *bow-wheel*. It is made of two round wicker baskets, pointed at the end, one of which is thrust into the other, and at the mouth is a little rim bent inwards.

Bow-oar, (*bou'oar,*) *n.* (*Naut.*) The oar used by the bow-man when rowing a boat.—He who rows the first oar in a boat; as, he pulls *bow-oar* in the University Eight.

Bow'-pen, *n.* A metallic pen for ruling, bowed out towards the middle of the part which holds the ink.

Bow-piece, (*bou'pees,*) *n.* (*Naut.*) A gun of the carronade kind, placed in the bow of a ship. See BOW-CHASER.

Bow'ring, SIR JOHN, L.L.D., F.R.S., a distinguished English diplomatist and author, B. 1792. He became in early life the political pupil of Jeremy Bentham (*q. v.*), maintaining his master's principles in the Westminster Review, of which he was for some years the editor, and after the death of Bentham (of whom he was the executor) published a collection of his works, accompanied by a biography, in 23 vols. *B.* subsequently made himself famous by his profound knowledge of European literature, and published a number of versions of poems and other works from the Russian, Servian, Polish, Magyar, Danish, German, Swedish, Frisian, Dutch, Esthonian, Spanish, Portuguese, Icelandic, and other languages; besides many original works, as *Remunerative Prison Labor, On the Restrictive and Prohibitory System*, &c. In Madrid, he published, in Spanish, a work on *African Slavery*, and has translated into French, Clarkson's *Opinions of the Early Christians on War*. *B.*'s *Matins and Vespers* have gone through many editions both in England and the U. States. For his two volumes of *Russian Anthology* he received a diamond ring from the Emperor Alexander I., and for his works on Holland, some of which have been translated into Dutch, a gold medal from the King of the Netherlands. The University of Gröningen also conferred upon him the degree of LL.D. Having made the economics and literature of trade and commerce an especial study, *B.* has at various times acted as England's commercial commissioner to France, Belgium, Italy, Switzerland, the States of the German Customs Union, and the Levant. Under Lord Melbourne's government he was chairman of the Parliamentary Committee on Colonial Accounts, whose recommendations led to the most important improvements. While in Parliament, he carried, in opposition to the government, a resolution that the gross revenues of all taxes should be paid without reduction into the Exchequer,—a principle which has become the groundwork of reform in the British national accountancy. *B.* received a handsome service of plate from the Manxmen for his services in obtaining an Act of Parliament for their emancipation from feudal tyranny, and another from the Maltese for his advocacy as their unofficial representative in the British House of Commons. Aided by the powerful support of Prince Albert, he obtained, after a parliamentary discussion, the issue of the *florin*, which was the first step towards the introduction of the decimal division into the currency of England. In 1849, *B.* was appointed British Consul at Canton, and, in 1854, Minister-Plenipotentiary in China, and governor of Hong Kong. *B.* is a member of nearly all the learned societies of Europe. In 1855, Sir John proceeded on a special mission to Siam, and concluded a treaty of commerce

with the two kings of that country,—a task in which several previous negotiators had failed; and published his travels, entitled *The Kingdom and People of Siam*, (Lond., 1857.) In 1859 appeared from his pen, *A Visit to the Philippine Islands;* and he is a frequent contributor to the review literature of the day. Sir John's eldest son, Mr. John C. Bowring, has presented to the British Museum, the *Bowringian Collection* of Coleoptera, consisting of more than 84,000 species. D. 1872.

Bow-saw, (*bō'saw,*) *n.* A saw used for cutting the thin edges of wood into curves.

Bowse, *v. i.* See BOOZE.

(*Naut.*) To pull or haul upon a tackle; as, to *bowse away*, i. e. pull all together.

Bow-shot, (*bō-shot,*) *n.* (*Archery.*) The space which an arrow may cover in its flight from the bow.

"Though he were then not a *bow-shot* off."—*Boyle.*

Bow'shersville, in *Ohio*, a village of Wyandot co.

Bowsprit, (*bou'sprit,*) *n.* [*bow* and *sprit*, a shoot or sprit; Du. *boegspriet.*] (*Naut.*) A large boom or spar, projecting over a ship's bow to carry a sail forward, and to which (in large vessels) the forestays are secured. It supports the jib and flying jib-booms.—It is sometimes, but improperly, written *boltsprit.*

Bow'string, (*bō'string,*) *n.* The string of a bow.

"He hath twice or thrice cut Cupid's *bow-string*, and the little hangman dare not shoot at him."—*Shaks.*

—In Turkey, and other Eastern countries, a cord or string used for the strangulation of offenders.

"And then a threat
He mutter'd (but the last was given aside)
About a *bow-string*."—*Byron.*

—*v. a.* To strangle with a bow-string.

"His Highness was a man of solemn port. . . .
His lately *bow-strung* brother caused his rise."—*Byron.*

Bow-stringed, *p. a.* Fitted with bowstrings.

—Strangled; put to death by means of a bowstring.

Bow'tell, *n.* (*Arch.*) The shaft of a clustered pillar, or a shaft attached to the jambs of a door or window.

Bow'-window, *n.* Same as BAY-WINDOW, *q. v.*

Bowyer, (*bō'yer,*) *n.* An archer; one who shoots with a bow (o)

"Call for vengeance from the *bowyer*-king."—*Dryden.*

—A maker of bows. (o.)

Box, (*boks,*) *n.* [Gr. *pyxos;* Lat. *buxus*, the box-tree; Gr. and Lat. *pyxis*, a vessel made of the wood of the box-tree; A.S. *box;* Dan. *bus;* Icel. *box.*] A coffer or case of wood, metal, &c., made to hold anything; it differs from *chest*, in that the former is a receptacle of a smaller size.

"This casket India's glowing gems unlocks,
And all Arabia breathes from yonder *box*."—*Pope.*

—Quantity that a box contains; as, a *box* of dominoes.

—A compartment in a theatre or other place of public amusement; as, the stage-*box*. (Also, by implication, the occupants of such *box*.)

"'T is left to you; the *boxes* and the pit
Are sovereign judges of this sort of wit."—*Dryden.*

—The enclosed space in a court of justice in which the jurors sit; as, a jury-*box*.

—A chest or receptacle for the deposit of money; as, a money-*box*.

"Yet, since his neighbors give, the churl unlocks,
Damning the poor, his triple-bolted *box*."—*Warton.*

—A small country-house; as, a shooting-*box*.

"A neat, little *box* at Clapham."—*Dickens.*

—The driver's seat on a vehicle; as, the coach-*box*.—A seasonable gift or present; as, a Christmas-*box*.—See BOXING-DAY.

(*Carp.*) The box of a rib-saw consists of two thin iron plates fixed to a handle, in one of which plates an opening is made for the reception of a wedge, by which it is fixed to the saw.—In mitring, a trough for cutting mitres; it has three sides, and is open at the ends, with cuts in the vertical sides at angles of 45° with them.

(*Mach.*) See JOURNAL-BOX.—The bucket of a lifting-pump.

In a box. In a position of embarrassment or difficulty.

Box, *n.* [Gr. *pyxos;* Lat. *buxus.*] (*Bot.*) See BUXUS.

Box, *n.* [Gr. *pygmē*, a fist, from *pyx*, with clenched fist: allied to *pyknos*, close, compact.] A blow with the fist or hand tightly closed; a blow with the open hand on the ear.

"For the box o th ear that the prince gave you, he gave it like a rude prince."—*Shaks*

—*v. t.* or *a.* To strike, beat, or fight with the hand or fist: as, to *box* a boy's ears.

'A leopard is like a cat; he *boxes* with his fore-feet as a cat doth her kitlins.—*Grew*

Box, *v. a.* To enclose or keep in a box; as, to *box* deeds.

"*Box'd* in a chair, the beau impatient sits,
While spouts run clatt'ring o er the roof by fits."—*Swift.*

—To furnish with boxes, as an engine.

—To strike with the fist, (see above.)

—[Sp. *boxar.*] (*Naut.*) To sail round; as, *boxing* about in the offing.—*To box off.* To separate into close compartments.—(*Naut.*) To back the head sails in order to keep the ship's head rapidly off the wind.—*To box the compass.* To repeat 32 points of the compass in order.—*To box a tree.* To make an incision in a tree for the purpose of obtaining its sap.

Box'borough, in *Massachusetts*, a post-township of Middlesex co., 24 m. W. by N. of Boston.

Box-crab, *n.* (*Zoöl.*) See CALAPPA.

Box'-drain, *n.* An under-ground drain, regularly built, with upright sides and a flat stone or brick cover, so that the transverse section resembles a *box;* so called to distinguish it from the other forms of drains.

Box-Elder, *n.* (*Bot.*) See NEGUNDO.

Box-Elder, in *Utah*, a northwestern county, bordering on Idaho and Nevada, and watered by Bear river and Holmes creek. *Surface*, mostly pasture. *Cap.*, Brigham City, or Box-Elder. *Pop.* (1890), 7,642.

Boxen, (*bo..s'n.*) *a.* Made of box-wood.

'As lads and lasses stood around
To hear my *boxen* hautboy sound."—*Gay.*

—Resembling box.

"Her faded cheeks are turned to *boxen* hue,
And in her eyes the tears are ever new."—*Dryden.*

Boxer, (*boks'er,*) *n.* One who boxes or fights with his fists; as, that fellow is a good *boxer*.

Box'ford, in *Missouri*, a post-office of De Kalb co.

Box'ford, in *Massachusetts*, a post-township of Essex co., 25 m. N. of Boston.

Box'-girder, *n.* (*Engineering.*) A form of girder resembling a box, made out of boiler-plate, and fastened together by means of angle irons, which are rivetted respectively to the top and bottom plates. For spans of from 30 to 60 feet opening, these girders present great advantages, and they are now almost exclusively used by English engineers; for a superior elasticity, and the power of resisting violent impact, is far greater in this class of girders than in the old form of cast-iron. Mr. Fairbairn, their inventor, has given the following formula for calculating their resistance: $W = \frac{a\,d\,e}{l}$, in which W = the breaking weight applied in the centre: a = the area of the bottom flange, d = the depth of the beam in inches, e = a co-efficient = 75 for wrought iron; and l = the span in inches.

Box'haul, *v. a.* (*Naut.*) To veer a ship in a particular manner, when it is impossible to tack

Box'hauling, *n.* (*Naut.*) In seamanship, bringing a ship when close-hauled round upon the other tack, when she refuses to tack, and there is not room to wear. By throwing the head-sails aback she gets stern-way: the helm thereupon being put a-lee, the ship's head falls rapidly off from the wind, which she soon brings aft; she is then speedily rounded-to with but little loss of ground. (This term is now, comparatively, but little used.)

Box'ing, *n.* The act or art of fighting, or administering blows with the fists. (Sometimes called the *art of self-defence.*)—See PUGILISM.

Box'ing-day, Box'ing-night, *n.* In England, the day and night after Christmas-day, when it is customary to make presents.—See BOX.

Box'ing-off, *n.* (*Naut.*) Throwing the head-sails aback, to force the ship's head rapidly off the wind.

Box'ing the Compass, *n.* (*Naut.*) Repeating the 32 points of the compass in order.

Box'ings, *n. pl.* (*Arch.*) The *B.* of a window are the two cases, one on each side of the window, into which each of the adjacent shutters is folded, when light is required in the room. The leaves which appear in the front of each boxing are denominated *front shutters;* and those in the back are called *back-flaps.*

Box'-iron, *n.* A hollow iron instrument containing a heater, and used for smoothing linen. It differs from a *flat-iron*, which is itself heated.

Box'-keeper, *n.* A person who manages the letting of boxes at a theatre, or other place of amusement.

Box'ley, in *Indiana*, a post-village of Hamilton co., 30 m. N. of Indianapolis.

Box'-lobby, *n.* The lobby, or corridor, leading to the boxes in a theatre.

Box Spring, in *Georgia*, a post-office of Talbot co.

Box'tel, a town of the Netherlands, prov. Brabant, on the Dommel, 7 m. S. of Bois-le-Duc. In 1794 an obstinate battle was fought here between the French and the allied English and Dutch forces, commanded by the Duke of York, in which the latter were defeated with considerable loss, and obliged to retire beyond the Maese. *Pop.* 4,645.

Box'-thorn, *n.* (*Bot.*) The English name of the genus LYCIUM, *q. v.*

Box'-tree, *n.* (*Bot.*) The English name of the genus BUXUS, *q. v.*

Box'ville, in *Georgia*, a village of Montgomery co., 100 m. S. of Milledgeville.

Box'-wood, *n.* The wood of the box-tree.—See BUXUS.

Boy, *n.* [Lat. *puer, pupus;* Dan. *poj;* Ger. *bube.*] A male child; a male beyond the period of infancy, and under that of manhood; a lad; a minor.

"Ah! happy years! once more who would not be a *boy?*"—*Byron.*

—*v. a.* To act as a boy, alluding to the former practice of having boys to represent women's parts on the English stage.

"And I shall see
Some squeaking Cleopatra *boy* my greatness."—*Shaks.*

Boyaca (*bo-ya'ka*), a town of Colombia (S. A.), near which, in 1819, Bolivar, by a victory over the Spaniards, secured the independence of his country. It gives name to the department, which stretches from the plateau of Bogota to the borders of Venezuela, being watered by the Magdalena, Sogamozo, Zulia, Cazanare, and Meta. The capital, however, is not *B.* itself, but the neighboring city of Tunja, which is about 70 miles to the N.N.E. of Bogota.

Boyanagh, (*boy'an-agh,*) a parish of Ireland, county Galway.

Boy'ar, Boi'ar, Boy'ard, *n.* A name first used by the Bulgarians, Serbs, and Russians, subsequently adopted by the Moldavians and Wallachians, and synonymous with *bojarin*, used by the Bohemians, Poles, and other Slavic tribes, to qualify the highest social condition; corresponding in certain respects to that of an English peer. In ancient Russia the *B.* were the next after the princes of the blood. While Russia was still divided into several petty sovereignties, the *B.* enjoyed the right of choosing for themselves, and for their dependents, the prince whom they wished to serve, and to leave the service at their pleasure, without any previous notification. Peter the Great wholly abolished their power and official privileges, and the name now remains only as a historical distinction, and a recollection of the past in families which once possessed the dignity. In Wallachia and Moldavia the boyards still exist; they form the council of the princes or *hospodars*, and exercise a preponderating influence over the people.

Boyau, *n.*; *pl.* BOYAUX, (*bwoi'yo.*) [Fr., bowels.] (*Mil.*) Any covered line of approach made towards the defensive works, during the siege of any place, by the attacking party. *B.* are termed *parallel* or *zigzag*, according to their direction, with reference to the front of the work against which the attack is directed.

Boy'-bishop, *n.* (*Eccl. Hist.*) During the Middle Ages, the custom grew up of allowing the choristers of cathedrals to choose yearly one of their number to act the part of a bishop. The practice was permitted probably from the same motives which suffered the mummeries of the "Abbot of Unreason," (a graphic account of which may be found in Sir Walter Scott's romance of *The Monastery.*) If the *B.* died within the short period of office, he was buried in his episcopal robes. A tomb with the effigy of a boy so clothed may be seen in Salisbury Cathedral, England.

Boy'cott, (*Irish Hist.*) From one Captain Boycott, a land ag't, who made himself obnoxious during the Agrarian troubles in Ireland in 1880. The people refused to work for him or to countenance him, hence the term *Boycott* or *Boycotted* has since been applied to organized efforts to refuse support or patronage.

"They advise * * * shall be *Boycotted*.
Nobody is to work for them, to sell them anything, or to buy of them."—*The Scotchman.*

Boyd, in *Kentucky*, a N.E. co., bordering on Ohio and West Virginia. *Area*, 180 sq. m. The Ohio forms its N.E. boundary, and the Big Sandy its E. *Soil.* Tolerably fertile. *Cap.* Catlettsburg. *Pop.* (1898) 16,100.

Boyd, in *Missouri*, a post-office of Dallas co.

Boydell', JOHN, a liberal patron of art, celebrated for the handsomely illustrated edition of Shakespeare, published under his patronage (1792–1801), and the magnificent "Shakespeare Gallery" of engravings by West, Reynolds, Opie and Northcote, also the result of his energies. Born in England, 1719; died in 1804.

Boyds'ville, in *Tennessee*, a village of Weakley co., 124 m. W. by N. of Nashville.

Boyds'ville, in *Kentucky*, a post-office of Graves co.

Boyds'ville, in *Missouri*, a post-office of Callaway co.

Boyd'ton, in *Virginia*, a vill., cap. of Mecklenburg co., 6 m. N. of Roanoke river, and 90 m. S.W. of Richmond. *Pop.*, 800. On the road from Petersburg to this place, where it crosses the creek called Hatcher's Run, an obstinate engagement took place, 27th Oct., 1864, between the Union troops, commanded by Gen. Hancock, and a force of Confederates under Gen. Heth, in which each side sustained a loss of about 1,500 men, and though the latter had gained no ground, the Nationals found it advisable to withdraw to their intrenchments at Petersburg.

Boy'er, ALEXIS, BARON DE, a French surgeon, B. at Uzerche, 1757. He was surgeon to Napoleon, who made him a baron. After the Restoration he remained in the service of Louis XVIII., Charles X., and Louis Philippe. In 1825 he was admitted member of the Institute, and D. 1833. His principal works are, *Traité complet d'Anatomie*, and *Traité des Maladies Chirurgicales.*

Boy'er, JEAN PIERRE, president of the Republic of Hayti, was a mulatto, B. at Port-au-Prince, 1776. He was educated in France, and in 1792, entered the military service. He very soon became a *chef de bataillon*, and fought against the British on their invasion of his native isle. After further fighting against the British, under General Rigaud, leader of the mulattoes, and afterwards under General Leclerc, he entered into a combination which had for its object the union of the negroes and mulattoes, and a complete emancipation of the colony. After the negro Dessalines had seated himself upon the throne, *B.*, along with Pétion, took the lead of the colored people. They assisted Christophe to overthrow the bloody tyrant in 1806, but deserted Christophe when they saw that he wished to make himself sovereign. Pétion now established an independent republic in the western part of the island: and *B.* made himself indispensable to him by his military and administrative knowledge, so that he was invested by the new president with the command of the capital, Port-au-Prince, and the rank of a major-general. In this capacity he endeavored to discipline his troops after the European manner; drove back, more than once, the black hordes of Christophe, thereby preserving Port-au-Prince from destruction: was recommended to the people by Pétion, when dying, as worthy to be his successor: and was unanimously elected president of the republic, 1818. He arranged the financial affairs, collected funds into the treasury, improved the administration, and encouraged arts and sciences. After the death of Christophe, he united the monarchical part of the island with the republic in 1820; and, in 1821, the eastern district also, which had hitherto remained under the dominion of Spain; and he urgently sought the recognition of the independence of the youthful state by France, which was obtained in 1825, upon payment of an indemnity of 150 millions of francs. *B.* carried on the government of the Republic of Hayti for fifteen years from this time, with the most perfect peace; but his policy, which was rather arbitrary, and directed to the object of depressing the negroes in favor of his own race, resulted in a victorious insurrection in 1843. *B.* fled to Jamaica. In 1848 he went to Paris, where he D. 1850.

Boy'er, *n.* [Fr.; Du. *boeijer*, a vessel for laying down *buoys.*] (*Naut.*) A kind of Dutch sailing-craft.

Boy'er, in *Iowa*, a township of Harrison co.

Boy'er River, in *Iowa*, rising in the N.W. of the State, after a S.W. course, falls into the Missouri, below Kanesville.

—A township of Crawford co.

Boy'ertown, in *Pennsylvania*, a post-village of Berks co., 18 miles N. of Reading. *Pop.* in 1897 estimated at 1,750.

Boy'hood, *n.* The state of a boy, or of immature age; as, *boyhood's* days.

> "Her face was fair, but was not that which made
> The starlight of his *boyhood*." — *Byron.*

Boy'ish, *a.* Belonging to a boy; trifling; childish; puerile.

> "I ran it through e'en from my *boyish* days." — *Shaks.*

Boy'ishly, *adv.* Childishly; in a trifling manner.

Boy'ishness, *n.* The manner, or behavior of a boy; childishness.

Boy'ism, *n.* Puerility; childishness.

> "He had complained . . . by a thousand such *boyisms*." — *Dryden.*

—Boyhood; condition of a boy. (R.)

Boy'kins Depot, in *Virginia*, a post-village of Southampton co.

Boy'kins Depot, in *S. Carolina*, a post-vill. of Kershaw dist., 9 m. S. of Camden.

Boyle, RICHARD, "The Great EARL OF CORK," (*boil*,) a celebrated English statesman of the 17th century, B. at Canterbury, England, in 1566. After studying at Cambridge he removed to the Middle Temple, which he left to become clerk to Sir Richard Manwood, Chief Baron of the Exchequer. In 1588 he went to Dublin, with strong recommendations to persons in power, whose patronage he obtained. In 1595 he married a lady of fortune, whose death, a few years after, left him the possessor of property to the amount of £500 a year. The state of Ireland at that time having rendered land very cheap, he took advantage of the circumstance to make some considerable purchases, among which was the estate of Sir Walter Raleigh, consisting of 12,000 acres, in the counties of Cork and Waterford, which he obtained on easy terms. He was then appointed clerk of the Council under Sir George Carew, the Lord-President of Munster, whom he accompanied in various expeditions against the Irish insurgents, then in opposition to the English government. On these and other occasions he distinguished himself by his talents and activity, and rapidly augmented his political power and influence. King James I. appointed him privy-councillor for Munster, and afterward for the kingdom of Ireland; in 1616 he was made a peer of that realm by the title of *Baron Boyle of Youghal*, and in 1620 he was created *Viscount Dungarvan*, and *Earl of Cork*. He was now at the height of his prosperity, living in his castle of Lismore in a style of grandeur more resembling that of a sovereign prince than of a private individual. In 1629 he was made one of the lord-justices of Ireland, and in 1631 Lord-Treasurer of that kingdom. Like most of the English rulers of the sister state, Ireland, he seems to have employed his power rather for the subjugation than the advantage of the native Irish. He built and fortified towns and castles, and introduced among the people arts and manufactures; but he also put in force the severe laws of Queen Elizabeth against the Roman Catholics, and transported multitudes of the ancient inhabitants from the fertile province of Leinster to the bogs and deserts of Kerry, supplying their place with English colonists. Such measures might be consistent enough with the views and principles of a military despot like Cromwell, who, on surveying the improvements on the estate of this nobleman, is said to have declared — "That if there had been an Earl of Cork in every province, it would have been impossible for the Irish to raise a rebellion." But few persons will now be disposed to bow to the "ipse dixit" of the conqueror of Ireland, or to doubt for a moment that the cruel and illiberal policy of Lord Cork, and other mistaken but perhaps well-meaning statesmen, really contributed to cause those popular commotions which desolated Ireland during the latter years of his life. In 1641 the Earl went to England as a witness against Lord Strafford, then under impeachment, having quarrelled with that nobleman during his vice-royalty. Soon after his return home the insurrection of the Irish broke out, on which event he displayed his accustomed activity, enlisting his tenantry under the command of his sons, and taking other measures for the defence of the country. But he lived only to see the commencement of the calamities of his adopted country. D. 1643. He was the founder of a family, several individuals of which highly distinguished themselves as cultivators of literature, science, and the arts.

Boyle', ROBERT, the seventh son of the above, was B. at Lismore Castle, Ireland, 1626. He devoted his life to inquiries into physical science, and in 1654 went to reside at Oxford. It was then that he improved the air-pump, made his immortal discoveries in pneumatics, and gave the first hint of a theory of colors. His published scientific works are very numerous. D. 1691.

Boyle, RICHARD. See BURLINGTON, EARL OF.)

Boyle, a barony, town, and par. of Ireland, co. Roscommon, on the River Boyle, which intersects it, 8 m. N.W. of Carrick-on-Shannon. It is a tolerably well-built place. *Pop.* 3,558.

Boyle, in *Kentucky*, a central county, having an area of 180 sq. m. It is bounded on the N.E. by Dick's River, a tributary of the Kentucky, and also watered by branches of the Salt River. *Surface*, undulating. *Soil*, rich, with a stratum of limestone. *Cap.* Danville. *Pop.* (1898) 13,800.

Boy'ler's Mill, in *Missouri*, a village of Morgan co.

Boyle's Fuming Liquor, (so called from having been invented by the Hon. Robert Boyle, *q. v.*)

(*Chem.*) A fetid yellow liquid, obtained by distilling sal-ammoniac with sulphur and lime. It is sometimes used in medicine under the name of LIQUOR FUMANS BOYLII.

Boyls'ton, in *Massachusetts*, a post-township of Worcester co., 35 m. W. of the city of Boston. *Manf.* Boots and shoes.

Boyls'ton, in *New York*, a township of Oswego co., 140 m. N.W. of Albany.

Boyls'ton Centre, in *Massachusetts*, a post-vill. of Worcester co.

Boyne, (*boin*,) a river of Ireland, rises in the Bog of Allen, co. Kildare, and flows N.E. through Meath to Drogheda, below which it enters the Irish Sea. It is navigable for barges up to Navau.—The *B.* will ever be memorable in English history for the important victory gained on its banks about 3 m. above Drogheda, 1st July, 1690, by the forces under the command of William III., over those of James II. Though James's personal courage was beyond all question, he on this occasion allowed the prudence of the sovereign to outweigh the impulses of the soldier. Of his troops 1500 were killed and wounded, while William lost barely 500 men. In 1736 an obelisk, 150 feet high, was erected at Oldbridge, on the site of the battle-field, in commemoration of this victory. The accompanying engraving represents

Fig. 402. — RUINS OF THE CHURCH OF DONORE, (Ireland.)

the ruins of the little church of Donore, on a commanding hill, where James II. was stationed when he beheld the overthrow of his army and the ruin of his cause.

Boys'-play, *n.* Any childish amusement or trifling.

Boys'town, or BALTIBOYS, a parish of Ireland, co. Wicklow.

Bozi'ga, *n.* Anciently, a house or dwelling.

Boz'man's Turnout, in *S. Carolina*, a post-village of Newberry dist.

Boz'rah. (*Anc. Geog.*) An ancient Syrian city, identified with the small modern village of *Busrah*, 76 m. S.S.E. of the ancient city of Damascus. It is mentioned in Scripture as a town both of the Moabites and of the Edomites, and as the subject of prophetic denunciation, both by Jeremiah and Amos.

Boz'rah, in *Connecticut*, a post-village and township of New London co., 35 m. E.S.E. of Hartford, on the Yantic River.

Boz'rahville, in *Connecticut*, a post-village of New London co.

Bozzaris, MARCOS, (*boz-za'ris*,) a Greek patriot, B. 1789. He was a Suliote, and distinguished himself by his devotion to his country, in defending it against the Turks. He fell in a night attack upon a body of the Turco-Albanian army, who were advancing with the view of taking Missolonghi, which he had successfully defended for a considerable time, Aug 20, 1823. He was honored with the title of the "Leonidas of Modern Greece."

Boz'zolo, a town of N. Italy, on the Oglio, 16 m. W.S.W. of Mantua; *pop.* 6,148.

Bra, a town of N. Italy, prov. of Cuneo, on the Staru, 22 m. N. of Mondovi; *pop.* 13,415.

Brabançonne, (*brab'an-sun*.) The national song of the Belgians, composed by the French M. Jenneval, and set to music by Campenhout. It was sung by the insurgents during the revolution of Sept., 1830. Each verse of the *B.* ends with the refrain: —

> "La mitraille a brisé l'orange
> Sur l'arbre de la liberté."

Brabançons, or BRABANÇIONES, (*bra'ban-sawngs*.) *n. pl.* (*Hist.*) *B.* were, in the Middle Ages, a kind of irregular soldiery of the Netherlands, who were infamous for rapine, being little better than commissioned banditti, and who hired themselves to fight for whoever would pay them best. Sometimes they were in the service of one prince or baron, and sometimes of another; but they often acted in an independent manner, setting government at defiance, infesting highways, pillaging the open country, and disturbing the public peace. They formed a kind of society or government among themselves, disregarding every other authority. The greatest monarchs were not ashamed, on occasions, to have recourse to their assistance; and as their manner of life gave them experience, hardihood, and courage, they generally composed the most formidable part of those armies which decided the political quarrels of princes. Henry II., of England, enlisted numerous troops of them in his service; and the situation of his affairs rendered even banditti the only forces on whose fidelity he could repose any confidence. (See *Hume's History of England*, vol. i., chap. 9.) The name is variously written, but all the historians of the time derive it from the country of Brabant, which was the chief nursery of these troops.

Brabant, DUCHY OF, (*brä-bawng'*,) an ancient division of the Netherlands, bounded N. by the provs. Holland and Guelderland, E. by the archbishopric of Liège, S. by the counties of Namur and Hainault, and W. by Flanders and Zealand. It is now divided into N. and S. Brabant, the first forming part of the kingdom of Holland, and the latter of that of Belgium. For history, see BELGIUM and HOLLAND.

Brabant, (NORTH,) a province of Holland; *area*, 1,633 sq. m. The principal rivers are the Meuse, the Dommel, and the 2 Aa. The canals are numerous; that of Breda being the principal. The surface is a uniform level, without much fertility, bare of wood, and in some parts forming large marshes. *Manf.* Linen, woollen, and cotton fabrics. Lat. between 51° 13' and 51° 50' N., Lon between 4° 12' and 5° 58' E. It is divided into the 3 arrond. of Bois-le-Duc, Breda, and Eindhoven. *Pop.* 457,709.

Brabant, (SOUTH,) the metropolitan province of Belgium, occupying a central position in that kingdom, between 50° 32' and 51° 3' E. Lat. between 4° and 5° 10' E. *Area*, 1,260 sq. m. The surface is hilly in the south, well watered, very fertile, and admirably cultivated; the principal products being corn, hemp, flax, hops, and oil-seed. Cattle and sheep rearing is extensively pursued. *B.* is watered by the Dyle, the Demer, and the Senne. *Min.* Iron and stone. *Manf.* Woollen, cotton, and linen goods; lace, soap, leather, and chemicals. One part of the inhabitants speak Flemish, and the other Walloon; they are mostly Roman Catholic. *Pop.* 936,962.

Brabant'ine, *a.* (*Geog.*) Pertaining to Brabant, or to its inhabitants.

Brac'cate, *a.* [Lat. *braccatus*, wearing breeches.] (*Zoöl.*) A term signifying the state of a bird's feet when concealed by long feathers descending from the tibiæ.

Bracciano, (*brat-che'ahn-o*,) anc. *Sabate*,) a well-built town, and lake of Central Italy, 25 m. N. of Rome. *Manf.* Paper. There is a magnificent feudal castle here belonging to the Torlonia family, dukes of Bracciano. *Pop.* 2,800. The lake is nearly circular, its circumference being about 20 m. It abounds with fish, and is surrounded by fine sylvan scenery.

Brace, (*brās*,) *n.* [Fr. *bras*; probably from Gael. *brac*; W. *braich*; Lat. *brachium*, the arm, in the sense of power, force, strength; Gr. *brachiōn*.] That which holds tightly or binds; a cincture; a bandage; as, the *braces* of a boiler.

—That which fastens, tightens, strengthens, or supports.

(*Arch.*) An inclined piece of timber used in trussed partitions, and roofs, in order to form a triangle by which the assemblage of pieces composing the frame is stiffened. When braces are used in roofs or partitions, they should, as far as possible, be introduced in pairs, and be framed in opposite directions to one another.

(*Printing.*) A curved line in a vertical position to connect two or more words or lines, which are brought into juxtaposition: thus: *brac.* / *brough* }

—A couple; a pair; as, a *brace* of snipe. (*Sing.* and *pl.*)

> "Ten *brace* and more of greyhounds, snowy fair,
> And tall as stags, ran loose and coursed around his chair."
> — *Dryden.*

—A strap of leather supporting the body of a carriage.

—(*pl.*) Suspenders; straps that sustain pantaloons, &c.; as, "A beautiful pair of *braces*." — *Thackeray.*

(*Mus.*) A double curved line (⏟), which is placed vertically at the beginning of the stave of any composition, and which is used to bind the harmonizing parts together, in order to guide the eye with greater facility from one set of staves to another, when more than two staves are joined together: either for part-singing or playing in concert, it is usual to draw a smaller brace within the large one, in order to distinguish each part. This union of braces is called a *score*. —The name is also applied to cords for holding the heads of a drum tightly together.

(*Carpentry.*) A bit-stock, the wooden haft in which a bit is fixed; as, a *brace*-bit.

—State of tension or tightness; condition of being braced.

> "The most frequent cause of deafness is the laxness of the tympanum when it has lost its *brace* or tension." — *Holder.*

—Warlike preparation; harness; armor.

> "As it more concerns the Turk than Rhodes, . . .
> For that it stands not in such warlike *brace*." — *Shaks.*

(*Mining.*) The mouth of a shaft.

Brace, *v. a.* To prop or support; to supply with braces; as, to *brace* a ship's planks. —To tighten; to draw tight, to make tight and firm; to bind or tie close; to make tense; to strain; to strengthen, as, the *bracing* air.

> "The women of China, by *bracing* and binding them from their infancy, have very little feet." — *Locke.*

—To hold or sustain firmly; to put into a position for bracing; as, he was *braced* for the fight.

(*Naut.*) A rope fastened to, or driven through, a block at the yard-arm, for the purpose of trimming the yards horizontally; as, the main-*brace*.

Braces of the rudder. Fastenings to secure the rudder of a ship, which are fixed to the stern-post, and to her bottom.

(*Mech.*) An instrument into which a vernier is fixed; also, part of the press-drill.

(*Naut.*) To move around by the braces; as, to *brace* the main-topsail yard. — *To brace sharp.* To brace the yards to a position in which they have the least angle

with the keel. — *To brace in.* To haul in the weather braces. — *To brace aboul.* To swing the yards rounnd on the contrary tack. — *To brace to.* To ease off the lee-braces, and round in the weather-braces, when tacking about. — *To brace up.* To haul in the lee-braces, so as to bring the yard closer to the line of the keel.

Braced', *a.* (*Her.*) Applied to charges, as chevrons, when interlacing each other.

Bracelet, (*brās'let,*) *n.* [Fr. *brasselet;* and *bracelel*, from *bras*, the arm.] An ornament worn by ladies rounnd the wrist. — See ARMLET.

"Tie about our tawny wrists
Bracelets of the fairy twists." — *Ben Jonson.*

—A piece of defensive armor for the arm.

Bra'cer, *n.* That which braces, binds, or supports; a band; a cincture; a bandage.

"When they affect the belly. they may be restrained by a *bracer* without much trouble." — *Wiseman.*

—A medicine of astringent or tonic properties.

—Armor fashioned for the arm.

Brace'ville, in *Illinois*, a post-township of Grundy co., 20 m. S.S.W. of Juliet.

Brace'ville, in *Ohio*, a post-township of Trumbull county.

Brach, (*brak,*) *n.* [Fr. *braque;* probably from *braquer*, to point, to direct.] A dog for tracking game; a bitch of the hound kind.

"Hound or spaniel, *brach*, or lym." — *Shaks.*

Brachely'tra, *n.* [Gr. *brachys*, short, *elytron*, elytra.] (*Zoöl.*) A family of insects belonging to the order *Coleoptera*, and synonymous with *Staphylinidæ*. The species are characterized by their having short elytra or wing cases, though the wings themselves are very long, and when at rest easily folded up. They run and fly with equal agility, though they do not often use their wings. Most of the species have the habit of bending up the abdomen while running, and some bend it up so completely on the back that they present quite a globular form. At the lower extremity of the abdomen are two conical vesicles capable of being protruded at will, and from which a vapor is emitted, which occasionally is very subtle and penetrating. In some of the species the smell is that of spices mixed with something indescribably fetid. They are very voracious, generally preying upon dead bodies and decaying vegetable matter, such as fungi, &c. Some, however, are only found in flowers, on the margins of running streams, or under the bark of decaying trees. Others again are found parasitic in the nests of the hornet, and a few live in society along with the red ant (*Formica rufa*).

Brachial, (*brā'ke-al,*) *a.* [Lat. *brachium*, the arm.] Belonging to the arm; as, the *brachial* nerve.

—Resembling an arm.

(*Anat.*) *B. artery*, extends from the axilla to the bend of the elbow, where it divides into *A. cubilalis*, and *A. radialis*. It passes along the internal edge of the biceps, behind the median nerve and between the accompanying veins. — *B. muscle anterior*, situate at the anterior and inferior part of the arm, and before the elbow-joint. It arises, fleshy, from the middle of the os humeri, and is inserted into the coronoid process of the ulna. Its use is to bend the fore-arm. — *B. plexus*, is a nervous plexus, formed by the interlacing of the anterior branches of the last four cervical pairs and the first dorsal. — *B. veins*, are two in number, and accompany the artery, frequently anastomosing with each other; they terminate in the axillary.

Bra'chiate, *a.* (*Bol.*) With opposite branches; the successive pairs spreading at right angles with each other.

Brachin'ides, *n. pl.* [Gr. *brachys*, short.] (*Zoöl.*) A sub-family of coleopterous insects belonging to the family *Carabidæ*. This group, as at present constituted, is one of the most incongruous of all the tribes of the *Carabidæ*. The typical genus is *Brachinus*, the bombardier-beetle, many species of which have been described. They live under stones, and are found in most parts of the globe. — See BOMBARDIER-BEETLE.

Brachi'nus, *n.* (*Zoöl.*) See BRACHINIDES.

Brachio'nic, *n.* (*Zoöl.*) The name given by Müller to a genus of *Rotiferous Infusorial Animalcules*, and since subdivided into many distinct genera.

Brachiop'oda, *n.* [Gr. *brachion*, an arm: *podos*, a foot.] (*Zoöl.*) A class of bivalve Mollusca characterized by having the mantle organized so as to be serviceable for respiration, and by having two long, fleshy, ciliated, spiral arms, or labiate processes. The genus Lingula is remarkable as being the only bivalve shell that is pedunculated.

Brachys'tochrone, *n.* [Gr. *brachystos*, shortest, *chronos*, time.] (*Math.*) The plane curve down which a material particle must fall in order to pass, in the shortest possible time, from the upper to the lower of two given points not in the same vertical line. It is the common cycloid. The problem of the *B.* is a celebrated one in the history of mathematics. It was proposed by John Bernoulli, 1696, and solved by Newton.

Brach'ium, *n.* [Lat., arm.] (*Anat.*) The arm from the shoulder to the wrist, or the part between the shoulder and elbow.

Brach'man, *n.* See BRAHMAN.

Brachycatalec'tic, *n.* [Gr. *brachys*, short, and *catalektikos*, deficient.] (*Pros.*) In Greek and Latin poetry, a verse wanting two syllables to complete its length.

Brachyceph'alous, *a.* [Gr. *brachys*, short, and *cephalē*, head.] Applied to men whose cerebral lobes do not completely cover the cerebellum.

Brachydiag'onal, *a.* [Gr. *brachys*, short, and Eng. *diagonal.*] (*Geom.*) The shortest of the diagonals in a rhombic prism.

Brach'ydome, *n.* [Gr. *brachys*, short, and *domos*, a domed house.] (*Crystall.*) A dome parallel to the shorter diagonal.

Brachyg'rapher, *n.* A short-hand writer; a stenographer.

Brachyg'raphy, *n.* [Gr. *brachys*, short, and *grapho*, I write.] The art of writing by abbreviation; steuography.

Brachylogy, (*brāk-il'o-jy,*) *n.* [Gr. *brachys*, short, and *logos*, discourse.] (*Rhet.*) The art of expressing a thing in the most concise manner.

Brachyp'teræ, Brachyp'teres, *n. pl.* (*Zoöl.*) The name given by Cuvier to the birds of the Diver family. — See COLYMBIDÆ.

Brachyu'ra, Brachyn'rans, *n. pl.* [Gr. *brachys*, short, and *oura*, a tail.] (*Zoöl.*) A section of crustacea, order *Decapoda*. The animals belonging to the *B.* have their abdomen or tail very short, generally bent under the body, and lodged in a cavity there, so that it is of little or no use to them in swimming. The branchiæ or gills are of a pyramidal form, and consist of a double

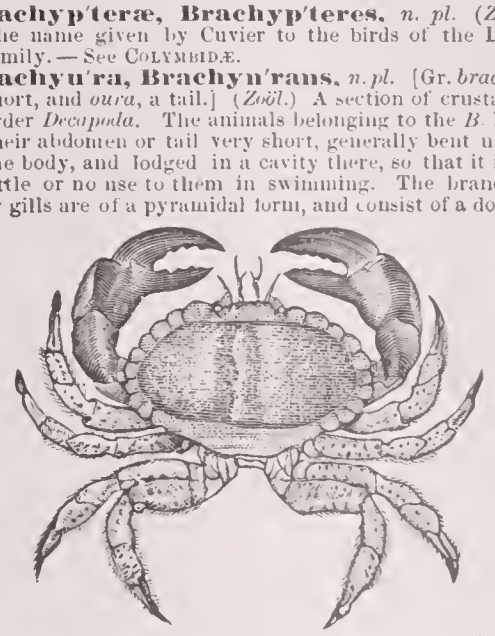


Fig. 403. — CRABE TOURTEAU, (*Cancer pagurus.*)

series of plates piled one above another. They are defended by the lateral edges of the carapace being bent down in order to cover them. The water thus reaches them only through a special opening left in front of the shell. The species are very numerous, and have been divided into several large families. In some, *Oxyrhyncha*, the carapace is narrowest to a point anteriorly, as in *Maia*. In others, *Cyclometopa*, the carapace is very large, regularly arched anteriorly, and narrowed posteriorly, as in *Cancer* (crabs), and *Carcinus*. In *Portunus*, the last pair of legs have the joints broad and flat, and formed for enabling the animal to swim well. They are called the swimming crabs — are active and bold, and seize hold of objects with great sharpness, pinching very severely with their acute claws. A 3d set, *Catometopa*, have the carapace generally quadrilateral or ovoid, as *Gecarcinus* and *Grapsus*. Whilst a 4th, *Oxystoma*, have it, in general, orbicular or arched in front, as in *Leucosia*, or the Porcellanous crab, found in N. Guinea and India; and *Corystes*, or globular crab.

Brachyn'ral, *a.* Short-tailed, as the BRACHYURA, *q. v.*

Bra'cing, *n.* Act of bracing, or state of being braced.

—*a.* Having the quality of giving strength or tone; as, *bracing* weather.

Brack, *n.* [Du. *braak;* A.S. *brac*, breaking.] A breach; a flaw; an opening in any solid body.

"The place was but weak, and the *bracks* fair." — *Hayward.*

Brack'en, *n.* Fern. (A term used in Scotland and the N. of England.) See BRAKE.

"Amang the *brackens* and the brae,
Between her and the moon." — *Burns*

Brack'en, in *Kentucky*, a N. county on the border of Ohio, covering about 200 sq. m. The North Fork of Licking river intersects it. *Surface*, hilly. *Soil*, generally fertile. *Cap.* Brookville. *Pop.* (1898) 13,650.

Brack'en, or **Brack ett,** in *Texas*, a village of Kinney co., 125 m. W. of San Antonio.

Brack'enridge, HUGH HENRY, an eminent American lawyer and politician, b. in Scotland, 1748. He came with his family to N. America when only 5 years old, and was brought up at their homestead in York co., Penn. After encountering many difficulties, *B.* succeeded in entering the college at Princeton, where he graduated in 1771. He subsequently became a chaplain in the Revolutionary army, and in 1787 settled at Pittsburg, whence he was returned to the State Legislature. In 1796, he published *Modern Chivalry*, a clever satire, imitative of the manner of Butler and Le Sage, Sterne and Fielding. In 1799, he was appointed Judge of the Supreme Court of Pennsylvania, still continuing to give to the world various literary works of merit. His judicial decisions were celebrated for their integrity and independence. D. 1816. —His son, HENRY, b. 1786, was the author of several works, the principal of which is a *Voyage to South America*. D. 1871.

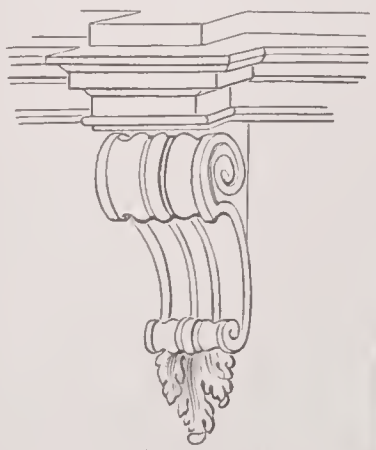


Fig. 404. — BRACKET.

Brack'et, *n.* [Lat. *brachium*, an arm.] (*Arch.*) A small support fixed against the wall to sustain anything. *B.* are composed of various materials. — wood, stone, metal, &c., and may be made susceptible of any kind of ornamentation. — *B. for shelves.* When the shelves are broad, the *B.* are small trusses, consisting of a vertical piece, a horizontal piece, and a strut; but when the shelves are small, the *B.* are solid pieces of boards, most commonly with an ogee figure on their outer side.

(*Ship-building.*) One of the knees which supports the stern-gallery of a ship.

(*Gunnery.*) One of the cheeks of the carriage of a mortar.

—*pl.* (*Printing.*) The marks used for enclosing words or sentences; thus [ ].

Brack'et, *v. a.* To connect with brackets; to supply with brackets.

Brack'eting, *n.* (*Arch.*) A disposition of small pieces of board, equidistantly placed in the angles formed by the ceiling and the walls of an apartment, with their planes at right angles to the common intersection, so as to be partly upon the ceiling and partly upon the walls; their faces or edges being so arranged as to touch any level line that is everywhere equally distant from the wall, or walls, which may form the perimeter, or circumference, of the apartment.

Brack'et-light, *n.* A gas-light that projects from a side-wall.

Brack'etts, in *Illinois*, a village of Effingham co. 35 m. E. of Vandalia.

Brack'ish, *a.* [Probably from Du. *braak*, breaking, *wrak*, unsound, rotten, broken: Ger. *brack*, that which is rejected, refuse, waste, or damaged matter.] Literally, damaged or rendered unfit for use; specifically, salt, or salt in a moderate degree, as water.

"A lake of *brackish* waters on the ground
Was all I found." — *Herbert.*

Brack'ishness, *n.* State or quality of being brackish; saltness in a minor degree.

"All the artificial strainings hitherto have a *brackishness* in salt water, that makes it unfit for animal uses." — *Cheyne.*

Brack'lesham Beds, *n. pl.* (*Geol.*) The name given in England to that part of the Eocene deposits overlying the *London Clay* series. The *B.* appear to be the equivalent of the *Calcaire grossier*. They are generally fossiliferous, and are particularly observable at Alum Bay in the Isle of Wight.

Brack'ney, in *Pennsylvania*, a post-office of Susquehanna co.

Bra'con, *n.* BRACON'IDÆ, *n. pl.* (*Zoöl.*) A genus and fam. of Hymenopterous insects, allied to, but distinguished from the true Ichneumons by the hiatus which exists in them between the mandibles and the clypeus.

Bract, Bracte'a; *pl.* BRACTS, or BRACTEÆ, (*brākt.*) [Gr. *bracho*, I crepitate.] (*Bot.*) A floral leaf, or modified leaf from the axil of which a flower-bud arises. Strictly speaking, the term bract should only be applied to the leaf from which the primary floral axis, whether simple or branched, springs; while the leaves which are produced on the axis between the bract and the outer envelope of the flower should be distinguished as *bractlets* or *bractroles*. In ordinary descriptions, however, the term bract is used to indicate either kind of floral leaf. Bracts are sometimes large, and similar to the ordinary leaves of the plants upon which they are placed, as in the white dead-nettle. Such bracts are termed *leafy*, and can only be distinguished from the true leaves by their position with regard to the flower-stalk or flower. In general, however, bracts differ greatly from ordinary leaves. When the flower is sessile, the bracts are often applied closely to the calyx, and may thus be confounded with it. Again, when bracts become colored, they may be easily mistaken for parts of the corolla. In some instances they form part of the fruit, becoming incorporated with other organs; thus, the cones of the fir and the strobili of the hop are composed of bracts arranged spirally, and enclosing fertile flowers; and the

Fig. 405. — BRACTS.

1. *c*, of tilia. — 2. *d*, of campanule. — 3. sium; *a*, involucre; *c*, involucel.

scales on the fruit of the pine-apple are of the same nature. When bracts grow in a whorl or circle round a single flower, as in the mallow, or a head of flowers, as in the daisy, they are said to form an *involucre;* and when they grow at the base of a partial umbel, they are said to form an *involucel;* when a number grow together, as in the cup of the acorn, they then constitute a *cupule*. Though the bract is generally a small and inconspicuous organ, it occasionally acquires a considerable size, and may actually surround all the flowers of a

plant so as to completely enclose them when in a young state. A sheathing bract of this description is called a *spathe;* it is very remarkable in the comuon aruui. In the grasses and sedges, little bracts called *glumes* and *paleæ* enclose the essential organs of reproduction.

Brac'teal, Brac'teate, *a.* That is furnished with bracts.

Bract'ed, *a.* The same as BRACTEAL, *q. v.*

Brac'teolate, *a.* Furnished with bractlets or bracteoles.

Brac'teole, Bract'let, *n.* See BRACT.

Bract'less, *a.* Destitute of bracts.

Brad. [A. S.] An initial syllable meaning *Broad*, as *Brad*ford, broad ford.

Brad, *n.* [Dan. *braad*, a goad or sting; Scot. *brod.*] A nail that, instead of a head, has a slight projection on one side of the top.

Brad'-awl, *n.* A small awl used to pierce holes for the reception of brads.

Brad'dock, EDWARD, a British general, was born in Perthshire, Scotland, about 1695; entered the Coldstream Guards (1710), and rose to the rank of major-general in 1754. A few months later he sailed for America, as commander against the French. With a force of some 2,000 soldiers he reached the Monongahela river on July 8, 1755, and the next day pushed on to invest Fort Duquesne, at the junction of that river and the Allegheny. Having disregarded the advice of Washington and other skilled frontiersmen, *B.* was completely defeated by a force of some 900 French and Indians in a hard fight of two hours' duration. *B.* was mortally wounded, and died at Great Meadows, about 60 m. distant, on July 13, 1755.

Brad'dock, in *Pennsylvania*, a thriving post-borough of Allegheny co., on Monongahela river and Penna. R.R., 9 m. E. of Pittsburgh. Here and at Homestead, on the opposite side of the river, are the great Carnegie steel works. *Pop.* (1898) 13,200.

Brad'ford, a large and important parliamentary borough of England, W. Riding, co. York, 31 m. W. by S. of York, 8 W. of Leeds, and 183 N.N.W. of London. It is a well-built, paved, and lighted town, with some fine public buildings and literary institutions, among which St. George's Music Hall is a fine edifice in the Italian style, capable of accommodating 3,350 persons. There is also a fine park here for the use of the citizens. *B.* is densely populated, and the production of worsted, yarn, and stuffs forms the leading industry. Besides this staple, the cotton and iron manufactures command an extensive trade. Large iron foundries (celebrated for their boiler and iron-plates the world over) are established at Bowling and Low Moor, in the immediate vicinity of this town. *Pop.* (1891), 216,361.

Brad'ford, in *Alabama*, a flourishing post-village of Coosa co., on Sochapatoy Creek, 50 m. N. by E. of Montgomery. *Manf.* Cottons.

Brad'ford, in *Indiana*, a post-village of Harrison co., 12 m. N.N.E. of Corydon.

Brad'ford, in *Iowa*, a post-village and township of Chickasaw co., 30 m. N. of Cedar Falls.

Brad'ford, in *Kentucky*, a P. O. of Bracken co.

Brad'ford, in *Maine*, a post-township of Penobscot co., 85 m. N.E. of Augusta. *Manf.* Leather.

Brad'ford, in *Mass.*, a p.-v. and twp. of Essex co., on the Merrimack River, 34 m. N. of Boston.—In *N. H.*, a p.-twp. of Merrimack co. *Manf.* Leather, &c.—In *N. Y.*, a p.-twp. of Steuben co., 60 m. S.S.E. of Rochester.—In *Ohio*, a p.-v. of Miami co.—A v. of Scioto co., on the Ohio River.

Brad'ford, in *Penna.*, a N.N.E. co., on the confines of N. Y. *Area*, 1,170 sq. m. Watered by the N. branch of the Susquehanna, the Tioga River, and Towanda, Sugar, and Wyalusing creeks. *Sur.*, generally hilly. *Soil*, fertile. *Prod.*, lumber, coal, ironstone. *Cap.* Towanda.

Brad'ford, in *Pennsylvania*, a thriving city of McKean co. Situated amid the oil region, it owes its great prosperity to that product. It contains several machine shops, boiler works, saw and planing mills, nitroglycerine factories, banks and excellent daily and weekly newspapers. Numerous natural gas wells exist in the vicinity. *Pop.* (1880), 9,203; (1890), 10,514; (1897), about 11,600.

Brad'ford, in *Vt.*, a thriving p.-twp. of Orange co., on the W. bank of the Connecticut River, 30 m. S. W. of Montpelier.

Brad'ford, in *Wisconsin*, a township of Rock co.

Brad'ford, in prov. of Ontario, a post-village of Simcoe county, near Lake Simcoe, 41 miles N.N.W. of Toronto.

Brad'ford Centre, in *Vermont*, a vill. of Orange co.

Brad ford Clay, *n.* (*Geol.*) The middle member of the upper division of the Lower Oolites as developed in the W. of England. It nearly corresponds in age with the limestones of the Great Oolite, but is generally a pale grayish clay with little calcareous matter, though enclosing bands of impure limestone.

Brad'ford-on-Avon, a town of England, in Wiltshire, on the river Avon, 93 m. W. by S. of London. *Manf.* Woollen cloths and kerseymeres.

Brad'fordsville, in *Kentucky*, a post-village of Marion co., on the Rolling fork of Salt River, 60 m. S. by W. of Frankfort.

Bra'ding, a maritime town of England, in the Isle of Wight, Hampshire, 73 m. S.W. of London. It is an ancient place, whose church was built in 736.

Brad'ley, JAMES, D.D., F.R.S., a distinguished English astronomer, B. 1693. In 1742, he was appointed Astronomer Royal, and made a very important discovery relative to the nutation of the earth's axis. He was a member of the Royal Academy of Sciences at Paris, and also of the Academy of Sciences. D. 1762.

Brad'ley, in *Arkansas*, a S.S.E. county, containing 958 sq. m. It is drained by the Saline and Moro Rivers. *Surface*, level. *Soil*, fertile, producing cotton and indian corn. *Cap.* Warren.

—A post-office of the above county.

Brad'ley, in *Illinois*, a post-village of Jackson co., 14 m. S.W. of Piuckneyville.

Brad'ley, in *Maine*, a township of Penobscot co., on the Penobscot River, 45 m. N. by E. of the city of Bangor.

Brad'ley, in *Michigan*, a post-village of Allegan co.

Brad'ley, in *Tennessee*, a county in the S.S.E. part of the State, touching Georgia. *Area*, 400 sq. m. *Surface*, hilly. *Soil*, fertile and well irrigated. *Cap.*, Cleveland. *Pop.* (1890), 13,600.

Brad'leysvale, in *Vermont*, a former twp. of Caledonia co., now Concord and Victory twps., Essex co.

Brad'leyville, in *Iowa*, a post-village of Page co.

Brad'leyville, in *Missouri*, a post-village of Taney co.

Brad'ock Down, *n.* A place near Liskeard, in Cornwall, England, where, about the middle of Jan., 1643, Sir Ralph Hopton, with inferior numbers, defeated the Parliamentary army, with trifling loss on his part, taking 1,250 prisoners, and all the enemy's guns, &c.

Brad'shaw, JOHN, an eminent Puritan, who was president of the High Court of Justice which tried and condemned King Charles I. B. in Cheshire, England, in 1586. In 1649, he was Chief Justice of Chester, and when the trial of the king was determined upon, *B.*'s resolute character pointed him out for president, which office, after a slight hesitation, he accepted. His deportment on the trial was lofty and unbending, in conformity to the theory which rendered the unhappy monarch a criminal and amenable; and everything was done, both for and by him, to give weight and dignity to this unexampled tribunal. On Cromwell's accession to the protectorate, he was deprived of his judgeship, but on the restoration of the Long Parliament, was elected president of the Council of State. *B.* died in 1659, and on his death-bed asserted, that if the king were to be tried and condemned again, he would be the first to agree to it. *B.* was magnificently buried in Westminster Abbey, whence, after the Restoration, his body was ejected as being that of a regicide, and hanged on a gibbet at Tyburn, with those of Cromwell and Ireton.

Brad'shaw, in *Tennessee*, a post-village of Giles co., 70 m. S. of Nashville.

Bradtville, (*brat'vil,*) in *Wisconsin*, a post-village of Grant co.

Bra'dy, in *Michigan*, a post-township of Kalamazoo co., 70 m. S.W. of Lansing.

—A township of Saginaw co.

Brady, in *Ohio*, a flourishing township of Williams county.

Brady, in *Pennsylvania*, a township of Clearfield county.

—A township of Huntingdon co.

—A township of Butler co.

—A post-office of Indiana co.

Brady, JAMES T., a distinguished lawyer of the city of New York, one of the most fluent, witty, and eloquent members of that bar. He was an associate of Daniel Webster in the celebrated "India Rubber Case." B. 1815, D. 1869.

Bradypo'da, BRAD'YPODS, *n. pl.* [Gr. *bradys*, slow, and *pous, podos*, a foot.] (*Zoöl.*) The Sloth family, order *Edentata*, the general character of which are described under the word, AI, *q. v.*—The *Megatherium*, *Megalonyx*, and *Mylodon*, huge extinct sloth-like animals, whose remains are found in the superficial deposits of South America, and also in those of the U. States, specially in S. Carolina and Georgia, belong to the Bradypoda.

Brad'ypus, *n.* [Lat.] (*Zoöl.*) The name of the genus Sloth, family *Bradypoda*.

Bra'dy's in *Wisconsin*, a post-village of Richland co.

Brady's Bend, in *Pennsylvania*, a post-township of Armstrong co., on the W. bank of the Allegheny river, 15 m. N.N.W. of Kittanniug. *Pop.* (1898) 1,340.

Brady's Creek, in *Texas*, flows E. into San Saba river, San Saba co.

Brady's Mill, in *Maryland*, a vill, of Alleghany co.

Bra'dyville in *Ohio*, a post-village of Adams co., 8 m. from the Ohio River.

Bradyville, in *Tennessee*, a post-village of Cannon co., 56 m. E.S.E. of Nashville.

Brae, (*brā,*) *n.* (See BRAY.) A declivity; a sloping piece of ground. (Almost exclusively confined to Scotland.)

"Except where greenwood echoes rang,
Amang the *braes* o' Ballochmyle." — *Burns.*

Brag, *v. i.* [Dan. *brag*, a crack, a crash; Icel. *braka*, to crack, to crash; Swed. and Goth. *bragi*, a scald, an eminent poet.] Literally, to crack; to make a noise; specifically, to bluster, to boast; to vaunt; to swagger; to talk big. (Often followed by *of;* and sometimes, but improperly, by *on.*)

"Verona *brags of* him
To be a virtuous and well-govern'd youth." — *Shaks.*

"Yet lo! in me what authors have to *brag on*,
Reduc'd at last to hiss in my own dragon." — *Pope.*

—*n.* A boast or boasting; a vaunt.

"A kind of conquest
Cæsar made here: but made not here his *brag*
Of 'came,' and 'saw,' and 'overcame.'" — *Shaks.*

—The thing, or matter, boasted.

"Beauty is nature's *brag*." — *Milton.*

(*Games.*) *B.* is a game at cards, deriving its name from the efforts of the players to impose upon the judgment of their opponents by boasting of better cards than they possess. As many persons may play as the cards will supply, the dealer giving to each player three cards, turning up the last card all round. Three stakes also are put down by each player. The first stake is taken by the best card turned up in the dealing round. The peculiarity which gives the game its denomination, occurs chiefly in winning the second stake. Here the knaves and nines are called *braggers*, and all cards falling into the hands of the players, assimilate to these. For example, one knave and two aces, two knaves and one ace, and two aces and one knave, all count three aces. The nines operate in the same way. The third stake is won by the person who first makes up the cards in his hand to thirty-one, with the privilege to draw, or not to draw, as he pleases, from the pack.

Bra'ga, (anc. *Augusta Bracara,*) a fortified city of Portugal, cap. of the prov. of Entre-Douro-e-Minho, in a fertile plain between the rivers Cavado and Dieste, 35 m. N.E. of Oporto; Lat. 41° 42′ N., Lon. 8° 20′ W. This town is remarkable for its many fine buildings and fountains. *Manf.* Silver-wares, hats, and harness. — *B.* is a very ancient place, and was founded by the Carthaginians. About 2 m. from the city, on a hill, is the renowned sanctuary, *Do sentior Jesus do Monte*, annually resorted to by crowds of pilgrims. *Pop.* 19,514.

Bragan'za, a fortified town of Portugal, prov. Tras-os-Montes, cap. of a comarca, in a fertile plain, on the Ferrenza, 35 m. N.W. of Mirandella. *Manf.* Silks and velvets. *B.* was erected into a duchy in 1442; and, in 1640, John II., 8th Duke of Braganza, ascended the Portuguese throne, under the title of John IV. His descendants enjoy the crown of Portugal, and also held that of Brazil until the deposition of Dom Pedro I.

Bragan'za, or **Bragan'ça.** (*Hist.*) The name of the reigning dynasty of Portugal. (See BRAGANZA TOWN.) In 1801 Napoleon I. declared that the line of the *B.* sovereigns had ceased. John, Regent of the kingdom, withdrew to Brazil in 1807, but he returned in 1821. At his death, in 1826, his son, Don Pedro, resigned the throne in favor of his daughter, Maria da Gloria, preferring to remain emperor of Brazil, which he had been elected by the Brazilians, 18 Nov., 1825.

Bragg, BRAXTON, an American Confederate general, B. in N. Carolina, in 1817, graduated at West Point in 1837, was appointed 2d lieutenant in the 3d artillery, served with distinction under Gen. Taylor in the Mexican war, and retired into private life in 1856. At the outbreak of the civil war, *B.* became a brigadier-general in the Confederate army, and was stationed at Pensacola to act against Fort Pickens. In 1862, having been appointed a general of division, with orders to act under Gen. A. S. Johnston, commanding the army of the Mississippi, he took an important part in the two days' battle of Shiloh. On Johnston's death *B.* was appointed to his command, with the full rank of general, and succeeded Gen. Beauregard as commander-in-chief in July of the same year. This command he resigned in Dec. 1863, and nominated Gen. Joe Johnston as his successor. *B.*'s chief success was at Chickamauga, in Sept. 1863, when he inflicted a defeat on the army of Gen. Rosecrans, but was himself, in turn, defeated by Gen. Grant, which led to his temporary removal from command in Jan., 1864, and he was appointed chief of staff to Jefferson Davis. In 1864, he assumed the command of the dept. of N. Carolina, and defeated the Union forces at Kingston, and joined President Davis, with whom he remained in South Carolina when General Johnston surrendered to Gen. Sherman, 26th April, 1865. D. in Texas, September, 1876.

Braggadocio, (*brag-ga-dō'shē-o,*) *n.* [From *Braggadocchio*, a character in Spenser's "Faërie Queene," eminent for his boastfulness.] A braggart; a boastful person: a blusterer.

"But these *braggadocios* are easy to be detected." — *L'Estrange.*

—Empty boasting; pretension; idle vaunting.

Brag'gart, *n.* [O. Fr. *bragard*, bragging.] A boaster; a vainglorious person; one who brags and talks big.

"Let him fear this, for it will come to pass,
That every *braggart* shall be found an ass." — *Shaks.*

—*a.* Boastful; vainly ostentatious.

"Shall I, . . . betray thee to th' huffing, *braggart*, puff'd nobility?" — *Donne.*

Brag'ger, *n.* A boaster; one who brags or talks big.

"Such as have had opportunity to sound these *braggers* thoroughly, . . . have found them, in converse, empty and insipid." *South.*

Bragg'ville, in *Massachusetts*, a post-village of Middlesex co., 25 m. S.W. of Boston.

Bragi, (*brai'ji.*) (*Scand. Myt.*) The son of Odin and Frigga, and the god of eloquence and poetry. He is represented as an old man with a long flowing beard, like Odin; yet with a serene and unwrinkled brow. His wife was Idunna.

Brag'less, *a.* Without boasting or ostentation. (O.)

"If it be so, *bragless* let it be,
Great Hector was as good a man as he." — *Shaks.*

Brahe, TYCHO, (*brah,*) a celebrated astronomer of a noble Danish family, B. at Knudstorp, 1545. After some previous tuition at Copenhagen, he was sent to Leipzig to study the law. Led by inclination, he devoted himself to mathematical pursuits, to which his attention is said to have been directed by accident. He left Leipzig in 1565, and that year he had the misfortune to have a part of his nose cut off in a duel, which loss he is said so ingeniously to have supplied by an artificial nose, that the defect was not perceptible. He made some chemical experiments, in hopes of finding the *philosopher's stone*, a common object of research among the philosophers of his time. In 1566 he left Denmark and improved his acquaintance with astronomy, in the course of his travels in Germany and France. He returned home in 1571, and began to make astronomical observations at an observatory which he erected near

Knudstorp. Here it was that he signalized himself in 1572, by the discovery of a new star in the constellation Cassiopeia. He soon after violently offended his relations by marrying a country girl, when the king interposed his authority to produce a reconciliation. In 1574 he lectured on astronomy at Copenhagen, and soon after, having travelled through several parts of Europe, he determined to settle with his family at Basle. The Danish king, Frederick II., unwilling to have his country deprived of a subject who was an honor to it, determined to retain him at home, by providing him with every convenience for his studies, and rewarding him according to his merits. He therefore presented him with the island of Huen, or Ween, in the Sound, for the erection of an observatory, gave him an ample pension, and a canonry in the Cathedral of Roskilde. He enjoyed this situation, and these advantages, about twenty years, during which period he strenuously applied himself to the cultivation of astronomical science. The death of Frederick II. interrupted his studies, and being deprived of his pension and canonry by the ill offices of envious and illiberal courtiers, he left Denmark, and ultimately settled at Prague, under the patronage of the Emperor Rodolph, who was a lover of science and learned men. This prince provided for him most magnificently; and he began to occupy himself with his usual pursuits, and gathered around him a number of mathematical students, among whom was the celebrated Kepler. He had not long enjoyed these advantages, when he was seized with a disease, which terminated in death, 1601. *B.* is known as the inventor of a new hypothesis to explain the motions of the planetary bodies. His scheme was a kind of medium between the ancient system of Ptolemy and that which had been advanced by Copernicus. He supposed the earth to be fixed motionless in the centre of the universe, around which he imagined the sun to revolve in a year, and the moon in a month; the other planets performing their course around the sun, and being carried with it in its revolution around the earth; and the whole of this system, together with that of the firmament or orb of the fixed stars, was supposed to have a diurnal motion also. The obvious difficulties in this scheme, and its inferiority to the simpler, and now generally received, system of Copernicus, have led some to undervalue the abilities of Tycho, who, it ought to be recollected, had for his object the formation of an hypothesis, which would explain the celestial phenomena without admitting the revolutionary motions of the planet we inhabit. Neither does the fame of Tycho rest upon the merits or the ingenuity of his theory, for he was a skilful practical astronomer, and made many important observations on the stars, contained in the works published by himself, and in the famous *Rodolphine Tables* of his disciple Kepler.

Brahil'ov, or **Brail'off,** in Turkey in Europe.—See IBRAIL.

Brah'ma, (*bra'ma.*) [Sans. probably from the root *brih*, to grow, to expand; whence *briha*, *wriha*, to move intensely, hence to raise, to produce, to create.] (*Hindoo Myt.*) The name of the first of the three gods who constitute the *Trimurti*, (Fig. 247) or triad of principal Hindoo deities. The epithets applied to this divinity are very numerous, some of the most usual being *Swayambhu*, the self-existing; *Parameshti*, who abides in the most exalted place; *Pitamaha*, the great father; *Prajâpati*, the lord of creatures, *Lokesa*, the ruler of the world, &c.: *Brahm*, the essence of the Supreme Being in the abstract, devoid of personal individuality, to whose name so much reverence is attached that it is considered criminal to pronounce it, is said to have given birth to Brahma, Vishnu, and Siva simultaneously; and to have allotted to the first the province of *creating*, to the second that of *preserving*, and to the third that of *destroying*. Accordingly, ever since the creation of the world, *B.* has had little or nothing to do, and it will not be till the 10th *avatar*, or incarnation, that his services will be put in requisition when this world is to undergo total annihilation. Meanwhile, however, the other deities, Vishnu and Siva, are constantly engaged in their respective duties of preservation and destruction; and the Hindoos lavish chiefly their adoration upon those divinities from whom they expect to derive immediate advantage. In the mythological poems, and in sculpture, he is represented with four heads, or rather faces, and holding in his four hands a manuscript book containing a portion of the Vedas, a pot for holding water, a rosary, and a sacrificial spoon. In the sculptures of the cave-temple of Elephanta, he is represented sitting on a lotus supported by five swans, or geese. — See HINDOOISM.

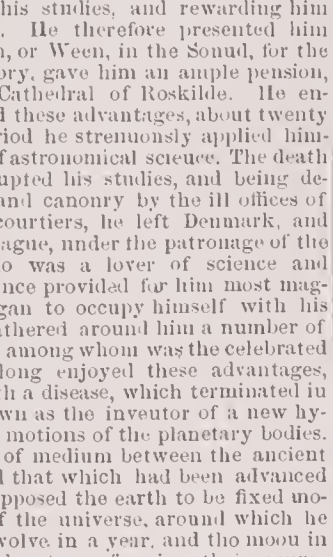


Fig. 406. — BRAHMA.

Brah'man, Brah'min, *n.* The first, or highest, of the four Hindoo castes, said to have proceeded from the mouth of *Brahma*; (see BRAHMA.) They form the learned or sacerdotal class, and its members have maintained a more extensive sway than the priests of any other nation. Their chief privileges consist in reading the *Vedas*, q. v., in instituting sacrifices, in imparting religious instruction, in asking alms, and in exemption from capital punishment. The whole life of the *B.* is devoted to the study of the sacred writings. Their importance dates from a time later than that of the early Vedic hymns, in which Brahma himself is not known as a god, and the *B.* appears as one among a number of priests in no way his inferiors. After the promulgation of the Code of *Manu*, q. v., the *B.* gradually established their supremacy. Of ancient Brahmanical science the principal remains are their astronomical and trigonometrical methods, both of which have given rise to frequent and learned discussion. Among the modern *B.* we look it vain for the deep learning that characterized the ancient members of this order; for, with the exception of metaphysical disquisitions, which have ever been a favorite study among them, the learning of the present race of *B.* is exceedingly meagre. Their morals also are woefully deteriorated; and while they are the sole depositaries and ministers of a religion which in point of purity of morals yields only to the Christian, their conduct is characterized by the most vile and licentious practices; a spirit of avarice, falsehood, and revenge is everywhere visible; and in many cases superstition and fanaticism have been exchanged for infidelity and atheism. See also BRAMO SOMAJ.

Brahmanee', BRAH'MANESS, *n.* The wife of a Brahman.

Brahman'ic, BRAHMAN'ICAL, BRAHMIN'IC, BRAHMIN'ICAL, *a.* Pertaining, or relating, to the Brahmans, or to their religious doctrines and worship.

Brah'manism, BRAH'MINISM, *n.* The religion of Brahma; the doctrinal system of the Brahmans.

Brahmapootra, Brahmaputra, (*bra'ma-poo'tra,*) ("Son of Brahma") sometimes erroneously written BURRAMPOOTER, one of the largest rivers of Asia, forming the proper E. boundary of Hindostan. It has 3 separate sources, viz., the Dihong, Dibong, and Lohit rivers, which unite in Upper Assam; the first has been traced through the Himalaya chain to Lat. 30° 30′ N., and Lon. 82° E., and is, in all probability, a continuation of the great San-po of Thibet. (See SAN-PO.) The Dihong is but partially known, but it however, carries twice as much water as the Lohit into the *B.* The Dibong is the central and smallest of the three head-streams: it rises N. of the Himalayas, near Lat 28° 10′; and Lon. 97°, and passes through the mountains into Assam, near Lat. 28° 15′, and Lon. 90°. — The Lohit, called by the Assamese "holy stream," and considered by the Brahmins as more especially the origin of the *B.*, is formed by the union of two smaller streams in the high mountain region of Thibet, between Lat. 28° and 29° N., and Lon. 97° and 98° E.; which having joined, the river thence resulting takes a S.W. course, and passes through a remarkable basin of rocky hills, a place of pilgrimage often frequented by Brahmins, in which it is augmented by the waters of the Brahmakund, a holy pool of those religionists. At its exit from this basin the river takes the name of *B.*, flows S.W. through Assam (where it receives about 60 affluents), enters Bengal in the Rungpore dist., and, finally empties into the Bay of Bengal by an estuary 20 m. wide, in Lat. 22° 50′ N., Lon. 90° 40′ E., in conjunction with the largest branch of the Ganges. The *B.*'s banks are mostly covered with jungle or marshes, and its current is very strong. Entire length estimated at 1,500 m.

Brahmo Somaj. See SECTION H.

Brahms, JOHANNES, born at Hamburg, May 7, 1833, one of the greatest of musical composers. His *German Requiem* (1878), commemorative of the Franco-German war, established his fame, and was followed by many subsequent compositions, chiefly of the choral, symphonic, and chamber styles, which are the admiration of all true musicians. Resided in Vienna after 1861, and died there April 3, 1897.

Braid, *v. a.* [A. S. *bredan;* probably of the same origin as broider.] To weave, knit, or wreath; to intertwine; to ornament with braid; as, to *braid* a coat.

—To mingle, by rubbing in some fluid, or soft substance.

—*n.* A texture formed by weaving together different strands; something braided; a knot.

Braid'wood, in *Illinois*, a thriving city of Will co. Coal is largely mined near by. *Pop.* (1897) abt. 5,000.

Brail, *n.* [O. Fr. *braye*, a truss, from *brayes*, breeches.] (*Naut.*) Brails are small ropes employed in gathering up on a yard the bottom and skirts of its sail, preparatory to furling. They lessen the trouble and danger of furling sails, and allow of sail being rapidly reduced by hauling the brails either from the deck or top. When the brails are hauled taut, the sail is said to be *brailed up.*

Brain, *n.* [A.S. *bragen, bragen;* Frisian, *brein, brin;* Du. *brein*, from Goth. *brikan;* Sansk. *vrkna*, to break. Probably allied to Gr. *bregma*, the upper part of the head, from *brechō*, to wet, because in infants the fore part of the head is wet or moist.] — See below, *2 Anat.* — The seat of sensation and of the intellect, hence, the understanding. (Often used in the plural.)

"O that men should put an enemy in their mouths, to steal away their *brains.*"—*Shaks.*

—Fancy: imagination; sensibility. (R.)

'My son Edgar' had he a hand to write this, a heart and *brain* to breed it in?"—*Shaks.*

(*Anat.*) The name given to a soft pulpy substance, which in man and the higher orders of animals constitutes one of the great central masses of the nervous system. This important organ, the seat of sensation, thought, and intelligence, and contained in the cavity formed by the bones comprising the case of the skull, has been described by modern phrenologists as being a large flat cake, which, if carefully unfolded and spread out, would cover a circular area of several feet in diameter. The *B* so expanded, is folded and doubled up in the most admirable and wonderful manner, to enable it to adapt itself to the narrow, oval cavity of the *cranium* that receives it. these doublings or folds being the convolutions, as they are called, which impart those inequalities to the vault of the skull-cap from which the science of phrenology has derived its external symbols. — Anatomically, the *B* consists of two parts, the external and internal. The external or outer portion is termed the bark, or *cinerituous* part, from its ashy gray color; it is also called the *glandular*, or secretory, because it was supposed to possess some of the secreting properties of a gland. This portion is composed of a fine cellular membrane, through which a congeries of extremely minute blood-vessels circulate freely. The internal portion, the largest and most consistent part of the *B.*, is called the *medullary* portion, so named from its white marrowy appearance, and consists of bundles of minute fibres interlaced together. Both these portions are intimately united in the centre of the mass, or, as it is called, in the *meisual* line, the fibres of the right side passing to the left, and *vice versa:* thus each side of the brain is a reduplication of the other. The *B.* is divided into three parts — the *cerebrum*, or brain proper; the *cerebellum*, or lesser brain; and the *medulla oblongata*, or commencement of the spinal marrow. — The cerebrum, or *B.* proper, is situated at the upper and anterior part of the skull, and is much the largest portion of the whole mass. It is divided into two halves, called *hemispheres*, each hemisphere being sub-divided by deep fissures called *solci*, into three *lobes*, named, from their situation, the anterior, middle, and posterior lobes. The cerebellum, or smaller *B.*, is simply divided into two parts — the right and left hemispheres. This portion is situated at the back of the head, or *occiput.* and differs materially in structure from the larger *B.*, being composed of flattened layers, or *laminæ*. The medulla oblongata is somewhat of a funnel shape, and seems like a continuous process of the latter part of the *B.*, and passes out of the skull to descend along the tube of the spinal column. Besides the external case of the skull, the *B.* is enclosed in three internal *investures* or membranes, two of them called by the ancients, who believed that they gave birth to and supported all the nervous mass within the head, the mothers. Thus the first, a strong fibrous texture, is named *dura mater*, or hard mother, because firm and resistent, lining the inside of the skull and top of the brain, and sending down long processes between the two hemispheres and convolutions in an analogous manner to the tough membrane found lining the inner shell of a walnut, to which fruit the brain bears a strong general resemblance. The second

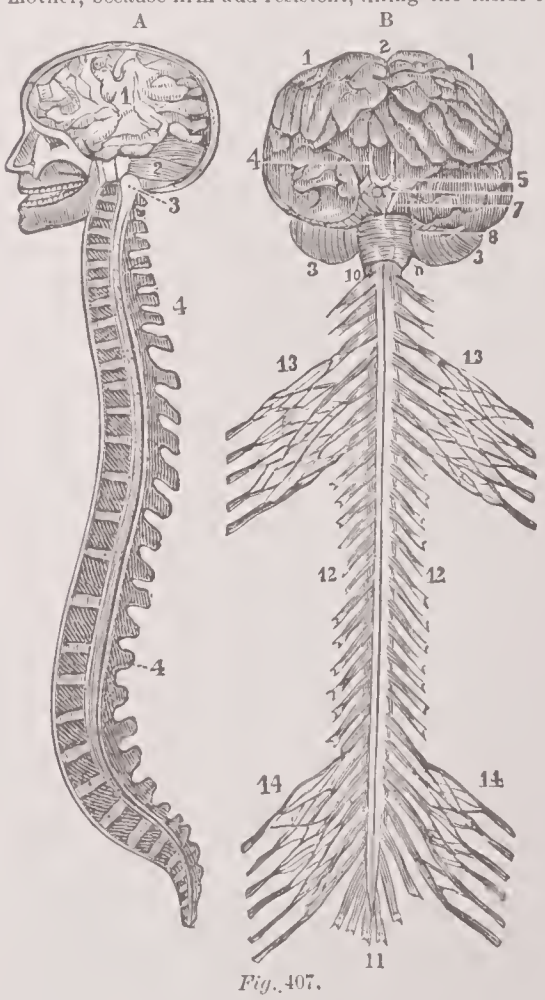


Fig. 407.

A. — A section of the brain and spinal column. 1. The cerebrum. 2 The cerebellum. 3. The medulla oblongata. 4, 4. The spinal cord in its canal.

B. — Anterior view of the brain and spinal cord. 1, 1. The two hemispheres of the cerebrum. 2. Longitudinal fissure separating the two hemispheres. 3, 3. The cerebellum. 4 The olfactory nerve. 5. The optic nerve. 7. The third pair of nerves. 8. The pons varolii. 9. The fourth pair of nerves. 10. The lower portion of the medulla oblongata. 11. The spinal cord. 12, 12. Spinal nerves. 13. 13. The brachial plexus. 14, 14. The lumbar and sacral plexus.

is termed the *pia mater*, or kind mother, because it dips into every fold and convolution of the brain, and is a fine delicate membrane, covered in every part with a network of blood-vessels, and is the medium by which nourishment is carried to the substance of the brain. The third coat is named the *arachnoid membrane*, from its resemblance to a spider's web. The proper uses and order of these investments will be given elsewhere. — Between the folds and doublings of the convolutions of the *B.* there are several cavities, or open spaces and elevations, which have received from different anatomists names, according to their shape or size, such as the *Ventricles*, *Fornix*, *Hippocampi*, &c., *q. v.* — In males, the average weight of the full-grown human *B.* is about 49 or 50 oz.: in females, 44. It varies, however, considerably in different individuals. In a series of 278 cases, the maximum weight of the adult male *B.* was found to be 65 oz., and the minimum 34; in 191 cases, the maximum weight of the adult female *B.* was 56, and the minimum 31 oz. The *B.* of the naturalist Cuvier is said to have weighed upwards of 64 oz. Anatomists differ as to the size or weight of the B. at different periods of life. Soemmering believed that the B. reached its full size as early as the third year: the Wenzels and Sir William Hamilton fixed the period about the seventh; and Tiedemann, between the seventh and eighth year. Gall and Spurzheim were of opinion that the *B.* continued to grow until the fortieth year. From a series of observations, however, it appears that in general the weight of the *B.* increases rapidly up to the seventh year, then more slowly to between sixteen and twenty, and then more slowly to between thirty-one and forty, at which time it reaches its maximum point. Beyond that period there appears a slow but progressive diminution in weight of about 1 oz., during each subsequent decennial period. The only animals that possess absolutely a larger *B.* than man, are the elephant and whale. In the former, it is said to weigh between 8 and 10 lbs., and in the latter it was found in a specimen 75 feet long, to weigh upwards of 5 lbs. Generally speaking, as compared with the weight of his body, the *B.* of man is heavier than that of the lower animals; but there are some slight exceptions to this rule, as in the case of certain species of small birds, and in the smaller apes. The proportionate weight of the human *B* to the body is greatest at birth, being about 1 to 5·5 in the male, and 1 to 6·5 in the female. At the tenth year it is about 1 to 14; at the twentieth about 1 to 30; and after that age it averages about 1 to 36·5, with a trifling decrease in advanced life. In general, the size of the *B.* bears a certain relation to the mental powers of the individual, and a certain amount of it is always necessary to sound mental action. — In comparing the brain of man with that of the other mammalia, the most obvious distinction is its much greater size in proportion to the size of the body. In the dog, the *B.* bears an average proportion to the body of about 1 to 120; in the horse, 1 to 450; in the sheep, 1 to 750; and in the ox, 1 to 800. The convolutions, too, which are so marked on the human *B.*, are few, or altogether wanting on the *B.* of animals. In particular, in animals, the medullary matter of the *B.* predominates in every part, while the cineritious is deficient. The nerves of sense, too, in animals, are usually much more largely developed than in man. In man the olfactory nerve is not one-fourth of the size of that of the horse, though the *B.* is so much larger. In the smaller quadrupeds the comparative size of the *B.* approaches nearer to that of the human, being in the mouse about a forty-third part of the weight of the animal; but it is composed almost entirely of medullary matter. In birds, the *B.* is in general a much less complex organ than in mammals, presenting no convolutions on its surface, and having only a very small quantity of cineritious matter. Though its bulk is in general proportionally much smaller than the human *B.*, yet in some of the smaller birds, as the chaffinch and redbreast, it approaches that of the latter. In fishes the *B.* is yet more diminished: in the chub being only 1 to 842, and in the lamprey 1 to 1,425. It consists merely of two pairs of ganglia and a single one. The two anterior ganglia, or lobes, are the olfactory lobes, immediately behind which are two others, generally of larger size, called the optic lobes; while behind these is a single ganglion, or lobe, situated in the median line, and termed the cerebellum. The functions of the *B.* will be examined under the words NERVOUS SYSTEM, and PHRENOLOGY.

(*Chem.*) The chemical examination of the brain of animals was first undertaken by Vaugaslin, who found in the human brain 80 water, 7 albumen, 4·53 white fatty matter, 0·70 red fatty matter, 1·12 osmazome, 1·5 phosphorus; acids, salts, and sulphur, 5·15. M. Couerbe, in an elaborate dissertation upon the composition of *B.*, finds a large proportion of *cholesterine* in it, and asserts, as the result of repeated examinations, that the proportion of phosphorus in the *B.* of persons of sound intellect is from 2 to 2·5 per cent.; in the brain of maniacs it is from 3 to 4·5; and in that of idiots, only from 1 to 1·5 per cent.

(*Med.*) The *B.*, which is the most delicate and exquisitely formed of all the organs of the human body, is subject to a great variety of disorders, most of which will be treated of under their proper heads, in other parts of this work, but some of which it will be necessary to notice here. *Inflammation* is one of the most common diseases to which the *B.* is subject, and may result from a number of causes: — from external injuries, as blows or falls, the symptoms of which may not manifest themselves for many days; from the improper use of narcotics or stimulants: exposure to the cold or the action of the sun's rays; protracted study, excessive joy, or other mental emotion: as well as less directly from diseases of the digestive or other organs of the body. It is characterized by more or less violent pain of the head, with suffusion or prominence of the eyes, the countenance generally turned or flushed, and delirium or stupor. Frequently, in children, inflammation leads to a form of disease known as water in the head, or *hydrocephalus*, q. v. *Softening* of the *B.* is caused by the want of a proper supply of nourishment to the cerebral substance, and may arise from various causes. It is characterized by lowness of spirits, headaches, giddiness, the loss of memory, and at length, imbecility and paralysis. Unfortunately, this is a disease which little can be done to remedy, especially when it results from a disordered state of the nutritient organs themselves, as from disease or obstruction in the arteries which convey the blood to the cerebral substance. Frequently it is occasioned by over-anxiety or excessive study; in which case everything is to be done to get rid of the predisposing cause. Every thought, every mental effort destroys a certain portion of the cerebral matter; and hence, if destruction takes place more rapidly than renewal, a wasting or softening of the *B.* is the result. The blood-vessels, particularly in the aged, are also liable to be ruptured.—See APOPLEXY, CONVULSIONS, INSANITY, DELIRIUM TREMENS, PARALYSIS. See the *Brain*, by Luys, 1882.

Brain, *v. a.* To dash out the brains of.

Brained, *a.* Furnished with brains.

Brain'erd, in *New York*, a post-village of Rensselaer co., on Kinderhook Creek, 16 m. S.E. of Albany.

Brain-fever, *n.* An inflammation of the brain. See BRAIN, (*Med.*)

Brain'ish, *a.* Hot-headed: furious.

Brain'less, *a.* Without understanding; silly; thoughtless; witless.

Brain'-pan, *n.* The skull, containing the brain. — *Shaks., Holland.*

Brain'-racking, *a.* Perplexing; harassing the mind.

Brain'-sick, *a.* Disordered in the understanding; giddy; thoughtless.

Brain'-sickly, *adv.* Weakly; headily.

Brain'-sickness, *n.* Sickness of the brain. Indiscretion; giddiness.

Brain'-spun, *a.* Spun out of the brain.

Brain-le-Comte, (*brăn-lay-komtay,*) a town of Belgium, prov. of Hainault, 13 m. N.N.E. of Mons; *pop.* 5,065.

Brain'stone-coral, *n.* A name popularly applied to certain kinds of Madrepore of the genus *Meandrina*, so named from the general resemblance to the brain of man, exhibited in their large rounded mass, and numerous winding depressions. When the hemispherical mass is broken, the ridges which bound its furrows may be traced inwards through its substance, even to the central nucleus from which they commenced. The Brainstone corals are very common in collections, and are much admired for their beauty. They are found chiefly in the seas of warm climates, particularly in the Indian and S. Atlantic oceans. They sometimes attain a large size. Their rate of growth, however, appears to be slow.

Brain'tree, a town of England, in co. of Essex, 36 m. N.E. of London. It is an ancient place, noted chiefly for its annual fairs. *Pop.* 4,735.

Brain'tree, in *Massachusetts*, a post-township of Norfolk co., 10 m. S. by E. of Boston. The manufacture of boots and shoes is carried on very extensively. Machinery, woollen goods, cordage, twine, mats, crash, &c., are also manufactured in the town.

Brain'tree, in *Vermont*, a township of Orange co., 20 m. S. by W. of Montpelier.

Brain'trem, in *Pennsylvania*, a township of Wyoming co.

Braird, *n.* (*Scot.*) [A.S. *brord.*] In Scotland, the springing up of seeds, which, when they come up well, are said to have a good braird.

—*v. n.* To spring up, as seeds.

Braise, *n.* A French word, in common use among charcoal burners to designate the fine refuse coal which gathers about their pits. The material is much used as a covering for the heaps of wood to be charred; and about iron-works it serves a very useful purpose, when mixed with the great piles of ore to be calcined, keeping up for a long time the slow combustion required for this purpose.

Brait, *n.* A commercial name of the rough diamond.

Brake, *n.* [Swed. and Goth. *braka*, to crash, crackle. When dry, the plant *crackles* under the feet.] The common name of the *Pteris*, a genus of ferns, called also *Braken*. — See PTERIS.

—A place overgrown with brakes, briers, or brambles.

Brake, *n.* [Formerly pret. of BREAK.] That which breaks, subdues, curbs, checks, confines, restrains, or retards. — An instrument to break flax. — A sharp bit or snaffle. — A vehicle for breaking in young or refractory horses. — A large heavy harrow for breaking clods. — An ancient instrument of torture.

(*Mech.*) A block of wood applied by lever or screw pressure to the circumference of a wheel, to slacken or arrest the moving power of a machine, by the production of a large amount of friction. By extension of meaning, it now signifies the railway-carriage in which is placed the *B.* intended to retard or stop the train when needed. *B.* are sometimes used in the form of bands of metal or leather passing round a wheel, by the tightening of which the necessary amount of friction is produced. — The *B.-beam* or *B.-bar* is the part that connects the *B.*-blocks of opposite wheels. — The *B.-broke* is the part of the *B.* holding the *B.*-shoe. — The *B.-shoe* or *B.-rubber*, is the part of a *B.* against which the wheel rubs. — The *B.-wheel* is the handle-wheel by which power is applied to a *B.* — The *B.* generally used in the U. S. is known as the *air-brake*. See AIR-BRAKE, in SECTION II.

(*Naut.*) [From Lat. *brachium*, an arm.] The handle of a ship's pump.

(*Mil.*) That part of a military engine or battery by which it is turned to any particular point.

—A kind of cross-bow or ballista.

Brake'man, *n.*; *pl.* BRAKESMEN. One whose duty it is to tend to the brakes on a railroad-car.

Brak'y, *a.* Full of brakes: rough; thorny.

Bra'mah, JOSEPH, an English engineer, B. 1749. He was bred a carpenter, and worked for some time in London as a cabinet-maker, but at length adopted the engineering profession. His inventions were many and useful; as a hydraulic machine, producing motion by the uniform pressure of fluids, on the principle of the hydrostatic paradox, see HYDROSTATIC PRESS, and an improved kind of lock, known as the *Bramah Lock*, see LOCK. He was the author of *A Dissertation on the Construction of Locks*, &c. D. 1814.

Bra'man's Corners, in *New York*, a post-office of Schenectady co.

Bramante D'URBINO, (*bra-man'tai*, whose real name was DONATO LAZZARI, a celebrated Italian architect, B., 1444. Showing an early taste for drawing, he was brought up to the profession of a painter, but he quitted it to dedicate his talents to architecture, which he cultivated with uncommon success. He first designed and commenced in 1513, the erection of St Peter's at Rome, carried on and finished by other architects after his death. He was a great favorite with Pope Julius II., who made him superintendent of his buildings, and under that pontiff he formed the magnificent project of connecting the Belvidere Palace with the Vatican, by means of two grand galleries carried across a valley. He built many churches, monasteries, and palaces at Rome, and in other Italian cities, and was employed by Pope Julius as an engineer to fortify Bologna, 1504. He manifested a decided predilection for the classic architecture of the Greeks, and was the instructor of Raphael in that art. D. 1514. *B.* painted portraits with ability, and he was skilled in music and poetry.

Bram'ble, *n.* [A.S. *bremel, brembel*: Dan. *brambær*; O. Ger. *brâmia, brâmal*. Etymol. unknown.] (*Bot.*) The common name of the genus RUBUS, *q. v.*

Bram'ble-berry, *n.* The blackberry. See RUBUS.

Bram'ble-bush, *n.* A collection of brambles growing together.

Bram'bled, *a.* Overgrown with brambles.

Bram'ble-net, *n.* A net to catch birds.

Bram'bling, BRAMBLE-FINCH, MOUNTAIN-FINCH, *n.* (*Zoöl.*) A bird of the family *Fringillidæ*. It breeds in the more northern parts of Scandinavia; visiting Italy, Malta, Smyrna, &c., in its winter migrations. It has no song, its call-note being a single monotonous chirp. It is rather larger than the chaffinch. The tail is forked, and its prevailing colors are black, white, and yellow.

Bram'bly, *a.* Full of brambles.

Bramidæ, *n. pl.* (*Zoöl.*) The Bream family. — See BREAM.

Bra'min, *n.* See BRAHMAN.

Bram'lette, in *Kentucky*, a post-office of Gallatin co.

Bramp'ton, in prov. of Ontario, a thriving town, cap. of Peel co., 21 m. N.W. of Toronto.

Bran, *n.* [O. Fr.; Celt. *bran, bren*, excrement, ordure.] The skins or husks of corn, especially of ground wheat, separated from the corn by a sieve, or bolted. Large quantities of wheat *B.* are used for making starch which it contains in the proportion of 55·6 per cent. The dyers reckon *B* among the non-coloring drugs, and use it for making the sour water with which they prepare their dyes. *B.* is also used as food for horses and cattle. In the practice of medicine it is employed as a warm poultice in abdominal inflammation, spasms, &c.

Bran, the son of Llyr, and father of Caradoc, or Caractacus, king of Britain; D. about 80 A. D.

Bran'card, *n.* [Fr.] A horse-litter; a hand-barrow.

Brancas-Lauragnais, (DUKE DE, (*bran'kas-lawragay'*,) a member of the French Academy of Sciences, B. 1733. He was distinguished for his skill in chemistry, and was the worthy associate of Lavoisier, Berthollet, Chaptal, and other celebrated reformers of the science. To this nobleman we owe the discovery of the composition of the diamond, and some very important improvements in the manufacture of porcelain. D. 1824.

Branch, *n.* [Gr. *brachion*; Lat. *brachium*, the arm; It. *branca*; Fr. *branche*.] (*Bot.*) That part of a plant which is produced from a lateral leaf-bud on the primary axis or stem. It is looked upon as part of the stem, and not as a distinct organ. A branch generally produces secondary branches, and these give rise to minor ramifications, called *branchlets* or *twigs*. The different modes in which *B.* spring from the stem give rise to the various forms of trees; such as pyramidal, spreading, and weeping. Thus in the cypress, the branches are *erect*, forming acute angles with the upper part of the stem; in the oak and cedar, they are *spreading*, each forming nearly a right angle; in the weeping ash and elm, the angles are *oblique*: while in the weeping-willow and birch, the branches are *pendulous*, from their flexibility. The comparative length of the upper and under branches also gives rise to great differences in the contour of trees, as seen in the conical form of the spruce, and in the umbrella-like shape of the Italian pine. — See STEM.

(*Anat.*) A term applied generally to the principal divisions of an artery or vein. *B.* is then synonymous with *Ramus*.

(*Mining.*) A leader, string, or rib of ore, that runs in a lode: or if a lode is divided into several strings, they are called *branches*, whether they contain ore or not; likewise, strings of ore which run transversely into the

lode are called branches, and so are all veins that are small, dead, or alive, *i.e.*, whether they contain ore or not.

(*Genealogy.*) A portion of the descendants of a person, who trace their descent to some common ancestor, who is himself a descendant of a like person. The whole of a table of genealogy is often called the *genealogical tree;* and sometimes it is made to take the form of a tree, which is in the first place divided into as many branches as there are children, afterwards into as many branches as there are grand-children, then great-grand-children, and so on. If, for example, it is desired to form the genealogical tree of Peter's family, Peter will be made the trunk of the tree; if he has had two children, John and James, their names will be written on the first two branches, which will themselves shoot out into as many smaller branches as John and James have children; from these others proceed, until the whole family is represented on the tree. Thus the origin, the application, and the use of the word "branch" in genealogy will be at once understood.

(*Zoöl.*) The first division of the animal kingdom, synonymous with *Type.* — *B.* are characterized by plan of structure. Cuvier has shown that the animal kingdom comprises four great *B.* or Types — *Vertebrata*, *Articulata*, *Mollusca*, and *Radiata*. q. v. — These four *B.* are sub-divided into *classes*. — See CLASS.

(*Naut.*) In the U. States the name *B.*, or *Full B.*, is given to a pilot bearing a commission of the highest grade, to distinguish it from the warrant granted to subordinate pilots, who are restricted to vessels of a certain draught.

—The offshoot of anything, as of a river, of a stag's horn, &c.; a small part of anything; any distinct article or portion.

Branch, *v. a.* To shoot or spread in branches or separate parts: to shoot out; to ramify; to fork.

"The Alps *branch* out, on all sides, into several different divisions." — *Addison.*

—*v. a.* To divide or form into branches.

"The spirits of things are *branched* into canals, as blood is." *Bacon.*

—To adorn with needlework, representing branches, flowers, &c.

"In robe of lily white she was array'd,
Branched with gold and pearl, most richly wrought." *Spenser.*

Branch, in *Michigan*, a S. county, embracing an area of 528 sq. m., watered by the St. Joseph's, Prairie, Coldwater, and Hog rivers. *Surface.* Rolling prairie. *Soil.* Excellent, yielding heavy timber and iron ore. *Cap.* Coldwater.

—A village of the above co., on the Coldwater River, 89 m. S S.W. of Lansing.

Branch, in *Pennsylvania*, a township of Schuylkill county.

Branch, in *Wisconsin*, a post-office of Manitowoc co.

Branch'burg, in *New Jersey*, a township of Somerset co.

Branch-chuck, *n.* (*Mech.*) A chuck formed of four branches, turned up at the ends, and each furnished with a screw.

Branch'dale, in *Pennsylvania*, a P.O. of Schuylkill co.

Branched'-work, *n.* (*Arch.*) Carved and sculptured leaves and branches on monuments and friezes.

Branch'er, *n.* One that forms branches.

(*Falconry.*) A young hawk that begins to leave the nest and go from branch to branch.

Branch'ery, *n.* A system of branches; the vascular part of fruits.

Bran'chial, *a.* Belonging or relating to the branchiæ or gills.

Branchiæ, (*brangk'e-e,*) *n. pl.* [Lat.; from Gr. *branchia*, gills.] (*Physiol.*) The organs called *B.*, or *Gills*, are vascular respiratory organs, destined to submit to the process of oxygenation the blood of the greater part of aquatic animals. It is by means of the oxygen of the air dissolved in water that this method of respiration is performed. As the name imports, these organs are more or less branched. They are situated upon special parts of the body, but their position varies according to the animals in which they have been observed. Their surface, multiplied proportionately to the number of their ramifications, is always covered with a very fine and permeable membrane. In fishes the gills consist of arches of bone attached to the *os hyoides* or bone of the tongue. To these the rays or filaments of the gills are attached, generally in a row upon each, varying in number, and having their surfaces covered by a tissue of innumerable blood-vessels. Upon these is stretched the gill membrane. The water taken in by the mouth passes through among the filaments of the gills, and escapes by the gill openings in the rear. In its progress through the filaments of the gills, the oxygen is separated from the atmospheric air contained in the water, and carbon is given out in return.

Branch'iness, *n.* Quality of being branchy; fulness of branches.

Branch'ing, *n.* The act of branching, or forming into branches.

—*a.* Supplied with branches: throwing out branches; as, a *branching* elm.

Bran'chiopod, *n.* (*Zoöl.*) One of the *Branchiopoda*.

Branchiop'oda, *n. pl.* [Gr. *branchia*, gills, and *pous, podos*, a foot.] (*Zoöl.*) A division of crustaceous animals, order *Entomostraca*, in which the locomotive extremities fulfil the functions of gills. These Crustaceans, which are for the most part microscopic, are always in motion when in an animated state, and are generally protected by a shell or crust in the shape of a shield, or of a bivalve shell, and are furnished sometimes with four, sometimes with two antennæ. Their feet vary in number, some having not less than a hundred. A great portion have only one eye. The genera *Cyclops* and *Cypris* may be mentioned as examples of *B.*

Branchios'tegan, *n.* (*Zoöl.*) One of the *Branchiostegi*.

Branchios'tegi, *n. pl.* [Gr. *branchia*, gills, and *stego*, to cover.] (*Zoöl.*) A division of cartilaginous fishes, comprehending those in which the gills are free, and covered by a membrane. It corresponds to the order STURIONES, *q. v.*

Branchios'tegous, *a.* That has covered gills, as the *Branchiostegi*.

Branch Junction, in *Pennsylvania*, a post-office of Westmoreland co.

Branch'less, *a.* Without branches or shoots; barren; without any valuable product; as, a *branchless* tree.

Branch'let, *n.* A little branch.

Branch-pilot, *n.* (*Naut.*) See BRANCH.

Branch'port, in *New York*, a post-village of Jerusalem township, Yates co., at the N.W. end of Crooked Lake, 200 m. W. of Albany.

Branch River, in *Rhode Island*, empties into the Blackstone River, 4 m. above Woonsocket.

Branch's Store, in *N. Carolina*, a P. O. of Duplin co.

Branch Village, in *Rhode Island*, a village of Smithfield township, Providence co., 10 m. N.N.W. of Providence. *Manuf.* Chiefly cottons and agricultural implements.

Branch'ville, in *Alabama*, a post-office of St. Clair co.

Branch'ville, in *Arkansas*, a post-office of Drew co.

Branch'ville, in *Maryland*, a post-office of Prince George's co.

Branch'ville, in *New Jersey*, a post-village of Sussex co., on an arm of the Paulinskill River, 77 m. N. of Trenton.

Branch'ville, in *S. Carolina*, a twp. and post-village of Orangeburg dist., 62 m. W.N.W. of Charleston, and 67 S. of Columbia.

Branch'ville, in *Virginia*, a P. O. of Southampton co.

Branch'y, *a.* Full of branches; having wide-spreading branches.

Bran'co, an affluent of the Rio-Grande, Brazil. It rises in the Sierra Dura, Lat. 11° 25′ S., Lon. 40° 10′ W.: flows in a S.E. course, and is navigable from its mouth to Tres-barres, a distance of about 40 m. — BRANCO RIO, another river of Brazil, rises in the Parime Mountains, flows S. for 400 m., and joins the Rio Negro near Lat. 1° 20′ S.

Brand, *n.* [A.S., Du., Sw., and Dan. *brand*, from *brennen*, to burn.] A burning or partly burned piece of wood; a lighted fagot.

"Take it, she said, and when your needs require,
This little *brand* will serve to light your fire." — *Dryden.*

—A sword, resembling a brand when waved.

"Waved over by that flaming *brand?*" — *Milton.*

—A mark made with a hot iron; as, the *brand* of a cask; hence, figuratively, quality; kind; as, a box of cigars of a good *brand*.

—A stigma; any note or mark of infamy. See BRANDING.

"A *brand* of infamy passes for a badge of honor." — *L'Estrange.*

—A disease peculiar to vegetables; sometimes called *burn*, and more commonly BLIGHT, *q. v.*

—A term sometimes applied to lightning, or a thunderbolt; as, the levin *brand*.

"The sire omnipotent prepares the *brand*,
By Vulcan wrought, and arms his potent hand." — *Granville.*

—*v. a.* To burn, stamp, or impress with a hot iron; as, to *brand* a package.

—To fix a mark of infamy upon; to stigmatize as infamous; as, to *brand* a person's character; to *brand* a galley-slave.

"*Brand* not their actions with so foul a name:
Pity, at least, what we are forced to blame." — *Dryden.*

Brandenburg, (*bran'den-boorg.*) an important prov. of Prussia, consisting chiefly of the ancient *Mark*, or marquisate of *B.*, having N. Mecklenburg and Pomerania, E. the provs. of Prussia and Posen, S. Silesia and the kingdom of Saxony, and W. Prussian Saxony, Anhalt, and Hanover; between 51° 10′ and 53° 37′ N. Lat., and 11° 13′ and 16° 12′ E. Lon. *Area*, 15,505 sq. m. The prov. is divided into 2 regencies and 24 circles, and consists, mainly, of an immense sandy plain, drained by the Oder, Spree, Netz, and other rivers. *Soil*, generally poor. Forests, very extensive. Buckwheat and rye form the leading products. With the exception of lime and gypsum, the minerals are unimportant. *Manf.* Machinery, agricultural implements, chemicals, glass, leather, potash, &c. *B.* forms the nucleus of all the States now united in the Prussian monarchy. It was given, in 1416, by the emperor Sigismund to Frederick VI., Count of Hohenzollern and Burgrave of Nuremberg, ancestor of the present kings of Prussia. *Chief towns.* Berlin (cap. of Prussia), Potsdam, Frankfort-on-the-Oder, Brandenburg, and Spandau.

BRANDENBURG, a town of Prussia, in the above prov., cap. circ. W. Havelland, on the Havel, 37 m. W.S.W. of Berlin, and 38 N.E. of Magdeburg; Lat. 52° 27′ N., Lon. 12° 32′ E. The river divides the town into 3 parts, the old town on the right, and the new on the left bank; while on an island between them is built the Cathedral Town, which, from standing on piles, is often called Venice. *Manf.* Woollens, linens, stockings, paper, &c. *Pop.* 26,180.

Bran'denburg, a walled town of N. Germany, in the grand-duchy of Mecklenburg-Strelitz, 17 m. N. by E. of Neu-Strelitz. It has extensive distilleries, and a *pop.* of 6,545.

Bran'denburg, in *Kentucky*, a post-village, cap. of Meade co., on the Ohio River, 40 m. from Louisville.

Brand'er, *n.* A person who brands. — A Scotticism for a gridiron: as, a fowl put on the *brander*.

Brand'-goose, *n.* (*Zoöl.*) See BRENT.

Brandied, (*bran'did,*) *a.* Mingled or strengthened with brandy; as, this is a *brandied* sherry.

—Doctored or fortified with brandy; as, *brandied* plums.

Brand'ing, *n.* An ancient mode of punishment by inflicting a mark on an offender with a hot iron. It is generally disused in the English Civil Law, but is a recognized punishment for some military offences, as desertion. It is not, however, now done by a hot iron, but with ink, gunpowder, or some other preparation, so as to be visible, and not liable to be obliterated. The mark is the letter "D.," not less than an inch in length, and is marked on the left side two inches below the armpit.

Brand'ing-iron, *n.* An iron used for branding.

Brand'-iron, *n.* Same as BRANDING-IRON.

—A trivet to set a three-legged pot upon, when placed over a fire.

Bran'dish, *v. a.* [Fr. *brandir*, probably of the same origin as O. Fr. *branler*, to shake.] To shake, move, wave, or agitate, as a weapon; to flourish.

"He said, and *brandishing* at once his blade,
With eager pace pursued the flaming shade." — *Dryden.*

—To flourish; to amuse one's self with; as, to *brandish* a controversial argument.

"He, who shall employ all the force of his reason only in *brandishing* of syllogisms, will discover very little." — *Locke.*

—*n.* A shaking or waving; a flourish; as "*Brandishes* of the fan." — *Tatler.*

Bran'disher, *n.* He who, or that which, brandishes.

Bran'dishing, Brat'tishing, *n.* (*Arch.*) A term used for carved work, as a crest, battlement, or other parapet.

Brand'ling, *n.* [So named from its color.] (*Zoöl.*) A small worm used for bait.

Brand'-new, *a.* [See BRAND.] Quite new; unsoiled; untouched or unused. (Vulgarly corrupted into *bran-new.*)

Bran'don, *n.* [Fr.; Ger. *brand*, fire.] A name sometimes given in England to the first Sunday in Lent, from the custom, which at one time is said to have prevailed in many places, of the peasants passing through their orchards and vineyards on that day with lighted torches, and threatening to cut down and burn the trees if they did not bear fruit in the coming year.

Bran'don, a bay, headland, mountain, and village of Ireland, co. Kerry. The mountain, 3,126 feet high, has for its extreme point the headland which forms the W. boundary of *B.* Bay. The latter, about 5 m. wide at its mouth, cuts into the land for about 5 m. The village is a fishing and coast-guard station, 10 m. N.E. of Dingle.

Bran'don, in *Iowa*, a post-village of Buchanan co.

—A township of Jackson co.

Bran'don, in *Michigan*, a post-township of Oakland co., 38 m. N.N.W. of Detroit.

Bran'don, in *Mississippi*, a township and post-village, cap. of Rankin co.

Bran'don, in *New York*, a township of Franklin county.

Bran'don, in *Ohio*, a post-office of Knox co.

Bran'don, in *Vermont*, a post-township of Rutland co., on Otter Creek, 40 m. S.W. of Montpelier. *Manf.* Woollens, leather, &c.

Bran'don, in *Wisconsin*, a post-village of Fond-du-Lac co., 18 m. W.S.W. of Fond-du-Lac, and 20 S. by E. of Berlin.

Bran'don, in prov. of Ontario, a post-office of Peel co.

Bran'don Church, in *Virginia*, a post-office of Prince George co.

Bran'don Point, in *Virginia*, a post-office of Prince George co.

Bran'donville, in *W. Virginia*, a post-village of Preston co., 15 m. N. of Kingwood, and 280 N.W. of Richmond.

Brand'rith, *n.* An English provincialism, denoting the fence or staked enclosure around a well or spring.

Brandt, (*brant.*) a Hamburg chemist, who in 1669 accidentally discovered phosphorus, whilst making experiments with urine in search of gold. D. about 1695.

Brandt, SEBASTIAN, a German poet, b. at Strasbourg, 1458, who wrote a number of works, the most celebrated of which is *The Ship of Fools*, a burlesque poem, in which he satirizes the writings of his age. It met with great success, and found translators in several countries. D. 1521.

Brandt, in *Ohio*, a post-office of Miami co.

Brandt Lake, in *New York*, a sheet of water of Warren co., emptying in Schroon River. It is 5 m. in extent.

Brandt Wood, in *Indiana*, a post-office of Starke co.

Bran'dy, *n.* [Ger. *brannt-wein*, from *brennen*, to burn, to distil: Fr. *brandevin.*] Literally, distilled wine; an ardent spirit distilled from wine and colored to the required extent with burnt sugar, (*caramel.*) Its flavor is due chiefly to the presence of œnanthic ether derived from the wine: when newly distilled, it is as clear and as colorless as water. The color of genuine pale *B.* is due to its having remained so long in the cask as to have absorbed a portion of brown coloring matter from the wood, and is, therefore, an indication of its age. Hence arose the custom of adding caramel, and sometimes the infusion of tea, to impart the astringency due to the tannin taken from the wood by old *B.* It is prepared from wine in most wine-growing countries; but France, and, most notably, the town of Cognac, and the Armagnac, have always been considered the great *B.*-producing localities. The Cognac *B.* is esteemed from the absence of a certain fiery flavor found in other *B.*, which is caused by a very small quantity of an acrid oil contained in the skin of the grape. Inferior *B.* is distilled from apples, pears, peaches, cherries, blackberries, &c. It is also pro-

duced from a variety of other ardent spirits; rum, beet-root spirit, and that of potatoes, are largely used in France for its manufacture, and similar processes are also carried on in this country. Those inferior and noxious spirits are carefully rectified by repeated distillations over freshly burnt charcoal and quick-lime, to deprive them of their peculiar flavor, which would, if left behind, betray the imposition. Innumerable attempts are also made for producing, by fictitious means, a spirituous liquor bearing a close resemblance to the genuine French *B.*, but, as so far produced, they are not so perfect but that they may be easily detected. *B.* manufactured in California and some other States, owing to a more judicious treatment, has made a great stride during the last few years, and our importation is now almost entirely limited to the best brands of French *B.*; in fact, there are many connoisseurs who prefer the domestic product to most of the imported brands.

Bran'dy City, in *Cal.*, a mining village of Sierra co.

Bran'dy Station, in *Va.*, a p. o. of Culpepper co.

Bran'dy-wine, *n.* Brandy.

Bran'dywine, in *Del.*, a hundred of New Castle co. —in *Ind.*, a twp. of Hancock co.—A vill. and twp. of Shelby co., 6 m. N.W. of Shelbyville.
—in *Maryland*, a post-office of Prince George co.

Bran'dywine Creek, in *Pennsylvania* and *Delaware*, is formed of two forks, the E. and W., which effect a junction in Chester co. of the first-named State, and, taking a S.E. course, empties into Christiana Creek at Wilmington. Here, Sept. 11th, 1777, was fought a severe battle between the British and German troops, 18,000 strong, under Howe, and the Americans numbering 13,000 men, under Washington, in which the latter were defeated. The consequence of this battle was the occupying of Philadelphia by the British troops.

Bran'dywine Creek, in *Indiana*, after rising in Hancock co., runs S.W. into Blue River, near Shelbyville.

Bran'dywine Manor, in *Pennsylvania*, a post-office of Chester co.

Bran'dywine Mills, in *Ohio*, a village of Summit co.

Bran'dywine Springs, in *Delaware*, 4 m. N.W. of Wilmington.

Bran'dywine Village, in *Delaware*, a suburb of Wilmington, (*q. v.*)

Bran'ford, in *Connecticut*, a post-town and seaport of New Haven co., 8 m. E. by S. of New Haven. The harbor has a sufficient depth of water for vessels of over 300 tons.

Bran'ford, in *Illinois*, a township of Lee co.

Brangle, (*brang'gl,*) *n.* [Fr. *branler;* O. Fr. *bransler.* See BRANDISH.] A shaking; agitation; confusion; a squabble; a noisy contest or dispute.

"The payment of tithes is subject to many frauds, *brangles*, and other difficulties."—*Swift.*

—*v. i.* To squabble; to wrangle; to dispute contentiously. (R.)

"Company will be no longer pestered with . . . *brangling* disputers."—*Swift*

Brang'ler, *n.* A quarrelsome, noisy person; a pest.

Brang'ling, *n.* A quarrel; a wrangling. (R.)

Brank, *n.* [Probably of Celtic origin.] A name used in some provinces in England for buckwheat.
—A scolding bridle; *i. e.*, an instrument after the manner of a bridle, formerly used in England for checking the tongues of shrews and scolding women.

Brank'ursine, *n.* A name which, as *Bear's-breech*, is sometimes found applied to the species of Acanthus, said to have furnished the model of the Corinthian capital.

Bran'lin, *n.* [Scot. *branlie.*] (*Zoöl.*) A local name applied to a species of fish resembling salmon, and found in rapid streams.

Bran'-new, *a.* Same as BRAND-NEW, (*q. v.*)

Bran'ny, *a.* [See BRAN.] Consisting of bran; having the appearance of bran.

"It was . . . when I saw it, covered with white *branny* scales." *Wiseman.*

Bran'sle, *n.* [From O. Fr. *bransler.*] An old-fashioned brawl or dance.

Brant, *n.* (*Zoöl.*) See BRENT.

Brant, *a.* [See BRENT.] Steep, rugged. (*Local Eng.*)

Brant, JOSEPH, a Mohawk chief, born in Ohio, 1742. He participated in the campaign of 1755, and held the post of secretary to Col. Johnson, superintendent-general of Indian affairs. On the outbreak of the American Revolution, *B.* took an active part in raising an Indian force to oppose the colonists, and was present at the action of Cherry Valley, and in other engagements. He did all in his power to prevent the confederation of the Indian tribes previous to Gen. Wayne's expedition, and opposed peace between them and the U. States. *B.* was, however, a brave and intelligent chief, and a zealous administrator of all that tended to elevate and civilize his own people. In 1786 he visited England, there published the *Book of Common Prayer* and the *Gospel of St. Mark*, in Mohawk and English, and collected funds for an Anglican church, the first erected in Canada West. He passed the closing years of his life at Burlington Bay, on Lake Ontario, on an estate granted him by the British government. D. 1807. One of *B.*'s sons commanded a mixed Canadian and Indian force during the war of 1812.

Fig. 408. — JOSEPH BRANT.

Brant, in *Michigan*, a thriving township of Saginaw county.

Brant, in *New York*, a post-township of Erie co., 24 m. S.S.W. of Buffalo.

Brant, in *Wisconsin*, a post-office of Calumet co.

Brant, a S. co. of prov. of Ontario, W. of Lake Ontario. *Area*, 416 sq. m. Drained by the Grand River. *Prod.* Lumber, wool, hops and dairy produce. *Cap.*, Brantford. *Pop.* (1890), 40,352.

Brant'ford, a prosperous post-town of the province of Ontario, and capital of Brant co., 24 m. S.W. of Hamilton, on Grand river. Here are the workshops belonging to the Great Western Railway. *Manf.* Iron, tin and brass-ware, agricultural implements and stone-ware. *Pop.* in 1897, about 16,000.

Brant-fox, *n.* A small species of fox.

Bran'tôme, PIERRE DE BOURDEILLES, SEIGNEUR DE, (*brän'tôme,*) a French chronicler, b. in Perigord, about 1540. He travelled in several countries in the capacity of chamberlain to Charles IX. and Henry III.; fought against the Huguenots (1562), in Barbary (1564), and went in 1566 to Malta, to fight against the Turks. After his return to the court of France he retired into private life, and wrote his *Memoires*, full of self-praise but very interesting, as they afford a lively portraiture of the manners and morality of his times, the women, in particular, being very severely handled. The style is charmingly piquant, full of ingenious turns of expression, sudden sallies of wit, occasional flashes of eloquence, and withal so naively simple, that if the author cannot, on account of the abundance of his gossip, be reckoned a grave historian, he must needs be considered a most fascinating chronicler. D. 1614.

Brän'nlar, *a.* Cerebral; belonging to the brain.

Brasen, (*braz'n,*) *a.* Made of brass. See BRAZEN.

Brase'nia, *n.* (*Bot.*) A name of the genus HYDROPELTIS, *q. v.*

Brash, *a.* [Swed. and Dan. *barsk;* L. Ger. *barsch.*] Impetuous; hot-tempered. — A term used in the U. States to denote the state of being brittle; as, decayed timber. —*n.* An eruption; a rash or blemish on the skin. — Broken pieces of ice; segments of ice.

(*Geol.*) A mass of broken and angular fragments, derived from a subjacent rock, generally limestone.

Brash'ear, in *Louisiana*, a post-village of St. Mary's parish, on the Atchafalaya River, 80 m. W.S.W. of New Orleans.

Brash'er, in *New York*, a township of St. Lawrence co.

Brash'er Falls, in *New York*, a post-village of St. Lawrence co., on the St. Regis River, 35 m. E. of Ogdensburg. Agricultural implements are largely fabricated here.

Brash'er Iron-works, in *New York*, a post-village of St. Lawrence co., on Deer River, 3 m. S.E. of St. Helena. It has large furnaces for iron-smelting.

Bras'idas, a Spartan general, who distinguished himself in the Peloponnesian war, and in 426 B. C. made himself master of Amphipolis. He was wounded in a combat with Cleon, the Athenian general, who was endeavoring to retake this place. D. 422 B. C.

Brasier, Brazier, (*brā'zher,*) *n.* [See BRASS.] An artificer who works in brass.

"There is a fellow somewhat near the door, he should be a *brasier* by his face."—*Shaks.*

—A pan to hold heated coals.

"It is thought they had no chimneys, but were warmed with coals on *brasiers*."—*Arbuthnot.*

Brasil', *n.* See BRAZIL.

Brass, *n.* [A. S. *bræs;* Swed. and Goth *brasa;* Icel. *brys*, a bright heat; Sp. *brasas*, live coals, from the root of *burn.*] Literally, a metal of the color of live coals. Specifically, a yellow alloy of copper and zinc. The proportions vary according to the required color; four parts of copper and one of zinc form an excellent *B.* It is usually made by heating copper plates in a mixture of native oxide of zinc, or calamine and charcoal. Its general properties are, that it has a well-known, fine yellow color, is susceptible of receiving a high polish, and is only superficially acted upon by the air. It is very malleable and ductile when cold, and consequently may be beaten into thin leaves, and drawn into fine wire; at a high temperature it is brittle. The specific gravity of brass is greater than that deducible from the specific gravities of the metals which constitute it. Brass is more fusible, sonorous, a worse conductor of heat, and harder than copper. It is readily turned in a lathe, and is consequently well adapted, not only for philosophical instruments, but those used in manufacturing processes and for domestic purposes. In the state of wire it is most extensively employed in pin-making, and for various other purposes; the thin leaves into which brass is made by hammering, are called *Dutch metal*, or *Dutch gold.* In order to prevent ornamental brass-work from being tarnished by the action of air, it is either lacquered or bronzed. *Lacquering* consists simply in varnishing the brass with a solution of shellac, in spirit, colored with dragon's blood. *Bronzing* is effected by applying a solution of arsenic, or mercury, or platinum, to the surface of the brass

Brass, or **Coal Brasses,** *n. pl.* (*Mining.*) Names given to the iron pyrites (sulphide of iron) found in the coal measures of the N. of England. They are employed in the manufacture of copperas.

Bras'sage, *n.* (*Old Eng. Law.*) A sum of money formerly levied to defray the expense of coinage, and taken out of the intrinsic value of the coin. The term is supposed to be derived from *brachiorum labor.*

Bras'sart, *n.* (*Mil.*) In plate armor, the piece which protected the upper arm between the shoulder-piece and the elbow.

Brass'-band, *n.* A company of musical performers, who perform on brass instruments, as the trumpet, trombone, bugle, &c.

Brasse', *n.* (*Zoöl.*) See LUCIOPERCA.

Bras'ses, (Monumental,) *n. pl.* (*Archæol.*) The name given to monumental slabs of brass, on which are carved effigies in outline. Of such memorials, the earliest on record is that of Simon de Beauchamp, who died at the beginning of the 13th century.

Brass'et, *n.* A casque or morion formerly belonging to a suit of armor.

Brass'field, in *N. Carolina*, a post-office of Wake co.

Brass'-foil, *n.* Thin sheets of brass beaten out; sometimes called *Dutch gold.*

Bras'sica, *n.* [From *bresic*, the Celtic name of the cabbage.] (*Bot.*) A genus of plants, order *Brassicacea*, containing several species, which are commonly cultivated as food for man and cattle. *B. rapa* is the common turnip. The species *B. campestris* is regarded by some as the source of the Swedish turnip; but others consider this vegetable to be a hybrid between *B. campestris* and *B. rapa*, or *napus.* The species *B. oleracea* is supposed to be the common origin of all the different kinds of cabbage, cauliflower, broccoli, and kohl-rabi, the different varieties having been produced by the art of the gardener. Brocoli and cauliflowers are deformed inflorescences; the kohl-rabi is produced by the stem enlarging above the ground into a fleshy knob, resembling a turnip. On comparing the original plant, as found on our shores, with wavy green leaves, no appearance of head, and flowering like wild mustard or charlock, say with the red cabbage or the cauliflower, the difference is astonishing. *B. napus* yields the rape, cole, or colza seeds, from which a large quantity of bland fixed oil, much used for burning and other purposes, is expressed. See CABBAGE, CAULIFLOWER, BROCOLI, KOHL-RABI, TURNIPS.

Brassica'ceæ, *n. pl.* (*Bot.*) An order of plants, alliance *Cistales.*—DIAG. Tetramerous flowers and tetradynamous stamens.—They are herbaceous plants, annual, biennial, or perennial, very seldom suffruticose. Leaves alternate. Flowers usually yellow or white, without bracts, generally in racemes; sepals 4, deciduous, imbricate or valvate; petals 4, cruciate, alternate with the sepals: stamens 6, of which 2 are shorter; disk with various green glands between the petals and the stamens and ovary; ovary superior, unilocular: stigmas 2, opposite the placentæ; fruit a silique or silicule: seeds attached in a single row by a funiculus to each side of the placentæ; albumen none. — *Properties.* The Brassicaceæ as a class are of much importance to man. They furnish several alimentary articles which are very nutritious, as the turnip, cabbage, cauliflower; several others are used as condiments; as mustard, radish, cochlearia, &c. They all possess a peculiar acrid, volatile principle, dispersed through every part, often accompanied by an ethereal oil abounding in sulphur. They are also remarkable for containing more nitrogen than other vegetables, for which reason ammonia is generally evolved in their putrefaction. In medicine they are eminently stimulant and antiscorbutic. None are really poisonous, although very acrid. The root of *Isatis tinctoria* affords a blue coloring matter. — The order is divided into 173 genera and 1,600 species. The greatest part of the species are found in the temperate zone. About 100 are peculiar to N. America.

Brass'iness, *n.* Quality, or partaking of the nature of brass.

Brass'-leaf, *n.* Same as BRASS-FOIL, *q. v.*

Brass'-paved, *a.* Firm and stable as brass.

Brass'-visaged, *a.* Impudent; cheeky; bold in demeanor.

Brass'y, *a.* Made of brass; hard as brass; resembling brass.

"And pluck commiseration of his state
From *brassy* bosoms and tough hearts of flint." — *Shaks*

—Impudent; bold; brazen-faced.

Brat, *n.* [O. Ger. *berd*, offspring; Ger. *brut*, from the root of *brud*, *brood;* A. S. *bredan.*] Originally, that which is nourished or cherished; specifically, a child, (so called contemptuously.)

"I can grant ten thousand pounds a year,
And make a beggar's *brat* a peer. — *Swift.*

Brats'berg, in *Minnesota*, a post-office of Fillmore co.

Brattice, (*brat'tis,*) *n.* (*Mining.*) The main shaft is divided by a partition of iron plate and other fit material called a *brattice*, into two chambers, which serve as up-cast and down-cast shafts for the ventilation. Mining engineers also use the term to express the separation of the currents, which takes place occasionally on the sides of a shaft, which are then said to constitute a *natural brattice*, or one independent of any artificial ventilation.

Brat'tleboro', in *Vermont*, a post-township of Windham co., on the Connecticut River, 100 m. S. of Montpelier. Machinery and iron castings are manufactured here. This was the earliest settled place in the State. *Pop.* (1890), 6,862.
—In the above township, *B.* (EAST VILLAGE), a flourishing post-village of Brattleboro' township, Windham co., at the mouth of Whetstone Creek, adjoining the Connecticut River, 110 m. S. of Montpelier, and 70 E. by N. of Albany.
—*B.* (WEST VILLAGE), a post-village situate on Whetstone Creek, 2 m. W. of the East Village, and 110 S. of Montpelier.

Brat'tleville, in *Illinois*, a village of McDonough co.

Bratton, in *Pennsylvania*, a township of Mifflin co.

Brat'ton's Mills, in *Kentucky*, a P. O. of Bracken co.

Braun'ite, *n.* (*Min.*) A native sesquioxide of manganese, composed, when pure, of 69·68 per cent. of manganese and 30·32 oxygen.

Braunsberg, (*browns'bairg,*) a town of Prussia, prov. E. Prussia, on the Passarge, about 3 m. above where it falls into the Frische Haff. It is well-built and prosperous, deriving its chief claim to notice from its seminary, the *Lyceum Hosianum*, for the education of Catholic clergymen. It is so called from its having been founded and endowed by the learned Stanislaus Hosius, bishop of Enneland. *Pop.* 11,180.

Bra'va, an island of Africa, in the Capo Verd Archipelago, 7 m. long and 6 broad; Lat. 14° 19′ N., Lon. 24° 45′ W.; *pop.* about 5,000.

Bravado, (*bra-vā'dō,*) *n.* [Sp. *bravada*, from *bravo*, brave.] A boast or brag; an arrogant menace.

"Spain, to make good the *bravado*,
Names it the invincible Armado." — *Earl of Dorset.*

Brave, *a.* [Dan. *brav;* Du. *braaf;* Swed. *braf;* Lat. *probus*, good; Icel. *braf;* Ger. *brav*, excellent; Goth. *brahv*, the twinkling of an eye; allied to *brag.*] Displaying power, conrage, or daring ostentatiously yet readily; daring; bold; gallant; dauntless; heroic; fearless; as, a *brave* hero.

"None but the *brave* deserves the fair." — *Dryden.*

—Good; excellent: grand; lofty; gallant; dignified; showy; as, *brave* apparel.

"Tell how Horatius kept the bridge,
In the *brave* days of old." — *Macaulay.*

—*n.* Literally, a blusterer, a bully; whence, a man daring beyond discretion or decency; as, an Indian *brave.*

"Morat 's too insolent, too much a *brave*,
His courage to his envy is a slave." — *Dryden.*

—*v. a.* To set boastfully at defiance; to challenge; to encounter with courage and fortitude.

"The ills of love, not those of fate, I fear;
These I can *brave*, but those I cannot bear." — *Dryden.*

Brave'ly, *adv.* Conrageously; gallantly; heroically.

"Your valour *bravely* did th' assault sustain." — *Dryden.*

—Convalescent; recovered from illness; as, he 's getting on *bravely*.

Brave'ness, *n.* Same as Bravery, *q. v.*

Brav'ery, *n.* Conrage; heroism; valor; dauntlessness; intrepidity; as, the battle was won by sheer *bravery.*

"Juha, to all the *bravery* of a hero, adds softest love, and more than female sweetness." — *Addison.*

—Fine dress: showy appearance; magnificence.

"Where all the *bravery* that eye may see,
And all the happiness that heart desire,
Is to be found." — *Spenser.*

—Bravado; boastiug; ostentatious defiance. (o.)

"There are those that make it a point of *bravery*, to hid defiance to the oracles of divine revelatiou." — *L'Estrange.*

Brav'ing, *n.* An act of bravado.

Brav'ingly, *adv.* In a defiant, blustering manner.

Bravo, *n.*; *pl.* Bravi, (*brā'vo.*) A name given in Italy to a certain class of individuals who engage themselves for money to perform the most hazardous enterprises, frequently murder.

Bravo, (*brah'vō.*) *interj.* [It. and Sp.] An exclamation of applause, signifying well done! bravely! It is used in English without regard to gender or number, but the Italians use *brava* for the feminine, and *bravi* for the plural; the superlative is *bravissimo.*

Bravo-Murill'o, Don Juan, an eminent Spanish statesman, b. 1803. Early in life, he selected the bar as his profession. In 1825, he entered the college of Advocates at Seville, and showed great devotion to the monarchy. When the Progressistas came into power, he went to Madrid, and formed a law magazine, the *Boletin de Jurisprudencia.* In 1836, he became Secretary to the Department of Justice under Señor Isturdz. After the flight of the Queen-Mother, Maria-Christina, in October, 1840, *B. M.* was compromised in a conspiracy against the regency of General Espartero (*q. v.*), and took refuge first in the Basque provinces, and then in France, where he remained until 1843. In 1847 he became Minister of Trade and Public Instruction, and, in 1849-50, of Finance. In 1851, he formed a cabinet, with himself as premier, but, in 1853, it was superseded by that of General Lersundi. The oppressive measures adopted by *B. M.* and his successors led to the revolution of 1854, and the attainment to power of Marshals Espartero and O'Donnell. He has since filled important diplomatic posts, but since the abdication, in 1868, of Queen Isabella, he has not held any public position, being in antagonism to the govt. presided over by Marshal Serrano, (1869.) D. 1873.

Bravura, (*bra-voo'ra.*) *n.* [It., bravery, spirit] (*Mus.*) A term generally applied to a song of considerable spirit and execution; but sometimes it is also applied to the performance of such a song.

Brawl, (*bral,*) *v. i.* [Fr. *brailler*, from Alem. *bra'len*, to cry: W. *bragal*, to vociferate.] To quarrel indecently and noisily.

"How now? Sir John! what, are you *brawling* here?" — *Shaks.*

—To wrangle; to squabble: to rail.

"Loquacious, *brawling*, ever in the wrong." — *Dryden.*

—To roar, or make a loud noise, as water.

"Upon the brook that *brawls* along the wood." — *Shaks.*

—*n.* A noisy quarrel; a squabble; scurrility; uproar.

"But with thy *brawls* thou hast disturb'd our sport." — *Shaks.*

—An ancient kind of contre-dance, somewhat resembling the modern cotillon. (Sometimes written *bransle.*)

Brawl'er, *n.* One who brawls; a noisy fellow; a wrangler.

"An advocate may incur censure for being a *brawler* in court."
Aulliffe.

Brawl'ing, *n.* The act of quarrelling; wrangling.

Brawl'ing, *a.* Quarrelling; noisy; quarrelsome.

"It is better to dwell in a corner of the house-top, than with a *brawling* woman in a wide house." — *Prov.* xxi. 9.

Brawl'ingly, *adv.* In a wrangling or quarrelsome manner.

Brawn, (*bran,*) *n.* [A. S. *bâr*, a boar, pl. *bâren*, pronounced *bawren*, whence by transposition *brawn.*] The flesh of a boar; also the prepared and salted flesh of the wild boar or domestic hog, generally made from the head, cheeks, tongue, ears, &c.; a *mayonnaise* of pork. The cities of Cambridge and Canterbury, in England, are celebrated for this delicacy.

"The best age for the boar is from two to five years, at which time it is best to . . . fell him for *brawn.*" — *Mortimer.*

—The fleshy, muscular part of the body; bulk; muscular strength or power.

"But most their looks on the black monarch bend,
His rising muscles and his *brawn* commend." — *Dryden.*

Brawn'er, *n.* A boar killed for the table.

"Then if you would send up the *brawner* head,
Sweet rosemary and bays around it spread." — *King.*

Brawn'iness, *n.* Strength; muscular power; hardiness.

"This *brawniness* and insensibility of mind is the best armor against the common evils and accidents of life." — *Locke.*

Brawn'y, *a.* Muscular; fleshy; stroug; bulky; as, a *brawny* giant.

"The *brawny* fool, who did his vigour boast,
In that presumiug confidence was lost." — *Dryden.*

Brax'ton, in *Virginia*, an unimportant village of Warwick co., located about 17 m. N.N.W. of Newport News. Its post-office is Leehall.

Brax'ton, in *West Virginia*, a central co., having an area of 565 sq. m., and watered by the Elk, Little Kanawha, and Holly rivers, and Birch creek. *Surface.* Mountainous and heavily wooded. *Soil.* For the most part fertile. *Products*, corn, wheat, oats, hay, live stock, lumber, &c. *Min.* Coal, iron, salt. *Cap.* Sutton. *Pop.* (1898) 15,100.

Brax'y, *n.* A disease in sheep, caused apparently by constipation. It is called *braxes* and *bracks.*

—*a.* Infected with the braxy.

Bray, *v. a.* [A. S. *bracan*, to break.] To break into small pieces; to triturate; to pound, beat, or grind small.

"I'll burst him; I will *bray*
His bones as in a mortar." — *Chapman.*

—*v. i.* [Fr. *braire*, from Lat. *rugire*, to roar; Gr. *brachō*, *bruchō;* Icel. *brak*, crash, noises.] To roar; to make a harsh, dissouant sound, as an ass.

"Laugh, and they
Return it louder than an ass can *bray.*" — *Dryden.*

—To make a harsh, grating noise or sound.

"Arms on armour *bray'd*
Horrible discord." — *Milton.*

—*n.* The harsh souud or roar of an ass; any grating or offeusive sound.

"Boist'rous untun'd drums,
Aud harsh resounding trumpets dreadful *bray.*" — *Shaks.*

Bray, *n.* [O. Eng. *braye.*] Same as Brae, *q. v.*

Bray, a maritime town, and fashiouable sea-bathing resort of Ireland, co. Wicklow, 12 m. S.S.E. of Dublin. It is a beautifully situated and well-built place. *Manf.* Woollens and linens. *Pop.* about 4,000.

Bray'er, *n.* One who brays like an ass.

"Sound forth, my *brayers!* and the welkin rend." — *Pope.*

(*Printing.*) An instrumeut used to temper ink in a printing-office.

Bray'era, *n.* (*Bot.*) A gen. of plants, ord. *Rosaceæ.* The only species, *B. anthelmintica*, is a tree with pinnated leaves, and dicœcious flowers, found in Abyssinia.

Bray Head, a promontory on the E. coast of Ireland, 2 m. S.W. of Bray, having an elevation of 807 feet above the sea.

Bray'ing, *n.* The noise given forth by an ass.

—Noise: clamor; discordance.

Bray'ing, *p. a.* Pounding or grinding small. — Making the noise of an ass; roaring.

Brayle, *n.* See Brail.

Braze, *v. a.* [Fr. *braser.*] To give the color of brass to; to solder with brass or an alloy of brass and zinc; as, to *braze* a kettle.

—To cover or decorate with brass.

—To harden to impudence.

"If damned enstom hath not *braz'd* it so,
That it is proof and bulwark against sense." — *Shaks.*

Brazen, (*brāz'n,*) *a.* Made of brass; pertaining to brass; as, a *brazen* lamp.

"A borgh his *brazen* helmet did sustain;
His heavier arms lay scattered on the plain." — *Dryden.*

—Impudent; having a front like brass; as, a *brazen* assertion.

Braz'en, *v. i.* To be impudent; to bully.

"When I reprimanded him for his tricks, he would talk saucily, lie, and *brazen* it out as if he had done nothing amiss." *Arbuthnot.*

Braz'en Age, *n.* (*Myth.*) The age which succeeded the Silver Age, when man had degenerated from their primitive simplicity.

Braz'en-browed, (*braz'n-broud,*) *a.* Without shame; impudent.

Braz'en-dish, *n.* (*Mining.*) The standard by which other dishes are gauged.

Braz'en-faced, *a.* One who acts with effrontery; a shameless person.

"Well said, *brazen-face;* hold it out." — *Shaks.*

Braz'en-face, *n.* Impudent; bold to excess; shameless; as, a *brazen-faced* hussy.

"What a *brazen-faced* varlet art thou, to deny thou knowest me?" — *Shaks.*

Braz'enly, *adv.* In a bold, shameless manner.

Braz'en-sea. (*Scrip.*) A curiously carved vessel constructed by Solomon, and set in the temple. It appears to have been an enlargement upon the original laver of brass, which Moses constructed for the tabernacle, and to have been designed to serve only a part of the uses assigned to the most ancient vessel.

Braz'en-serpent, *n.* (*Scrip.*) An image in brass prepared by Moses, resembling the fiery serpent so destructive to Israel in the desert, and set up in the midst of the camp in the view of all, that whosoever would evince penitence, faith, or obedience by looking at it, might live. (*Num.* xxi. 6–9.)

Brazil (United States of), a Republic of S. Am., and one of the largest states of the world—exceeded only, in its extent of territory by the United States, China, and Russia—stretches along two-thirds of that continent, while its superficial area occupies nearly half of South America. It lies between 4° 30′ N. and 32° 35′ S. Lat. and 35° and 70° W. Lon. Length, from N. to S., between 2,600 and 2,700 m.; breadth, from E. to W., between 2,000 and 2,550 m. *B.* is bonuded S. by the Atlantic Ocean and Uruguay; on E. by the Atlantic Ocean; N. by the same, French, Dutch, and British Guiana, and the republic of Veuezuela: and W. by the republics of Colombia, Ecuador, Peru, Bolivia, Paraguay, and Argentine. A large proportion of this area consists of elevated plateaus and mountains, and the extent of cultivated land bears but a very small proportion to that of the whole country. There are two extensive plateau regions, known respectively as the Brazilian and the Guiana plateaus, and two regions of depression, the Amazonian, which is from 50 to 150 miles wide, and the Paraguyan, a vast swampy plain, some 250 miles wide and only 400 feet above sea-level, through which the upper Paraguay flows. The iuterior of Brazil contaius one of the great forests of the world, a dense growth of tropical trees covering the damp and warm Amazoniau depression and following the course of long affluents. There is a second large forest region on the upper Paraná, and a third along the coast range. The plateaus are largely open country, while the swamps of the Paraguay are generally covered with a rank growth of grass.—Brazil under the empire was divided into twenty provinces: Minas Geraes, Rio de Janeiro, Bahia, Pernambuco, São Paulo, Ceará, Maranhão, Parahyba, Pará, Rio Grande do Sul, Rio Grande do Norte, Sergipe del Rey, Goyaz, Pianhy, Santa Catharina, Matto Grosso, Paraña, Espiritua Santo, Amazonas, and Alagoas. On the abolition of the empire, and the establishment of a federal republic on the model of the U. S. of America, the former provinces became states, with representation similar to that of the States of our own Union. The population by a late estimate is over 14,000,000, though this is probably too large. The area is officially given as 3,209,878 sq. m., but this includes large tracts which are claimed by Veneznela, Colombia, and Bolivia. Of the population, over one-third is classed as white, but a considerable number of these are of mixed Negro and Indian blood. One-fifth the population are Negroes, as many more are mulattoes; about 400,000 are civilized Indians, and there are perhaps 250,000 wild Indians. General Desc. The form of *B.* may be said almost to resemble that of a heart, of which the greatest diameter, from E. to W., in a straight line from Olinda to the territories claimed by Peru, may be about 30 degrees. The E. side of this country is traversed, from N. to S., at more or less distance from the coast, by a mountaiuous range, of which the average height is about 3,000 feet, known by the name of *Serra do Mar*, its greatest altitude being 4,000 feet. This range serves to divide the coast land from the high land, consisting of *campos*, or tracts destitute of wood, the average height of which is about 2,500 feet. It gradually becomes lower in the direction of Paraguay, until it is lost in the low and generally marshy plains inhabited by the Indian tribe of Guaycuras. Many geographers have fallen into the error of supposing that the prov. of Matto Grosso contains the highest mountains, and that they form a junction with the Cordilleras of Peru and Chili. But Eschwege, who resided in this country for 10 years, during which period he visited the greater part of it, confutes this supposition in his *Brazilien die neue Welt.* He observes that broad and fertile plains lie between, and that the sources of the Madeira, which flows in a N. direction toward the Amazon, and of the Paraguay, are both within a few miles of each other, and that their elevation is inconsiderable. *Mountains, &c.* The highest range of the Brazilian mountains is that which traverses the centre of the country, and its greatest altitude is about 6,000 feet. The mountains of this empire may be divided into three different ranges: 1. The Coast range, or *Serra do Mar*, above mentioned. This is by far the most picturesque of the Brazilian chains, and in some parts approaches within 16 or 18 miles of the sea, while in others it sweeps inward to a distance of from 120 to 140 m. At a distance, and in the vicinity of the mountains, are found ancient forests (*matto virgem*), whose giant trees, and countless plants and shrubs of luxuriant growth, so thickly woven as almost to defy the attempts of man to force a passage, sufficiently attest the excellence of the soil in which they grow. On crossing the Serra do Mar, we meet with a barren table-land called *Campos Geraes*, with few traces of cultivation. In the valleys gold and diamonds are frequently found. The Serra do Mar chain commences in the Campos do Vacaria, sinks abruptly in the direction of the Rio Doce, and loses itself completely at Bahia. The celebrated Monte Pascoal, which was seen by the early navigators, forms a part of the Serra do Mar. It is known by various names in the districts through which it runs. On the E. side it is styled *Serra dos Aymores*; while in the

neighborhood of Rio it is called *Serra dos Orgoës* (Organ Mountains). It is worthy of remark that the plants growing in the Campos are altogether distinct from those on the other side the Serra do Mar; and the zoölogist may discover quite a new race of animals, as well as birds, in this region. 2. The central chain, called in some parts *Serra do Mantequeira*, and in others, *Serra do Espinhaco*, is more extensive than the former, and com-

Fig 409.—ROAD FROM PETROPOLIS TO BARBACENA.

prises the highest points in *B.*, viz., the *Itacolumi*, near Villa Rica; the *Serra do Caraassa*, near Caltas Altas; and the *Itambé*, near Villa do Principe. This range traverses the province of Minas Geraes, running in its N. course, through Bahia and Pernambuco, and in its S. course, through São Paulo and Rio Grande. It is not only remarkable as comprising the highest points in the empire, but is highly interesting in a geographical, botanical, and zoölogical point of view. In different parts it bears the various local designations of *Serra do Lopo*, *Serra Sallado*, *Serra do São Geraldo*, *Serra dos Esmeraldas*, and many others. 3. The *Serra dos Vertentes* ("Water-separating Mountain"), so called because it divides the E. tributaries of the rivers Amazon and La Plata from the river São Francisco. This chain is sometimes called the *Brazilian Pyrenees*. Its loftiest points are those of Serra do Canastra and Matto Gorda, where, on one side the Rio São Francisco, and on the other the most important tributaries of the Rio Grande, take their rise, and the Pyrineos, in the prov. of Goyaz, where the tributaries of the Paraña are found. Exclusive of its hilly and mountainous districts, and of its table-lands, the plains of *B.* are of vast extent; the prov. of Pará, including a portion of the contiguous prov. of Matto-Grosso, comprises, in fact, the whole of the lower and more level portion of the immense plain of the Amazon. During the inundations, large tracts of this plain are submerged. It is mostly covered by vast primeval forests. There are also some very extensive plains in Naranhão and other parts of the empire. That which includes the Lagoa dos Platos extends for above 220 m. along the coast.—*Rivers, &c.* The harbors of *B.* are among the finest in the world; and some of these are connected with the interior by large rivers, navigable for a great way inland. The principal of these streams is the Amazon, generally considered the largest river in the world. Of the other rivers, the chief are the Tocantins, or Pará, an immense stream formed by the junction of the Araguay (the principal branch), and Tocantins (properly so called). The Rio São Francisco, which rises in the S. part of the prov. of Minas Geraes, traverses the centre of the empire, and receives many tributaries. The Rio Grande do Sul ("Great River of the South"), the Paraña, the Parahyba, Itapicuru, Doce, and many others. Many of them, more especially the Marañon, periodically overflow their banks, and inundate a large surface of country. The lake, or rather *lagoon*, Lagoa dos Patos, in the prov. of Rio Grande do Sul, is the most extensive in *B.*, spreading over a distance in length of above 145 m., and having a partial breadth of 40 m. It is navigable for vessels of considerable burden.—*Soil.* The soil of this great country is of various descriptions. It is of great fertility in some parts, but by no means throughout, and the oft repeated story of the superabundant wealth of the soil in every part of the empire is decidedly erroneous. The same causes, in fact, (as drought, malaria, epidemics, red ants, &c.,) which hindered the foundation in *B.* of a civilization analogous to that which was established in Mexico, Central America, and Peru, ages before the discovery of this continent by Europeans, are still in action to-day, and in undiminished force. Notwithstanding, it would be impossible to overrate the extraordinary fertility of those vast tracts of land of which Pará is the capital in the N., and Rio de Janeiro in the S. All the operations of nature proceed here on the grandest scale. Swarms of insect life dispute with the laborer the possession of his field. Droughts are frequent and long-continuing. Floods in winter commit mischievous depredations. Latterly, epidemics have swept off large numbers of the inhabitants. All these things naturally conspire to check the efforts of the cultivator, and the doubt is suggested to the mind of an observer whether any real progress is actually being made.—(*Clim.*) In the northern parts, and in the neighborhood of the Amazons, great heat prevails; in the higher parts, and towards the south, the climate is more temperate, and even cold, the thermometer falling as low as 40°. The climate in the vicinity of São Paulo is usually accounted the most agreeable, and the temperature permits the growth of European fruits. The W. wind in the interior is unwholesome, as it passes over vast marshy tracts of forest. The sea-coast, from Para to Olinda, appears to possess a similar climate to Guiana. Notwithstanding the position of *B.* between the equator and the tropics, the air, owing to the height of the greater portion of the country, is in general temperate, rather than hot. Pernambuco, and a few of the other provinces suffer occasionally from drought, to which, however, the coast lands are seldom subject. M. Von Langsdorff, formerly Russian consul-general at Rio, summed up the salient peculiarities of this climate, thus:—"Winter in this country resembles summer in the N. of Europe; summer appears one continuous spring; while spring and autumn are unconsciously lost in winter and summer." (*Min.*) The most celebrated of the mineral productions of *B.* are diamonds. Those found in the prov. of Minas Geraes are generally the largest, and the most celebrated mines are those of Serra do Frio. Eschwege estimates the annual yield of these gems at an average of 15,000 carats, and an assessed value of $17,577,675. Gold is found in several localities, but the most celebrated mine is that of Congo Soco, which was disposed of, in 1825, to a body of Englishmen, known as the *Anglo-Brazilian Mining Co.*, (*Limited.*) The actual produce of the entire gold and silver mines of *B.* (including washings) is not believed to exceed more than $1,000,000 annually. Iron ore is abundantly found, as, also, rock-salt, saltpetre, alum, platina, copper, and some varieties of precious stone, more particularly, topazes. *Veget.* Among the vegetable products of *B.* must be classed sugar, coffee, cocoa, rice, tobacco, maize, wheat, mandioc, ginger, yams, sarsaparilla, and many varieties of tropical fruits. Of these, the most important, in a commercial sense, are sugar, coffee, and cotton, which are now, in point of fact, the staple produce of the empire, and the culture of which is being increased with almost unexampled rapidity. Sugar is principally raised in the prov. of Bahia, the soil of which is admirably suited to its growth; but it is also extensively produced in some of the other provinces. The culture of cotton is of more recent growth, and its extension owing in great part to the American civil war. Coffee is principally grown in the neighborhood of Rio the capital, and tobacco in the islands in the bay of that city; it is, however, inferior in quality to that of the U. States. Rice is largely cultivated, and is exported; but the principal dependence of the population is on the mandioc, manioc, or cassava (*Jatropha Manihot*), regarded by the Indians as a bequest from their prophet Sumé. It is found on every table in *B.*, and supplies a great number of excellent dishes. Notwithstanding her fertility and extent, *B.* is indebted to foreign countries, and especially to the U. States, for large supplies of wheat-flour. This has been said to be a consequence of the unsuitableness of the soil for the culture of wheat: but this does not really appear to be the case, that species of grain being found to flourish extremely well in the S. provinces, and on the table-lands of the interior. The importation of flour is rather a consequence of the indolence of the natives. The prov. of Pará is peculiarly fitted for the production of rice, and might supply it in any quantity. The culture of the tea-plant has been tried in *B.*, and the soil and climate have been found favorable to its growth; but its culture has not made, and could not rationally be expected to make much progress, inasmuch as it can only be successfully carried on where labor is abundant and cheap: whereas, it is here both scarce and dear. The forests of *B.*, which are of vast extent, and teeming luxuriance, furnish almost every variety of useful and ornamental wood; their products being adapted alike to ship-building, carpenter's and cabinet-work, dyeing, &c. The cocoa-tree is plentiful in the sandy soils along the coast. It is thicker and taller than in the E. Indies: cocoa is in general use among all ranks, and forms one of the chief articles of the internal trade, and also supplies a considerable quantity for export. The *carassato*, or castor-tree, is indigenous, and much cultivated for the sake of the oil extracted from its seed, in general use for lamps, and other purposes. The *jacarandu*, or rose-wood, is peculiarly valuable for cabinet-work, and is extensively exported. One of the most important woods, the *Cæsalpinia Braziletto*, or Brazil-wood (called *Ibiripitanga* by the natives), is found in the greatest abundance, and of the best quality, in the prov. of Pernambuco: but being a government monopoly, it has been cut down in so improvident a manner, that it is now seldom seen within several leagues of the coast. There are also cedars, logwood, and mahogany. The forests of *B.*, particularly those in the prov. of Pará, along the Amazon, yield vast quantities of *caoutchouc* or india-rubber, which is nearly all exported. *Zoöl.* The forests are full of rapacious animals, as the tiger-cat, the hyena, the zaratu, the jaguar (or S. American tiger), the sloth, and the porcupine; wild hogs, and the tapir are common: the latter is an animal resembling a hog, but of larger size, and its flesh differs but little from ox-beef. The useful animals, as the horse, ox, and sheep, are all descended from the stocks brought from Europe by the early settlers. Their increase, especially that of cattle and horses, has been astonishingly great. Vast herds of wild cattle roam about the open parts of the country, particularly in the *llanos*, or plains of the S. provinces. Hides, tallow, *charqui* (jerked beef), horns, and bones, form an important feature in the exports of this empire. The horses are of medium size, but strong, active, and swift. The *emu*, or American ostrich, is found in the Brazilian plains, and the forests swarm with countless varieties of birds and monkeys. In the marshy districts the boa-constrictor attains to an enormous size, and they are also infested with the coral-snake, and other venomous reptiles. *Inhab.* Speaking generally, the natives of *B.* are of a bright yellow copper color, short, robust and well-made; hair, black, lank, coarse, and deficient on the chin; face round; cheek-bones not remarkably prominent; skin soft and shining; nose short, and nostrils narrow; mouth middle-sized; lips thin; eyes small oblique, and elevated towards the exterior angle. They are in an extremely low state of civilization, are polygamous, grave and serious in deportment, averse to labor, and (like all other Indians) fond to excess of spirituous liquors. The principal tribes are the Tupinambas, Corvados, Puris, and Botocudos. The *Brazileiros*, or native Brazilians, born of Portuguese parents in Brazil, inherit all the idleness and inactivity of their European progenitors, and are prone to indulge in a kind of easy locomotion called the *Rede*, (*Fig.* 410,) a species of hammock, more particularly in use in the province of Maranhão and Pará. The population of this country is made up of an agglomeration of many races. While *B.* remained a colony of Portugal, but few women accompanied the emigrants to S. America. The earliest European settlers intermarried and mixed with Indian women; afterwards an extensive intermixture of race occurred with the Africans who were bought for slavery. The mixed population increases continually and rapidly. In S. Brazil the negroes are numerous. In the N. provinces the Indian element prepouderates. The greater part of the population probably consists of mixed breeds, each of which has a distinguishing name, thus: *Mulatto* denotes the offspring of a white with a negro, and *Mameluco* that of a white with an Indian; *Cafuzo*, the mixture of the Indian and negro: *Curiboco*, the cross between the Cafuzo and the Indian; and *Xibaro*, that between the Cafuzo and the negro. Before the suppression of slavery *B.* had about 1,700,000 negro slaves, who belonged to about 40,000 proprietors, these negroes having generally been brought from Angola, Anguiz, Congo, Benguela, and Mozambique. In 1854 the emperor sanctioned a law for the suppression of the slave trade, which was followed by a movement looking to the gradual extinguishment of slavery, the Zacharias ministry advocating that all blacks born after a certain date should be free, and thus slavery became extinct with the passing away of the then existing generation. This measure, however, was vigorously combatted by the conservative party, which came into power in 1868, and opposed all plans for the freeing of slaves. Yet the abolition of slavery in the U. S. had its influence, the Brazilians not relishing the stigma of being the only slave-holding people in America, and in 1871 a law was passed for the gradual emancipation of the slaves. The slow operation of this law was not satisfactory to the people, among whom a strong anti-slavery sentiment had arisen, and the final abolishment of the institution arose from a remarkable popular movement, not less than 200,000 slaves being freed by private means, while two provinces took the initiative of emancipating their slaves. On May 13, 1888, a bill for the immediate abolishment of slavery was brought before parliament and passed by an almost unanimous vote, thus bringing to an end the institution of slavery on the western continent.—The Brazilians divide the Indians into *Indios mansos*, civilized or converted tribes speaking the Portuguese language, and *Tapinos* or *Gentios*, uncivilized hordes. The latter largely make the forests of the Amazon region their home, and are very primitive in their habits and modes of life.—*Principal Towns.* Rio de Janeiro, the capital, has an estimated population of 350,000; Pernambuco, 190,000; Bahia, 80,000; Pará, 50,000; and several others of over 35,000 each. The whites are mainly Portuguese in origin; in the south there are several hundred thousands of German colonists.—*Government.* Brazil, formerly an empire, has been since 1889, a federal republic, its government closely resembling our own in organization. The president and

Fig. 410.—A REDE OR HAMMOCK. (*Para.*)

vice-president are elected for a term of four years, but cannot be re-elected for the term immediately succeeding. Senators are elected for nine years, and deputies —members of the lower house—for three years. The

Fig. 411.—PERNAMBUCO HARBOR IN 1750.

powers of the general government are restricted to national subjects, the state being free to control their internal administration. Suffrage is practically universal. By the constitution of the new republic freedom of religious worship is guaranteed, though Roman Catholicism is the prevailing form of faith.—*Com. and Manuf.* Manufactures in *B.* are not in a very advanced condition. Sugar refining is carried on extensively, particularly in the great cane-growing prov. of Bahia and Pernambuco, where there are numbers of *engenhos* established on a grand scale, with the best modern machinery for water or steam power. Three kinds of rum are manufactured, the best of which, called *restilo*, though inferior to the West India rum, is annually exported to the extent of 6,500,000 gallons. Beer breweries, of comparatively recent establishment, are in successful operation in Rio de Janeiro, Petropolis, Rio Grande do Sul, and Pernambuco, &c., but the full development of this industry is seriously impeded by the necessity of importing from Europe the barley and hops, which might be raised in abundance in the Northern provinces. Tobacco is manufactured on a large scale in some places, chiefly in Bahia and Rio de Janeiro. Large quantities of cigars of a common class (*charutos*) are manufactured in Bahia, and in some towns and districts of that prov. the saw-mills turn out from 7,000 to 8,000 cigar boxes a day. About 65,000,000 charutos are yearly exported from Bahia, valued at $500.000. A number of cotton-weaving factories have been established, and compete favorably with foreign manufactures in the production of the coarse fabrics. Common and wall papers are manufactured; also, soap, chemicals, braids, ribbons, bronzes, &c. The prov. of San Paulo has some large iron works. In the large cities there are gold and silver smiths and jewelers; but these and the artizans of the various other mechanical branches are mainly foreigners. The average value of yearly exports is about $125,000,000; of imports, $100,000,000. The chief article of export is coffee, which supplies more than half of the consumption of the world. Among the other products sent in large quantities to foreign countries are cotton, sugar, cocoa, hides, horns, tobacco, india rubber, diamonds, &c. The principal imports are cotton and woollen fabrics from Great Britain; wrought and unwrought iron from various countries; wines from Portugal, Spain and France; agricultural implements, hardware, lard, flour, timber (pine), petroleum, biscuits, coal, ice, hams, soap, boots and shoes, &c., from the U. States.—*Money.* The coinage consists of gold pieces (of 20 and 30 milreas), the value of the milrea being about 68c., but gold and silver coins have almost disappeared in recent years, and the only circulating medium is an unconvertible and depreciated currency of a milrea and upwards.—*Finances.* The revenue of *B.*, of which more than one-half comes from custom duties, is about $60,000,000. For more than 50 years there have been very few in which the revenue exceeded the expenditures. The public debt, foreign and internal, is $363,-615,000, besides which there is nearly $100,000,000 of paper currency. There are in all over 6,000 m. of railway and 10,000 m. of telegraph lines, with steam navigation on all the large rivers, and several lines of coasting steamers. Of the railways, the most complete are those laid in the coffee-raising districts of São Paulo, Minas, and Rio, on a large portion of which the government guaranteed the payment of interest on the outlay. Few of the roads have profitable investments, and as yet they are a heavy financial burden. Good highways are rare, being found only near the coast. A submarine electric cable connects *B.* with Europe, and one to the U. S. is projected.—*Hist.* It is believed that the first discovery of *B.* was made Jan. 26, 1500, by the Spaniards under Vincento Yanez Piuçon, one of the companions of Columbus. In the same year, Pedro Alvarez Cabral was appointed admiral of a large fleet sent out by Emanuel, King of Portugal, to follow up the successful voyage of Vasco de Gama in the E.; and he took possession of the country for the Portuguese crown, giving it the appellation of *Tierra de Santa Cruz.* In 1508, Amerigo (or Americus) Vespucci attempted a settlement in this country, which, however, proved futile. In 1515, another navigator, Juan Diaz de Solis, discovered the harbor of Rio de Janeiro, and made other explorations. Other expeditions followed, and the Brazilian ports were successively taken by the French, Dutch, and English. The Dutch held their ground until, after a long and desperate struggle, they were dispossessed by the Portuguese, in 1640. Henceforward the country belonged to Portugal. In 1808 a new era began in *B.* The prince-regent of Portugal, John VI., being obliged to vacate his country by the success of the French arms, was declared, in 1822, emperor of *B.* In 1825, the independence of the Brazilian empire was recognized by Portugal, and, in 1831, the emperor abdicated in favor of his son Dom Pedro II. (the recent emperor) and retired to Portugal. In 1843 the Prince de Joinville, Louis Philippe's son, married a sister of Dom Pedro II. In 1858, the first railroad in *B.* (from Rio to Belem) was opened. In Aug., 1864, in consequence of repeated outrages, *B.* sent an ultimatum to Uruguay, which, being rejected, led to a brief war, (see URUGUAY); and, on the 12th Oct. of the same year, the seizure of the Brazilian postal steamer *Marquez d' Olinda* led to a war with Paraguay; and in May of the following year, (1865,) an alliance was concluded between *B.*, Uruguay, and the Argentine Confederation, against Paraguay. For the events of this war, we refer to ARGENTINE CONFEDERATION, and URUGUAY. After the close of the civil war in the U. States, a number of Southern planters emigrated to *B.* with the intention of there founding a colony, and growing cotton. The Brazilian govt. gave them every facility and encouragement, and granted them lands on the Amazon, but the project eventually proved abortive. In 1869, an attempted agricultural settlement by Englishmen also met with similar results. In 1889 a sudden revolution of citizens and soldiers in favor of a republic broke out, Rio de Janeiro was seized by the revolting troops, and the emperor was forced to abdicate. A provisional government under Gen. Deodoro Fonseca was established, and the deposed emperor put on shipboard and sent to Europe. He made no effort to regain his throne, and died two years afterward. On Feb. 24, 1891, a federal constitution was adopted, Fonseca being chosen as the first president. Revolutionary oppositiou to his administration arising, he was deposed in November of the same year, and succeeded by Floriana Peixoto. The new government followed the course of the South American governments in general, a vigorous revolutionary outbreak taking place in 1893–94, in which several states took part. The great strength of this movement lay in the possession of the navy by the revolutionists, the ships being commanded at first by Admiral Mello, and later by Admiral di Gama, who held the harbor of Rio de Janeiro for several months, bombarding the city and attacking its fortifications. The government held out however, and in March, 1894, the movement collapsed. It was during this outbreak that the new navy of the U. S. fired its first hostile shot, this being a rifle-ball from a cruiser of the White Squadron, under Rear-Admiral Benham, discharged as a warning to di Gama to refrain from shelling a position on the wharves where lay some merchant vessels carrying the Stars and Stripes. A new president, Prudente Moraes, was elected on Feb. 28, 1894, succeeding Peixoto, and under his administration the country has continued peaceful, with the exception of an occasional local revolt like that of March, 1897.

Brazil'-nut, *n.* See BERTHOLLETIA.

Brazil'-tea, *n.* See MATE.

Brazil'-wood, *n.* A wood used for the preparation of a red dye, imported from S. America and the West Indies, where it is produced by several species of the genus CÆSALPINIA, *q. v.*

Braz'ing, *n.* (*Metal.*) The act of joining together two pieces of metal by means of brass solder melted between them. The best description of solder is made of 9 parts of brass to one of tin; hard solder is made of 2 parts of common brass, ⅔ of a part of zinc, and ⅓ of a part of tin. The solder for the precious metals is made of 66 parts of silver to 33 parts of common brass.

Brazito, (*brā-zee'to.*) in *Missouri*, a post-office of Cole co.

Brazitos, (*bra-zēē'tos,*) a district of Mexico, in the State of Chihuahua, S. of El Paso.

Brazo'ria, in *Texas*, a S.E. county, impinging on the Gulf of Mexico. *Area*, 1,330 sq. m. It is drained by the Brazos and San Bernard rivers. *Surface*, flat. *Soil*, tolerably fertile, more particularly so in the river bottoms. *Cap.* Brazoria.

—A post-village, cap. of above co., on the W. side of Brazos River, 30 m. from its embouchure, and 60 W. by S. of Galveston.

Brazos, (*brah'zos,*) in *Texas*, one of the largest rivers in the State, rises in the N.W. of T., and stretching E. into Knox co., empties into the Mexican Gulf, 30 m. S.W. of Galveston, after a flow of between 900 and 1000 miles. It is navigable for steamboats for 300 m. up.

—An E. central county, with an area of 585 sq. m., bounded S.W. by the Brazos River, and E. by the Navasoto. *Surface*, rolling. *Soil*, generally fertile. *Cap.* Bryan. *Pop.* (1898) 18,490.

Bra'zos, Santiago, (*san-te-ah'go,*) in *Texas*, a post-town and sea-port of Cameron co., on the Gulf of Mexico, 35 m. E.N.E. of Brownsville.

Brazza, (*brat'sa,*) an island in the Adriatic, belonging to Austria, opposite to Spalatro, in Dalmatia. *Ext.* about 30 m. long, and from 6 to 9 broad. *Area*, 170 sq. m. *Desc.* Mountainous, but producing corn, figs, almonds, oil, saffron, and wine. *Pop.* 15,500.

Breach, (*brēch,*) *n.* [Fr. *brèche*; from Ger. *brechen*, to break, or Celt. *brech*, an opening; A.S. *brice*; Ger. *bruch*, a fracture; Goth. *brikan*, to break.] The act of breaking, or state of being broken.

> "This tempest
> Dashing the garment of this peace, aboded
> The sudden *breach* on't."—*Shaks.*

—A rupture; a break; a gap; an opening; as, a *breach* in a wall.

> "Once more unto the *breach*, dear friends, once more,
> Or close the wall up with our English dead."—*Shaks.*

—Disruption; infraction; infringement; violation; transgression; non-fulfilment; as, a *breach* of trust.

> "It is a custom
> More honor'd in the *breach*, than the observance."—*Shaks.*

—Difference; quarrel; injury; disruption of friendly relations; as, a *breach* between a man and his *mother-in-law.*

> "It would have been long before the jealousies and *breaches* between the armies would have been composed."—*Lord Clarendon.*

(*Mil.*) A gap or opening made in any part of the walls of the besieged place by the cannon or mines of the besiegers.

—*v. a.* To make a breach or opening; as, to *breach* a citadel.

Breach of the Peace. (*Law.*) See SEC. II.

Breach'y, *a.* Apt to break fences; applied to unruly cattle in the S. of England, and in some parts of the U. States.

Bread, (*bred.*) *n.* [A.S. *breod*, probably from *bredan*, to nourish; O. Ger. *brôt*, allied to Gr. *bibrooskō*, to eat.] An important article of food, figuratively called the staff of life, as it is found, of all animal and vegetable substances, to be most necessary to man's physical stamina and health. It is made by baking, in an oven or pan, a mass of dough, composed of the flour of different grains mixed with water. *B.* has been used as food by mankind from the very earliest times. The necessities of man's nature have been the origin of many of our useful arts; and the discovery that grain when moistened and afterwards heated could be made into a palatable, durable, and nutritious food, must have been considered a very important one. This is probably the earliest form in which *B.* was made. The next step would be the pounding of the grain between stones, and the formation of flour; the last step would be the baking of loaves or fermented bread. It is mentioned in the Scriptures that Abraham made unleavened *B.*; and also that, in the time of Moses, leavened *B.* was used, (*Exod.* xii. 15.) The Hebrews had several ways of baking *B.*: they often baked it under the ashes upon the earth, upon round copper or iron plates, or in pans or stoves made on purpose. In common with other Eastern people, they had a kind of oven, (*tannoor,*) which is like a large pitcher, open at top, in which they made a fire. When it was well heated, they mingled flour in water, and this paste they applied to the outside of the pitcher. Such bread is baked in an instant, and is taken off in thin, fine pieces, like our wafers. *B.* was also baked in cavities sunk in the ground, or the floor of the tent, and well lined with compost or cement. As they generally made their *B.* thin, and in the form of flat cakes, or wafers, they did not cut it with a knife, but broke it, which gave rise to that expression so usual in Scripture, of "breaking bread," to signify eating, sitting down to table, taking a repast.—The *Show-bread*, or *B.* of pres-

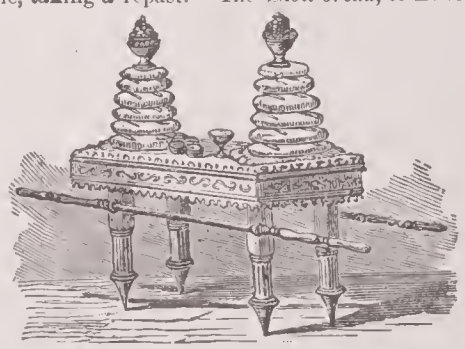


Fig. 412.—THE TABLE OF THE SHOW-BREAD.

ence, was *B.* offered every Sabbath-day to God on the golden table which stood in the holy place,—twelve cakes of unleavened bread, offered with salt and frankincense, (*Lev.* ii. 13; xxiv. 5–9.) The show-bread could be lawfully eaten by none but the priests.—Many substances have from the earliest times been employed to make this needful article, such as wheat, barley, oats, rye, rice, and potatoes; but though wheat-flour yields the largest amount of nutritious principle, it is only of late years that it has become the almost exclusive article for the purpose; barley, both anciently and in later ages, being the most general flour employed. Wheaten *B.* was seldom used but by persons of distinction, or prepared for feasts and ceremonials; barley bread being the common food of the upper classes, and oat and rye bread among the peasantry and poor.—The baking of unleavened *B.* is a very simple matter to understand.—the ordinary sailor's *biscuit* is an example; but the baking of leavened or fermented *B.* is a complicated although common process. Wheaten dough, cleared from the bran or husks of the grain, consists of water, gluten,

starch, sugar, and dextrin. If dough is left by itself in a temperature between 80° and 120°, fermentation slowly takes place. The starch is first converted into sugar, and then into alcohol and carbonic acid; if baked at this period, a light *B.* with an agreeable relish is procured; if, however, the fermentation goes on too long, acetic acid is formed, and a heavy *B.* with a sour taste is the result. In order to procure a more perfect fermentation, a *leaven* is employed. This leaven is either a piece of dough in a fermenting state, or yeast, a substance produced in beer while in the act of fermentation. Yeast is most generally used, as it is quicker and more certain in its action than the leaven of dough. In order to bake a loaf of *B.*, a small quantity of yeast is well kneaded into a mass of dough, and allowed to remain in a moderately warm place. Fermentation begins to take place; and, as the carbonic acid and alcohol are disengaged, they struggle up through the elastic mass, and the loaf begins to "rise." It is then put into the oven, where the increased heat causes the further expansion of the enclosed gas and vapor. The process of fermentation is soon checked by the high temperature, and a light porous *B.* is at last produced. Well-baked *B.* is known by its lightness, and the regularity of the size and distribution of the small cells formed by the carbonic acid gas and alcohol. Home-made *B.* is mostly sweeter, lighter, and more retentive of moisture than baker's *B.* The following process is largely employed in the trade:—Mashed potatoes, water, and patent yeast are mixed together to form a *ferment.* After the quantity of flour required has been put into a trough and mixed with water, not too cold, the *ferment* is added and well stirred with the hands. It is then strained through a sieve, more flour added, and the whole well mixed: after a little flour is sprinkled over the top, the dough is allowed to stand for five or six hours. During this time, the *sponge*, as the dough is called, rises twice. The first rising is allowed to break and fall down; but upon the second rising, just before breaking, a quantity of water is poured into the sponge, together with salt, and sometimes alum. The whole is then well mixed together again, and, after standing for some time, is divided into the necessary sizes and conveyed to the oven. The amount of potatoes added to the flour in this process is very small, the proportion being 8 lbs. of potatoes to every 280 lbs. of flour: but some cheap-bread bakers use a much larger quantity. It is technically called *fruit* in the trade. It is a comparatively harmless adulteration; but the alum, or *stuff*, is a more objectionable addition. By using alum, a much whiter quality of bread is produced; how this bleaching operation is effected is not thoroughly understood. Alum also causes the loaves to break from each other with a much smoother surface than when *B.* is baked without it. Common salt is also used for the same purpose; and on the continent small quantities of sulphate of copper have been used by the bakers. It not only produces a white *B.* from inferior kinds of flour, but adds greatly to the retentive capabilities of *B.* for water. Besides being much adulterated with mashed potatoes, rice flour is often found in *B.* Rice flour absorbs and retains a larger quantity of water. Carbonate of magnesia is also used; it improves the color of the *B.*, and also enables it to absorb more water. In these latter cases the consumer is cheated out of a quantity of nutritious flour, and presented with water in its place. Another class of adulterations is that of certain earthy substances, which are white and tasteless, and only add to the weight of the bread; such as chalk, bone-dust, plaster of Paris, white clay, &c. These are all easily detected by chemical tests. When wheat flour is adulterated with rice flour, barley flour, or any other inferior flour, the adulterations can be discovered readily with the microscope The presence of mineral substances can also be ascertained in the same manner. The different varieties of *B.* are made from the various qualities of wheat flour. Brown *B.* is made from wheat meal, in which the husks have been ground up with the rest of the grain. It is generally considered to be much more nutritious and wholesome than ordinary white bread.—*Aërated Bread.* Under this name, and since some years, loaves are made, in which an aqueous solution of carbonic acid, prepared under great pressure, is mixed with the flour in a proper apparatus, so as to produce a vesicular dough when the pressure is removed. The process is rapid, and prevents such deteriorations of the flour as are said to be attendant on fermentations in the usual way. The theory of *panification* (*B.*-baking) is easy of comprehension. The flour owes its valuable quality to the gluten, which it contains in greater abundance than any other of the *cerealia* (kinds of corn). The other immediate principles which play a part in *panification* are particularly the starch and the sugar; and they all operate as follows:—The diffusion of the flour through the water *hydrates* the starch and dissolves the sugar, the albumen, and some other soluble matters. The kneading of the dough, by completing these reactions through a more intimate union, favors also the fermentation of the sugar, by bringing its particles into close contact with those of the leaven or yeast; and the drawing out and malaxating the dough softens and stratifies it, introducing at the same time oxygen to aid the fermentation. The dough, when distributed and formed into loaves, is kept some time in a gentle warmth, in the folds of the cloth, pans, &c., a circumstance propitious to the development of their volume by fermentation. The dimensions of all the lumps of dough now gradually enlarge, from the disengagement of carbonic acid in the decomposition of the sugar; which gas is imprisoned by the glutinous paste. Were these phenomena to continue too long, the dough would become too vesicular; they must, therefore, be stopped at the proper point of sponginess, by placing the loaf lumps in the oven. Though this causes a sudden expansion of the enclosed gaseous globules, it puts an end to the fermentation, and to their growth, as also evaporates a portion of their water. The richness or nutritive powers of sound flour, and also of *B.*, are proportional to the quantity of gluten they contain. It is of great importance to determine this point, for both of these objects are of enormous value and consumption; and it may be accomplished most easily and exactly by digesting in a water-bath, at a temperature of 167° F., 1,000 grains of *B.* (or flour) with 1,000 grains of bruised barley-malt, in 5,000 grains or in a little more than half a pint of water. When this mixture ceases to take a blue color from iodine (that is, when all the starch is converted into soluble dextrin), the gluten left unchanged may be collected on a filter cloth, washed, dried at a heat of 212°, and weighed. The color, texture, and taste of the gluten ought also to be examined, in forming a judgment of good flour, or *B.*—See GLUTEN; STARCH; CORN; FLOUR: WHEAT.

Bread'-chipper, *n.* One who chips bread; a baker's servant; an under-butler.

"Not to dispraise me, and call me pantler, and *bread-chipper*, and I know not what?"—*Shaks.*

Bread'-corn, *n.* Corn of which bread is made.

"There was not one drop of beer in the town; the bread, and *bread-corn* sufficed not for six days."—*Hayward.*

Bread'en, *a.* Consisting of bread; made of bread.

Bread'fruit-tree, *n.* (*Bot.*) See ARTOCARPACEÆ.

Bread'less, *a.* Destitute of bread; as, a *breadless* family.

Bread'-nut, *n.* (*Bot.*) See BROSIMUM.

Bread'-pudding, *n.* (*Cookery.*) A pudding made of bread.

Bread'-room, *n.* (*Naut.*) A compartment in a ship wherein the store of bread and biscuit is kept.

Bread'-root, *n.* (*Bot.*) See PSORALEA.

Bread'stuffs, *n. pl.* Those kinds of grain, &c. which are convertible into flour, meal, &c., for the use of man.

Breadth, *n.* [A. S. *brǽd* and *bred.* See BROAD.] The broad dimension of anything; the measure across any plane surface, from side to side; width; extent.

(*Painting*) A term applied to pictures when the colors and shadows are broad and massive, such as the lights and shadows of the drapery; and when the eye is not checked and distracted by numerous little cavities, but glides easily over the whole. *B.* of coloring is a prominent feature in the painting of all great masters. The term *Breadth of Effect* is also sometimes used.

Breadth'less, *a.* Without breadth.

Break, (*brāk.*) (*imp.* BROKE; *pp.* BROKEN or BROKE; *ppr.* BREAKING.) *v. i.* [A. S. *brœcan, brecan;* Ger. *brechen;* Swed. and Goth. *brœcka;* Frisian, *breka;* Lat. *frango;* from the root *frag*, Gr. *rag, rēg.* with the digamma *frag, frēg*, whence *rēgnami;* probably formed from the sound.] To part; to separate; to divide in two; as, to *break* bread.

"Give sorrow words, the grief that does not speak,
Whispers the o'erfraught heart, and bids it *break.*"—*Shaks.*

—To burst; to open spontaneously; as, to *break* a blood-vessel.

"The *breaking* waves dashed high
On a stern and rock-bound coast."—*Mrs. Hemans.*

—To burst forth with violence; as, the *storm* broke.

"Every man, . . . *broke*
Into a general prophecy."—*Shaks.*

—To open; to come to view; to dawn; as, day is *breaking.*

"The day *breaks* not, it is my heart,
Because that you and I must part."—*Donne.*

—To decline in health and vigor; to become impaired in constitution; as, in *broken* spirits.

"Yet thus, methinks, I hear them speak:
See how the dean begins to *break.*"—*Swift.*

—To become bankrupt; to fail in business; as, the firm has *broke.*

"He that puts all upon adventures, doth oftentimes *break*, and come to poverty."—*Bacon.*

—To alter the step or gait; as, to *break* into a gallop.

—To fall out; to be no longer friends; to sever a tie or connection.

"Sighing, he says, we must certainly *break*,
And my cruel unkindness compels him to speak."—*Prior.*

To break away. To free one's self from control; to come or go away against attempted restraint.—*To break from.* To go away with some haste or vehemence.

"How didst thou scorn life's meaner charms,
Thou who couldst *break from* Laura's arms."—*Rose.*

To break forth. To come out suddenly; to issue unexpectedly; as, the sun, &c. (Sometimes followed by *in* or *into.*)

"*Break forth into* singing, O, mountains."—*Isah.* xlix. 13.

To break out. To discover itself by sudden effects; to burst forth, as from restraint; as, *to break out* into pustules.

"I saw their words *break out* in fire and smoke."—*Dryden.*

To break down. To fail in any enterprise; to come down by breaking; as, my horse *broke down.*

"He had *broken down* almost at the outset."—*Thackeray.*

To break in or *in upon.* To enter unexpectedly, or without proper preparation.

"The doctor . . . *breaks in upon* conversation, and drives down all before him."—*Addison.*

To break loose. To shake off restraint; to escape from durance or captivity; to forcibly free one's self.

"Who would not, finding way, *break loose* from hell?"—*Milton.*

To break off. To desist, or suddenly refrain from; to violently separate from; as, our intimacy is *broken off.*

"I must from this enchanting queen *break off.*"—*Shaks.*

To break up. To become separated into fragments; to dissolve; to disperse; as, to *break up* a school.

"These and the like conceits, . . . will scatter and *break up* like mist."—*Bacon.*

To break with. To part friendship with another; to fall out; to sever a connection.

"It cannot be,
The Volscians dare not *break with* us."—*Shaks.*

—Also, to come to an explanation, or hold conference with.

"Stay with me awhile;
I am *to break with* thee of some affairs
That touch me near."—*Shaks.*

Break, *v. a.* To part or sever by violence; to disrupt; to forcibly divide; to burst; to rend; as, to *break* a vase.

"The sticks he then *broke* one by one:
So strong you'll be, in friendship tied;
So quickly *broke*, if you divide."—*Swift.*

—Figuratively, to disclose; to announce; to communicate; as, to *break* the news.

"I who much desir'd to know
Of whence she was, yet fearful how to *break*
My mind, adventur'd humbly thus to speak."—*Dryden.*

—To violate; to infringe; as a contract, promise, &c.

"Did not our worthies of the house,
Before they *broke* the peace, *break* vows?"—*Hudibras.*

—To interrupt; to intercept; to frustrate; to dissolve the continuity of; as, to *break* the thread of a story.

"Sometimes in *broken* words he sigh'd his care,
Look'd pale, and trembled, when he view'd the fair."—*Gay.*

—To remove or part; to destroy the completeness of; to reduce; to crush; to shatter; as, to *break* a thing into fragments.

"Your hopes without are vanish'd into smoke:
Your captain's taken, and your armies *broke.*"—*Dryden.*

—To weaken, subdue, or impair the bodily health and mental faculties.

"This rest might yet have balm'd thy *broken* senses."—*Shaks.*

—To tame; to make docile; to train to obedience; as, to *break* a horse.

"No sports but what belong to war they know,
To *break* the stubborn colt, to bend the bow."—*Dryden.*

—To make bankrupt; to destroy one's financial credit; as, the bank is *broke.*

"For this few know themselves: for merchants *broke*
View their estate with discontent and pain."—*Davies.*

—To discard; to dismiss; to cashier; to destroy the official reputation of; as, to *break* by court-martial.

"I see a great officer *broken.*"—*Swift.*

—To sink, depress, or appall the spirits.

"Thou shalt see Phœnix, how I 'll *break* her pride."—*Philips.*

To break the back. To strain or dislocate the vertebræ; to disable.

"I'd rather crack my sinews, *break* my *back*,
Than you should such dishonour undergo."—*Shaks.*

To break down. To overwhelm; to make to succumb.

To break in. To gain forcible entrance into; as, *to break in* a house. Also, to render tractable; to train to discipline and obedience; as, those horses are well *broken in.*—*To break of.* To reform; to rid of; as, *to break* a person *of* bad language.

"The French were not quite *broken of* it, until for some time after they became Christians."—*Grew.*

To break open. To open; to gain admittance by breaking; as, *to break open* a desk.

"Open the door, or I will *break it open.*"—*Shaks.*

To break off. To interrupt; to put a stop to; to sever by breaking; as, *to break off* a flower; *to break off* friendly intercourse.

"To check the starts and sallies of the soul,
And *break off* all its commerce with the tongue."—*Addison.*

To break over. To disregard; to transgress; as, *to break over* a custom.—*To break out.* To remove or force out by breaking; as, *to break out* a window-frame.—*To break up.* To separate or disband; to dissolve; to put an end to; as, *to break up* a party.

"Solyman, returning to Constantinople, *broke up* his army."—*Knolles.*

To break bulk. To remove a portion of a load, cargo, &c.; to open out a mass of anything; as, the ship has commenced *to break bulk.*—*To break fast.* To take food after a period of abstinence; generally applied to the morning meal.—See BREAKFAST.

To break the heart. To crush or destroy with grief.

"Will 't *break* my *heart?*"—*Shaks.*

To break ground. To begin to excavate the earth; to plough new land; to open a trench, &c.

"Men generally . . . *break* no more *ground* than will serve to supply their own turn."—*Carew.*

Figuratively, to commence any undertaking; to embark in a new scheme.—(*Naut.*) To disentangle the anchor from the bottom.—*To break a jest.* To utter an unlooked-for jest.—*To break jail.* To make an escape from jail by ingenious and forcible means.—*To break a house.* To enter a house by fraudulent and violent means, with a felonious intent.—*To break wind.* To expel wind from the stomach.—*To break cover.* To burst out from concealment, as game, foxes, &c., when hunted.—*To break the ice.* Metaphorically, to overcome an early obstacle; to broach a proposition; to initiate into the knowledge of anything; as, go up to him and *break the ice.*—*To break joints.* (*Building.*) To disallow two joints to occur over each other.—*To break a road, &c.* To open a way through a difficulty by forcible means.—*To break upon the wheel.* To punish a criminal by stretching him upon a wheel in the form of a St. Andrew's cross, and breaking his bones with bars. This mode of punishment was, in former times, much practised in Europe.—*To break sheer.* (*Naut.*) To get clear of an obstacle; to be forced by the action of winds, currents, &c., out of a certain position. Many modifications of this term exist.

Break, *n.* A state of being open; an opening; a fissure; a breach; an interstice; an open place; as, the *break* of a forest.

—A pause; an interruption; a hiatus.

(*Printing.*) A line drawn in printing and writing, to denote suspension of the sense of the text.

"All modern trash is
Set forth with num'rous *breaks* and dashes."—*Swift.*

—The dawn; the first matutinal opening of the sky.

"And those eyes, the *break* of day,
Lights that do mislead the morn."—*Shaks.*

—An interruption; change of form or direction; as, a *break* in a ship's deck.

(*Arch.*) The projection from the face of a building is called a *B.*, whether it arise in plan or in elevation. It is one of the most legitimate ways of securing variety of line; but the exaggerated effects of the *B.* introduced into the Cinque-cents and Louis-Quatorze styles of architecture prove that considerable discretion must be exercised in their use. They should be caused by some necessity of the plan, or of the disposition of the structure: a *B.*, introduced merely as a break, is a decided mistake in a composition.

—A large four-wheeled carriage.

Break'abeen, or **Brackabeen,** in *New York*, a post-village of Schoharie co., 45 m. W. of Albany.

Break'able, *a.* Susceptible of being broken.

Break'age, *n.* A breaking. — An allowance for articles broken during transportation or use; as, the *breakage* amounted to fifty dollars.

Break'down, *n.* An accident; a downfall; as, the *breakdown* of a railroad train. — A kind of boisterous, shuffling dance, resembling a jig, usually performed by negroes.

Break'er, *n.* He who, or that which, breaks.

"Cardinal, I'll be no *breaker* of the law."—*Shaks.*

(*Mar.*) (Generally used in the plural.) A peculiar kind of billows, that may be easily distinguished by the white foam with which they cover the surface of the sea, and the terrible roaring noise which they produce. Breakers are generally found in shallow parts of the ocean, where rocks lie hidden below the surface, over which they break with great violence; and when once a ship is driven among them, it is almost impossible to save her, as every billow that heaves her up serves to dash her down again with additional force, when it breaks over the rocks or sands beneath. — The name is also applied to the wave itself, broken by the rocks, or by sand.

(*Naut.*) A small water-cask, used on board ships for ballast.

Breakfast, (*brek'fast,*) *n.* The first meal in the day; the matutinal repast.

—A meal interrupting fasting; food generally.

"Had I been seized by a hungry lion,
I would have been a *breakfast* to the beast."—*Shaks.*

—*v. a.* To furnish with breakfast; as, to *breakfast* a party of guests.

—*v. i.* To eat the first meal in the day; to break one's fast.

"As soon as Phœbus' rays inspect us,
First, sir, I read, and then I *breakfast.*" — *Prior.*

Break'fasting, *n.* A breakfast party.—Act of taking the first meal in the day.

Break'ing, *n.* The parting or dividing by force and violence a solid substance, or piercing, penetrating, or bursting through the same.

(*Law.*) In cases of burglary and house-breaking, *breaking* is the removal of any part of the house, or of the fastenings provided to secure it, with violence and a felonious intent.

B.-in. The act of inuring to discipline or labor.

B.-up. An ending of anything. The act of turning up with the plough, as of land.

B.-down, n. In sawing timber, the operation of dividing the bulk into boards or planks.

Break'ing-joint, *n.* (*Arch.*) That disposition of stones and bricks in their courses, by which vertical joints are not allowed to fall over each other.

Break'man, *n.* Same as BRAKEMAN, *q. v.*

Break'neck, *n.* A fall which breaks the neck.

—A steep place endangering the neck.

"To do't or no, is certain
To me a *breakneck.*" — *Shaks.*

—*a.* Endangering the neck; as, a *breakneck* gallop.

Break'neck Hill, in *New York*, an eminence of Putnam co., on the E. bank of the Hudson, at the N. approach to the Highlands; it is 1,187 feet above sea-level, and has, at its termination, the headland called St. Anthony's Nose.

Break'up, *n.* Causing a cessation, breaking-up, or termination: as, the *break-up* of an entertainment.

Break'water, *n.* (*Marine Engineering.*) An artificial bank of stones, or a timber structure, sunk to break the violence of the sea before its entrance into a roadstead or harbor. The Roman emperors erected many structures of this description, which survive to the present day to show the mode of construction adopted, such as the *B.* of the harbor of Civita Vecchia, still in good repair, and many of the ports of Italy. More recently, the system of thus forming an artificial barrier to the sea has been adopted at Cherbourg and Cette in France; at Plymouth, Portland, and Holyhead, in England; at Buffalo, and at the mouth of the Delaware, in the U. States; in all of which positions *B.* are formed of immense magnitude. The mode of construction adopted in all such cases is to cast down large stones, from either ships or railway wagons, whenever it is possible to connect the works with the mainland; and to allow them to assume their angle of repose under the action of the tides and currents. The top of the masonry structure is then covered with large blocks of artificial stone, as at Cherbourg, or with paving laid with a regular slope, as at Plymouth; and a wall is erected on the top of the sea slope, after the wall has attained its stability under the action of the sea. Cherbourg *B.* is the most gigantic work of the kind executed in ancient or modern times, and it is a noble monument of the skill and perseverance of the French engineers. *B.* of considerable magnitude have been constructed upon the great Northern Lakes for the protection of harbors, as at Buffalo, Cape Henlopen, &c. See BREAKWATER, FLOATING, in SEC. II.

Bream, *n.* (*Zoöl.*) The *Pomotis vulgaris*, a fish of the fam. *Percidæ*, having an oval, much compressed body, and the back much elevated. It is about 8 inches long, is common in our fresh ponds, and is an excellent edible fish.

Bream'ing, *n.* (*Naut.*) The operation of cleansing the bottom of a vessel by the application of fire, when the ship is aground, fire being applied to her bottom loosens the pitch, or composition of sulphur and tallow, with which it is sometimes covered to defend it from worms, and which is then scraped off, together with the barnacles, grass, weeds, &c., that adhere to it.

Breast, (*brest,*) *n.* [A. S. *breast*; Ger. *brust*; Dan. *bryst*; Swed. *bröst*; Icel. *breost*] (*Anat.*) The whole of the anterior part of the thorax. The female breasts, in a more restricted sense, consist of two globular projections, composed of common integuments, adipose substance, and lacteal glands and vessels, and adhering to the anterior and lateral regions of the thorax. On the middle of each *B.* is a projecting portion, termed the *papilla* or *nipple*, in which the excretory ducts of the glands terminate, and around which is a colored orb, or disc, called the *areola*. On the surface of the latter are from 4 to 10 sebaceous glands which secrete an unctuous fluid to protect the skin of the nipple, which is rendered very thin from the saliva of the sucking infant. The *milk-tubes* (15 to 18 in number) enlarge into

Fig. 413. — BREAST.

(Lactiferous ducts dissected out and injected.)

sinuses, and pass each to a separate lobe or subdivision of the *B.*, where they divide into twigs and branches (the *lactiferous ducts*), which end in minute vesicles. The lobes are held together by fibrous tissues, and are well packed in fat, which increases sometimes to an enormous extent the apparent size of the organ. The use of the *B.* is to secrete milk for the nourishment of newly born infants. The enlargement of the *B.* is one of the signs of womanhood. Their fullest development commences in the earlier stages of pregnancy, and they continue to increase in size until about the time of delivery, when they are filled with the lacteal fluid, which passes readily on suction into the mouth of the child.

(*Med.*) The breasts of females are subject to a variety of disorders, one of the most common of which is inflammation. It may be produced by various causes, as, a blow, exposure to cold or wet, great mental excitement, excessive accumulation of milk, or undue pressure on the parts. It occurs most frequently within the first three months after parturition, and is characterized by great heat, pain, redness, and swelling of the *B.* The pain is intense, and of a throbbing nature, and often extends to the axillary glands. The *B.* become tense, heavy, and painful to the touch; and there is high inflammatory fever. The treatment consists in the application of leeches and warm fomentations to the part, and the administration of purgatives. If the inflammation do not subside in a few days, suppuration may be expected. In general, the abscess may be left to nature; but when it occasions much pain, it is advisable to get rid of it by a free incision. Chronic inflammation is sometimes seated in the *B.*, in which case stimulant applications will be found useful. Where this is attended with abscess, it should be opened, so as to give free exit to the pus, and pressure applied to the part. The *B.* is also subject to various kinds of tumors, some of which may be got rid of by simple pressure, and attendance to the general health. Sometimes some of the lactiferous ducts are blocked up, producing an enlargement termed lacteal tumor. It is to be remedied by puncturing the duct, and keeping it open for some time. Occasionally great pain and uneasiness is felt in the *B.* from sympathy with other parts of the system. There is no inflammation, swelling, or external alteration of the mammæ, and yet the pain is sometimes excessive, usually intermittent. In this case the general health is chiefly to be looked after. Women are frequently subject to *sore nipples* after childbirth, occasioning great pain. In such cases care is to be taken to keep the nipples as dry as possible; and an application of glycerine is generally found useful. Nipple-shields of ivory or glass, with India-rubber teats, should also be used when the nipples are too tender to bear the application of the child's mouth.

(*Mining.*) The face of coal-workings.

To make a clean breast. To make full confession; to completely unbosom one's self to another.

—The seat of consciousness; the receptacle of thought and feeling; the seat of the affections and passions; the heart; the conscience.

"Gay hope is theirs by fancy fed,
The sunshine of the *breast.*" — *Gray.*

—*v. a.* To bear the breast against; to meet in front; to face breast to breast.

"The hardy Swiss
Breasts the keen air, and carols as he goes." — *Goldsmith.*

To breast up a hedge. To cut the face of a hedge on one side, so as to lay bare the principal upright stems of the plants.

Breast'-band, *n.* (*Naut.*) A rope passed round the body of a man who heaves the lead in sounding, and fastened to the rigging to prevent his falling into the sea.

Breast'-beam, (sometimes called BUFFER-BEAM,) *n.* (*Mach.*) The front cross-beam of a locomotive-frame.

Breast'-bone, *n.* The bone of the breast; the STERNUM, *q. v.*

Breast'-deep, *a.* As high as the breast; as, *breast-deep* in water.

"Set him *breast-deep* in earth, and famish him." — *Shaks.*

Breast'ed, *a.* Having a breast; used in composition both literally and figuratively, with a compound; as, a double-*breasted* coat.

Breast'fast, *n.* (*Naut.*) A rope used to confine a vessel sideways to a wharf, or to some other ship.

Breast'-height, *n.* (*Fort.*) The interior slope of a parapet.

Breast'-high, *a.* High as the breast; up to the breast.

"Lay Madam Partlet basking in the sun,
Breast-high in sand."—*Dryden.*

Breast'-hooks, *n. pl.* (*Ship-building.*) Strong curved timbers placed parallel to the surface of the water within a ship's bows, for the purpose of strengthening and consolidating the upright timbers.

Breast'ing, *n.* (*Mach.*) The act of cutting or trimming the sides of a hedge.

(*Mech.*) The curved channel or mill-course in which the breast-wheel turns. It forms about a quarter of a circle, and is carefully adapted to the wheel, to prevent waste of water.

Breast'-knees, *n. pl.* (*Ship-building.*) Knees placed in the fore part of a vessel, across the stem, to unite the bows on each side.

Breast'-knot, (*brest'not,*) *n.* A knot of ribbons worn on the breast; a favor.

Breast'pin, *n.* A pin used to fasten a scarf on the breast; a breast-ornament; a brooch.

Breast'plate, *n.* Armor for the breast. See CUIRASS.

"What stronger *breastplate* than a heart untainted."—*Shaks.*

(*Mach.*) The plate in which the end of the drill opposite the boring end is inserted.

—A strap placed across a horse's breast.

(*Jewish Antiq.*) A piece of embroidery, about 10 inches square (*Ex.* xxviii. 15–30), of very rich work, which the high-priest wore on his breast. It was made of two pieces of the same rich embroidered stuff of which the ephod was made, having a front and a lining, and forming a kind of purse or bag, in which, according to the rabbis, the *Urim* and *Thummim* were enclosed. The front of it was set with 12 precious stones, on each of which was engraved the name of one of the tribes. They were placed in 4 rows, and divided from each other by the little golden squares, or partitions, in which they were set. At each corner was a gold ring answering to a ring upon the ephod, these 4 pairs of rings serving to hold the *B.* in its place on the front of the ephod, by means of 4 blue ribbons, one at each corner.

Breast-plough, (*brest'plow,*) *n.* (*Agric.*) A kind of spade or shovel, with a cross piece at the extremity of the handle, which is applied to the breast, and by which the operator skims off a thin slice of turf from a grassy surface, as if he were ploughing.

Breast'-rail, *n.* (*Naut.*) The upper rail of a ship's balcony, or of the breastwork on the quarter-deck.

Breast'-rope, *n.* (*Naut.*) The same as BREAST-BAND, *q. v.*

Breast-summer, *n.* See BEAM.

Breast'-wheel, *n.* (*Hydraulics.*) The name given to a water-wheel so placed as to be struck by the stream of water nearly on a level with the axle, the lower quadrant of the circumference on the side opposed to the stream being placed in a *race* or channel concentric with the wheel, through which the water is conducted in its descent from the higher to the lower level, and in falling on the float-boards within the channel acts both by its momentum and weight.

Breast'work, *n.* (*Fortif.*) A hastily constructed parapet, about breast-high, generally without a banquette. See EPAULEMENT; PARAPET.

(*Naut.*) A row of stanchions with rails stretching across the quarter-deck and forecastle of a ship.

Breath, (*breth*), *n.* [A. S. *bræth*, from *æthm*, with a prefix, vapor, breath; Ger. *athem*; allied to Gr. *aĕmi*, from

aō, to breathe, to blow.] The air drawn into and driven ont from the lungs by respiration.

"This bud of love, by Summer's ripening *breath*,
May prove a beauteous flow'r when next we meet."—*Shaks.*

—The state or power of breathing naturally and freely; opposed to the condition of being spent or breathless.

"A simple child,
That lightly draws its *breath*."—*Wordsworth.*

—Life; power of respiration.

"Can storied urn, or animated bust,
Back to its mansion call the fleeting *breath*?"—*Gray.*

—Respite; pause; relaxation; time to breathe; as, to take *breath*.

"There was silence deep as death;
And the boldest held his *breath*,
For a time."—*Campbell.*

—A single respiration; an instant.

"Who pants for glory, finds but short repose;
A *breath* revives him, or a *breath* o'erthrows."—*Pope.*

—A gentle breeze; a softly-moving air; as, a *breath* of wind.

"Calm and unruffled as a summer's sea,
When not a *breath* of wind flies o'er its surface."—*Addison.*

(*Hygiene.*) There are few things more offensive than a foul or fœtid breath, not only as a source of annoyance to the person himself, but a positive nuisance to all who have the misfortune to approach him. Impure breath, except in cases of illness, and when the patient is under a course of mercury, proceeds from two causes — a neglected state of the stomach and bowels, or from decayed teeth and an unclean mouth; and as in either case the remedy is easy, it must be owing to an innate disregard for others' comfort, and neglect of his own, that any person allows so noxious an offence to continue. When the cause proceeds from the bowels, two or three colocynth, or compound rhubarb pills, taken once every six hours, and a black draught, or half an ounce of Epsom salts afterwards, will almost always remove it; while, if the mouth or teeth are the cause, a weak solution of the chloride of lime, used twice a day as a wash for the mouth, rubbing the gums and teeth after each time with a dry cloth, will soon remove all cause of complaint; or, what is still better, the daily employment of a tooth-brush and a dentifrice composed as follows: powdered charcoal ½ ounce, cuttle-fish 2 drachms, myrrh 1 drachm, used as a tooth-powder night and morning with warm water. — See DENTIFRICE.

Breath'able, *a.* Capable of being breathed; that may be breathed; as, *breathable* air.

Breath'ableness, *n.* State or condition of being breathable.

Breathe, (*brēthe*), *v. i.* To draw into and eject air from the lungs; to respire.

"And *breathed* the long, long night away,
In statue-like repose."—*Aldrich.*

—To take breath; to rest.

"When France had *breath'd* after intestine broils."—*Roscommon.*
"*Breathe* a while, and then to it again."—*Shaks.*

—To pass, as air; to exhale.

"There *breathes* a living fragrance from the shore." — *Byron.*

—*v. a.* To inspire and expire; to inhale and exhale air; to live.

"*Breathes* there the man with soul so dead,
Who never to himself hath said,
This is my own, my native land!" —*Scott.*

—To infuse, or inject by breathing, (generally followed by *into*;) as, to *breathe* air into the lungs.

"I would be young, be handsome, be belov'd,
Could I but *breathe* myself into Adrastus."—*Dryden.*

—To eject, or exhale by breathing.

"His altar *breathes*
Ambrosial odors, and ambrosial flowers."—*Milton.*

—To utter softly or in private; as, to *breathe* a profession of love.

"I have tow'rd heaven *breath'd* a secret vow,
To live in prayer and contemplation."—*Shaks.*

—To blow into: to infuse sound into by breathing; as, to *breathe* the Æolian harp.

"The artful youth proceed to form the quire;
They *breathe* the flute or strike the vocal wire." — *Prior.*

—To exercise; to keep in breath.

"The greyhounds are swift as *breathed* stags."—*Shaks.*

—To rest; to pause in order to breathe; as, to *breathe* a dog.

"A moment *breathed* his panting steed."—*Sir W. Scott.*

—To give air or vent to.

"The ready cure to cool the raging pain,
Is underneath the foot to *breathe* a vein."—*Dryden.*

Breath'er, *n.* One who breathes, or lives; one who utters anything; one who animates or inspires.

"The *breather* of all life does now expire;
His milder father summons him away."— *Norris.*

Breath-figures, *n. pl.* (*Physics.*) If a clean surface of glass or any other polished substance be written on with a blunt-pointed instrument, and the surface be afterwards breathed upon, the characters written will become visible: or if the surface be first breathed upon, and the characters then marked upon it, they can be again made perceptible by breathing again upon the surface. These form what are called *breath-figures*, which may be produced in several ways. In 1842 Moser informed Humboldt that, "If any two bodies be brought sufficiently near each other, and face to face, one of them impresses its image on the other;" thus, if a coin be placed for any length of time upon a piece of polished metal, the metal will retain an impression of the coin, and exposure to the vapor of water, iodine, or mercury, will make it visible. A glass used to protect an engraving will receive an impression of the engraving on its inner surface, although it is not in absolute contact with it. Engineers have remarked that those parts of machines which are in contact with, or near each other, rapidly and easily impress their images upon each other. The famous Parisian watchmaker Bregnet has stated that the letters and inscription on the back of the inner cases of his watches have been often found impressed on the inside of the outer cases. Perfect impressions of objects may be produced by means of electricity; and remarkable varieties of figures can be impressed upon glass surfaces by means of a small electrical machine, a Leyden jar, and a discharging-rod. Photographers know that the state of the breath has a very considerable influence on the plates they use; and the artists in enamel-painting are taught that no one should be allowed to approach their work who has been taking mercurial medicines, or eating garlic.

Breath'ing, *n.* Respiration; act of respiring, or inhaling and exhaling air.

"We watched her *breathing* through the night,
Her *breathing* soft and low."— *Hood.*

—Air, or wind, in soft agitation.

"There 's not a *breathing* of the common wind
That will forget thee." — *Wordsworth.*

—Breathing-place; vent.

"The warmth distends the cheeks, and makes
New *breathings*, whence new nourishment she takes." *Dryden.*

—Gentle inspiration, or moral guidance; as, the *breathings* of religion.

—Aspiration; secret prayer.

"While to high heav'n his pious *breathings* turn'd,
Weeping he hop'd, and sacrificing mourned." —*Prior.*

—Exercising the breath; increasing the respiration.

"Here is a lady that wants *breathing*, too."

—Utterance; communication by words breathed.

"I am sorry to give *breathing* to my purpose." — *Shaks.*

(*Gram.*) Aspiration; the sound expressed by the letter *h*.

Breath'ing-hole, *n.* A vent-hole, as in a cask.

Breath'ing-place, *n.* A pause; a vent, or orifice.

Breath'ing-pore, *n.* (*Bot.*) See STOMA.

Breath'ing-time, *n.* Relaxation; pause; rest.

Breath'ing-while, *n.* A short time; time sufficient to make a brief pause.

Breath'itt, in *Kentucky*, an E. county, with an area of about 600 sq. m. Watered by the N. and Middle forks of Kentucky River, and by Troublesome Creek. *Surface*, heavily wooded, and diversified. *Soil*, fertile. Iron ore and stone-coal are abundant. County-town is Jackson.

—A village of the above co., on Kentucky River.

Breath'less, *a.* Being out of breath. — Exhausted with labor, excitement, or violent action; as, *breathless* from running.

"The holy time is quiet as a nun
Breathless with adoration." — *Wordsworth.*

—Dead; as, a *breathless* body.

"Yielding to the sentence, *breathless* thou
And pale shalt lie, as what thou huriest now." —*Prior.*

Breath'lessness, *n.* State of being breathless, or exhausted of breath.

Breaux's Bridge, in *Louisiana*, a post-office of St. Martin's parish.

Breccia, (*brĕt'cha,*) *n.* [It., a pebble.] (*Geol.*) A term applied to a mass composed of angular fragments of rocks of the same or different kinds cemented together by an enveloping paste, or by infiltrated iron or carbonate of lime. The name of *B* is derived from the well-known Italian *B.* marble, which has the appearance of being composed of fragments joined together by carbonate of lime, infiltrated among such fragments after the latter were produced by some disrupting force.

Brec'ciated, *a.* Composed of angular segments cemented together.

Breche-de-Roland, (*brāsh'-de-rō-lan,*) a defile of the Pyrenees, between France and Spain, about 11 m. S. of St. Jean de Luz, with an elevation of about 9,500 feet above the sea. It is a difficult passage of from 200 to 300 feet in width, between precipitous rocks rising to a height of from 300 to 600 feet.

Brech'in, a town of Scotland, in Forfarshire, 8 m. from Montrose, supposed to have been the capital of the kings of the Picts. It was burned by the Danes in 1012; taken by Edward I. in 1303; and burned by the Marquis of Montrose in 1645; *pop.* 6,769.

Breckenridge, in *Colorado*, a post-village, capital of Summit co., near the Rocky Mountains, 70 m. W. S. W. of Denver. *Pop.* (1897) about 800.

Breckenridge, in *Kentucky*, a N. W. county on the confines of Indiana. *Area*, 450 sq. m. Bounded on the N.W. by the Ohio River, and on the S. by Rough creek. *Surface*, undulating. *Soil*, fertile. *Cap.* Hardinsburg. *Pop.* (1898) 20,200.

Breckenridge, in *Minnesota*, a post-village of Wilkin co., on Red River of the North, at head of navigation, 217 m. W.N.W. of St. Paul. *Pop.* (1898) 850.

Breckenridge, in *Missouri*, a post-village of Caldwell co., 61 m. E. of St. Joseph.

Breckenridge, in *Texas*, a post-office of Dallas co.

Breckinridge, in *Wisconsin*, a village of Vernon co.

Breck'nock, in *Pennsylvania*, a township of Berkes county.

—A township of Lancaster co.

Brecks'ville, in *Ohio*, a township of Cuyahoga county.

Breck'ville, in *Mississippi*, a village of Madison co.

Brec'on, or **Breck'nock,** an inland co. of England, in S. Wales, having N. the cos. of Cardigan and Radnor; W. Cardigan and Caermarthen; S. Glamorgan and Monmouth; and E. the latter and Hereford. It is abt. 35 m. in length, by abt. 30 in breadth. The surface is very mountainous, the highest summits being the Beacons of Brecknock, Capellante, and Cradle mountains, respectively 2,862, 2,394, and 2,545 feet above the sea. It is watered by the Wye, the Usk, and the Taaf. *Climate*, rather severe and humid. *Agriculture* is in a backward state. There are large iron works at Beaufort and Clyddach. The prin. towns are Brecon, Crickhowell, and Builth.

BRECON, or BRECKNOCK, a town, cap. of the above co., on the Usk, 144 m. W. by N. of London.

Bred, *imp.* and *pp.* of BREED, *q. v.*

Breda, (*brā'da,*) a fortified town of Holland, prov. Brabant, on the Merk, 24 m. W.S.W. of Bois-le-Duc. It is one of the strongest places in the kingdom; and its position in the middle of a marsh that may be laid under water, contributes materially to its strength. Its trade is unimportant. It was taken from the Spaniards by Prince Maurice in 1590; retaken by the Spaniards in 1625; and finally ceded to Holland by the treaty of Westphalia in 1648.

Brederode, HENDRICK, COUNT, (*brā'dai-rod.*) a Dutch patriot, B. 1531, joined with Counts Egmont and Horn in opposing the tyranny of Cardinal Granvella, the Spanish governor of the Netherlands. In 1566 he presented to Margaret of Parma, who had succeeded Granvella, the famous "Request," which gave rise to the insurrection of the *Gueux*, or "Beggars." Under the grinding oppression of the Duke of Alva's administration in the Low Countries, he retired to Germany. D. 1568.

Bredouille'ment, *n.* A French word, applied to a precipitate and indistinct mode of utterance, in which a part of the words is pronounced, and several of the syllables are viciously changed. This defect is analogous to stuttering, but differs from it in being dependent on too great rapidity of speech; while stuttering is characterized by continual hesitations, and frequent repetition of the same syllables.

Bred'ow, GABRIEL GOTTFRIED, a German historian, B. in Berlin, 1773. His *Memorable Events of Universal History*, and *Elaborate Narrative*, have passed through many editions. D. 1814.

Bredsore, or **Breeder.** See BREEDING-SORE.

Brée, MATTHÆUS IGNAZIUS VAN, an excellent Flemish painter, B. at Antwerp, 1773; D. 1839.

Breech, (*brĕch*) *n.* [From BREAK or BREACH.] The posterior and lower part of the human body; hence, figuratively, the hinder part of anything.

"As quick as lightning in the *breech*, . . .
Because a kick in that place more
Hurts honor, than deep wounds before."— *Hudibras.*

—A garment for the breech. See BREECHES.

"Ah! that thy father had been so resolv'd!
That thou might'st still have worn the petticoat,
And ne'er had stol'n the *breech* from Lancaster."— *Shaks.*

(*Gunnery.*) The solid part of a piece of artillery behind the bore. See GUN.

"So cannons, when they mount vast ditches,
Are tumbled back upon their *breeches*." — *Sir C. Sedley.*

—The hinder part of anything.

(*Ship-build.*) The angle of a knee-timber, the inside of which is called the *throat*.

—*v. a.* To put into breeches.

—To fit anything with a breech; as, to *breech* a field-piece. To connect by a breeching.

Breeches, (*brĕch'ez,*) *n. pl.* [A. S. *broc*, pl. *bræc;* Dan. *brock;* It. *brache;* Fr. *braies;* Swed. and Goth. *brackor;* Lat. *bracca;* derived by Junius from *breechen*, to part, separate, divide.] A garment worn by men, covering the hips and thighs, and reaching to the knees. (Pantaloons, or trousers, are sometimes erroneously given this name.)

"But the old three-cornered hat,
And the *breeches*, and all that,
Are so queer!" — *Holmes.*

To wear the breeches. A popular colloquialism expressive of a wife who usurps her husband's authority.

"The wife of Xanthus was domineering, as if her fortune, and her extraction, had entitled her *to wear the breeches*." *L'Estrange.*

Breech'-band, *n.* Part of a horse's harness. See BREECHING.

Breeching, (*brĕch'ing,*) *n.* Chastisement on the breech; as, to give a boy a *breeching*.

(*Saddlery.*) Part of the harness of a carriage-horse, by means of which he is enabled to push the carriage, to which he is attached, backwards; or to support its pressure in going down a hill.

(*Naut.*) A rope on board a ship by which a gun is firmly lashed or fastened to her side.

Breech'ing-loop, *n.* (*Naut.*) A loop of metal at the breech-end of a ship's gun, through which the rope called a *breeching* is passed, and secured to the sides of the vessel to prevent the guns recoiling too far, or rolling across the ship in a sea-way.

Breech'-loading, *n.* [Fr. *brèche;* Ger. *bruch*, a breach; A.S. *htad*, to load.] (*Gunnery.*) The method of making heavy pieces of ordnance and field-pieces, as well as rifles and fowling-pieces, with a movable breech, to admit of the charge being inserted at the breech end of the gun instead of the muzzle. Breech-loading guns are infinitely superior to those constructed on the old principle, as they can be loaded with much greater rapidity, and can be cleaned with greater readiness and safety; the bore of the gun can also be more accurately grooved in the case of rifled pieces, and the calibre exactly preserved in the construction of smooth bores; and the bullet or projectile can be better adapted to fit the grooves of the piece or calibre of the bore. The addition of mechanism is required to secure the breech to the main part of the gun, and to insure sufficient strength to resist the explosive force of the powder. This renders a weapon constructed on this principle more expensive;

but the outlay is counterbalanced by the saving effected in metal, expenditure of powder, and the facility with which the pieces composing a field-battery can be moved from one place to another, as rifled breech-loading guns are not more than half the weight of pieces of ordinary construction and of the same calibre. At the present time it may be said that muzzle-loading weapons, large and small, belong to an age that is past. This is true alike of smooth-bores and rifles, of whatever calibre. The sportsman of to-day uses nothing but the breech-loading piece; modern armies have not only discarded the old muzzle-loading musket, but are satisfied with nothing short of the latest magazine rifle, which dis-

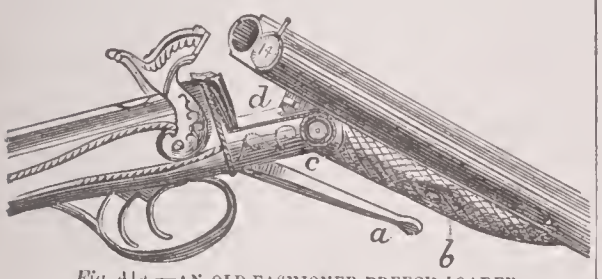


Fig. 414.—AN OLD-FASHIONED BREECH-LOADER.

charges its pencil-like projectile of hardened steel at the rate of ten or more a minute. In the way of heavy ordnance, the breech-loading rifled cannon, ever growing in size and power, is the sole product of the armories; and the old-fashioned smooth-bore, loaded at the muzzle, clumsy and ineffective, is no longer seen except on board the more ancient warships or in fortifications where no actual service is likely to be required. See RIFLE, RAPID-FIRE GUNS, &c.

Breech'-loading, *a.* (*Mil.*) Inserting the charge of a gun at the breech instead of the muzzle.

Breech'-pin, Breech'-screw, *n.* A strong plug firmly screwed in the breech of a fire-arm.

Breech'-sight, *n.* (*Mil.*) An instrument used for pointing a fire-arm.

Breed, (*brēd,*) *v. a.* (*imp.* and *pp.* BRED.) [A.S. *bredan; brædan.*] To generate; to produce; to beget; to procreate.

"None fiercer in Numidia *bred*,
With Carthage were in triumph led."—*Roscommon.*

—To cherish; to nourish; to foster; to bring up.

"*Bred* up in grief, can pleasure be our theme?"—*Prior.*

—To educate; to train; to form by education; as, a well-*bred* person.

"To *breed* up the son to common sense,
Is evermore the parent's least expense."—*Dryden.*

—To occasion; to cause; to produce; to engender; as, to *breed* suspicion.

"How use doth *breed* a habit in a man!"—*Shaks.*

—To give birth to; to be the native place of; as, *breeding*-ponds.

"Hail, foreign wonder!
Whom certain these rough shades did never *breed*."—*Shaks.*

—*v. i.* To produce offspring; to be with young.

"Lucina, it seems, was *breeding*."—*Spectator.*

—To be produced, generated, or formed, as young *breed* in the matrix.

"How could youth last, and love still *breed*,
Had joys no date, and age no need?"—*Raleigh.*

—To be produced; to have birth; as, salmon *breed* in yon lake.

"Where they most *breed* and haunt, I have observed the air is delicate."—*Shaks.*

—To propagate; to raise a breed.

"In the choice of swine, choose such to *breed* of as are of long large bodies."—*Mortimer.*

—*n.* A caste or kind, or subdivision of a certain species; as, horses of the Arab *breed.*

—Race; progeny; offspring:—applied to thiugs generally; as, a *breed* of calamities.

"For when did friendship take
A *breed* of barren metal of his friend?"—*Shaks.*

Bree'de, a river of S. Africa, in Cape Colony. It rises in the Warm-Bokkeveld Mountain, and falls into the sea at Port Beaufort. It is a deep and large river, but a bar at its mouth much impedes navigation.

Breed'er, *n.* One that is prolific, and that produces or brings up anything; as, he is a *breeder* of cattle.

"Time is the nurse and *breeder* of all good."—*Shaks.*
"He'd recommend her as a special *breeder*."—*Pope.*

Breed'ing, *n.* Nurture; education; bringing up; training.

"I am a gentleman of blood and *breeding*."—*Shaks.*

—Mannors; deportment; knowledge of ceremonious observances; social bearing; as, he is a man of fine *breeding.*

"You write with ease to show your *breeding*,
But easy writiug 's curst hard reading."—*Sheridan.*

Breeding in and in. The system of close breeding, which has been applied with much success in the rearing of cattle and race-horses, is sometimes thus designated.

(*Agric.*) The method of multiplying and improving the quality of domestic animals rapidly. Great attention has been paid to the subject of *B.* since the commencement of the present century, one notable result being that within the last thirty years the weight of mutton produced has nearly been doubled in proportion to the number of sheep. If a proper supply of food is furnished, any breed of animals will perpetuate itself; the various breeds of wild animals are instances of this fact. But when assiduous attention is paid to the *B.* of domestic animals, varieties are produced which are more useful and profitable than the wild breeds, on account of particular properties which they possess. The first point of importance in *B.* is the selection of the animals with which to propagate a useful race. These should always be the finest animals possible; and great improvements in the stock existing on a farm are often produced by the introduction of males of a superior quality. In *B.*, the purposes for which an animal is reared must always be taken into account. The *B.* of horses has occupied attention much longer than that of oxen and sheep. One class of horses is bred for speed, another for conveying rapidly between different places, another for mere labor, or to assist human strength. By attention to the *B.*, great excellence has been arrived at in each of these varieties. Strength and speed in their extremes are never present in the same animal; but a combination of the two is most useful. (*See* HORSE.) The properties desired in sheep and oxen are very different from those required in horses. The fleeces and hides of the former are used as raw materials for manufacture, and their flesh as food. The breeder of oxen and sheep sometimes has the perpetuation of good qualities in view, and sometimes the production of the largest quantity of beef or mutton possible. Since attention has been paid to the *B.* of these animals, they have been sent to market at a much earlier age. Sheep and oxen which have been thus improved are both distinguished by small heads, small bones, short legs, and fine skin. Wild animals have precisely opposite qualities. In *B.* any domestic animal, a near relationship should always be avoided. The principal points to be observed in *B.* are as follows:—The kind of animal from which the breed is desired should have distinguishing points, which ought always to be kept in view. The most perfect forms should be selected, and all defects should be corrected with patience and perseverance. Sudden crosses should always be avoided, and, if possible, two or more families of the same kind should be bred distinct, only occasionally crossing them together. The more improved a breed becomes by this means, the more difficult becomes the selection of the animals by which to continue it, and very often, on account of this difficulty, a highly improved breed will degenerate.—See HORSE, OX, SHEEP, &c.

Breed'ings, in *Kentucky*, a post-office of Adair co.

Breeds'ville, in *Michigan*, a P. O. of Van Buren co.

Breese, in *Illinois*, a post-village of Greene co., 50 m. S.W. of Springfield.

Breese, in *Michigan*, a village of Allegan co., on an arm of the Kalamazoo River.

Breese'ville, in *Illinois*, a village of Jackson co., on the Mississippi River.

Brees'port, in *New York*, a post-office of Chemung co.

Breeze, *n.* [Sp. *briza;* Fr. *brise;* Dan. *bruser*, to rush. See RUSH.] A wind that rushes on or rises suddenly; a shifting wind; a gentle gale; as, a strong *breeze* from the North.

"The *breeze* springs up; the lately flapping sail
Extends its arch before the growing gale."—*Byron.*

—Métaphorically, a misunderstanding; an altercation; a quarrel.

(*Brickmaking.*) The larger refuse arising from passing cinders through a sieve; they are much employed by brickmakers for the purpose of calcining their bricks, and for mixture with the clay when it is too fat for ordiuary purposes.

—*v. n.* (*Naut.*) To blow gently.

Breeze'-fly, *n.* (*Zoöl.*) See ŒSTRIDÆ.

Breeze'less, *a.* Without a breeze; very calm.

Breeze'-shaken, *a.* That is shaken or moved by a breeze.

Breez'y, *a.* Fanned with gentle winds; subject to frequent breezes.

Bregenz', a mountainous district of the Tyrol, comprising the Vorarlberg territory; *area*, 987 sq. m.; *pop.* 108,565. Its capital, *Bregenz*, is a small, but fine town on Lake Constance, near the mouth of the Aach. *Pop.* 4,416.

Breguet, ABRAHAM LOUIS, (*brā'goo-ā',*) a celebrated French clock and watch mechanician, who, at an early age, went to Paris, and first perfected those continually going watches which are self-windiug. Afterwards, he invented for watches, repeated movements and escapements of all kinds, of a delicacy and precision before unknown. He was a member of the Institute, and greatly enriched and extended the science of horology. B. in Switzerland, his parents being French Protestant refugees; he D. at Paris, 1823.

Bre'har, or BRYHER, one of the Scilly Islands.

Brehat', a small island of France, in the English Channel; 3 m. long and 2 broad, lying about a mile from the mainland. It has a light-house.

Bre'hon Laws. (*Hist.*) The ancient laws of the Irish are so termed, from an Irish word signifying *Judges.* It is supposed that some of the written collections of these laws, which still exist, are of great antiquity; as old, perhaps, as the earlier ages of the Christian era. Prior to the Anglo-Norman invasion, Ireland was governed by these laws.

Brein'igsville, in *Pennsylvania*, a P. O. of Lehigh co.

Brei'sach, (anc. *Mons Brisiacus,*) an old town of the grand-duchy of Baden, on the Rhine, 12 m. W. of Freiburg. Being regarded as the key to the W. of Germany, it was a prominent scene of action during the Thirty Years' War, and changed masters frequently during the next century. In 1806, the French handed it over to the House of Baden. *Pop.* 3,826.

Breisgau, (*brīs'gow,*) an old division of Germany, in the S.W. of Suabia; divided between Baden, Würtemberg, and Switzerland in 1806.

Breis'lakite, *n.* (*Min.*) A variety of Augite occurring in wool-like flexible fibres, of a chestnut-brown color, in cavities of the older lavas of Vesuvius.

Breit'enfeld, (BATTLES OF.) See LEIPZIG.

Brem'en, one of the three German Hanse towns, or free cities, at the mouth of the Weser, 60 m. S.W. of Hamburg, and 70 S.E. of the N. Sea. Sea-going vessels being unable to come up to the city, *B.* purchased from Hanover, in 1827, a piece of ground on the right bank of the mouth of the Weser, and founded the port of *Bremerhaven*, which has since become a flourishing town of abt. 8,000 inhabitants. The largest portion of *B.*, called the *Altstadt*, or old town, lies on the right, and the *Neustadt*, or new town, on the left bank of the river. The principal edifices are, the Cathedral, built in 1160: the Church of St. Ausgarius, with a spire 325 ft. in height; the new Town-hall; and the Exchange. *B.* has a museum, a theatre, a school of commerce and navigation, and numerous charitable institutions. Both sides the river are lined with handsome and convenient quays. The manufactures are considerable, the principal being those for the preparation of snuff and cigars, which employ a great many hands. A large trade is also carried on in the building and fitting out of vessels. The situation of *B.* at a navigable river, and connected by railroad with all the important towns of Germany, renders her the principal emporium of Hanover, Brunswick, Hesse, and other countries traversed by the Weser. In consequence, she has an extensive and increasing trade. Imports are tobacco, coffee, sugar, and other colonial products; petroleum, cotton and cotton-yarn, cheese, butter, wine, tea, rice, iron, spices, and dye-woods. Exports linens, snuff and cigars, hams and bacon, rags, bones, chicory, oil-cake, refined sugar, soap, &c. *B.* is one of the most important commercial cities of Germany, its trade having increased rapidly within the past decade. Its foreign trade is especially large with the United States. Its imports in 1890 reached a total of 749,938,507 marks; the exports, about 706,000,000 marks. Most of its steamers belong to the "North German Lloyds." The city is governed by a Senate of 18 members, acting under the legislative authority of the General Assembly of citizens, sitting under the name of the Bürger-Convent, or Convent of Burgesses.—*Hist. B.* is said to have been founded in 788. She was long one of the leading towns of the Hanseatic League. In 1806, it was taken by the French; and from 1810 to 1813, it was the capital of the dep. of the Mouths of the Weser. *Pop.* of the city, 1890, 124,887. The State of *B.* comprises an area of 991 sq. miles, with a total pop. in 1890, of 180,443. *B.* joined the North German Union in 1866 and the German Empire in 1870. It ranks next to Hamburg in commercial importance and as an outlet of German emigration. The number of emigrants in 1890 reached 140,410, of whom almost the whole number went to the United States. In 1888, *B.* became a member of the German Zollverein.

Bremerhaven, or BREMERHAFEN, (*brā'mer-ha-fen,*) the port of Bremen, 30 m. N.N.W. of that city. Its harbor is accessible for the largest ships. The site of the city was acquired from Hanover in 1827. *Pop.* (1897) 21,350.

Brem'en, in *Illinois*, a village and township of Cook co., 23 m. S.S.W. of Chicago co.

—A post-office of Randolph co.

Brem'en, in *Indiana*, a post-town of Marshall co., on B. & O. R.R., 18 m. S. by E. from South Bend. *Pop.* (1898) 1,290.

Brem'en, in *Kentucky*, a village of McLean co.

—A post-office of Muhlenberg co.

Brem'en, in *Maine*, a post-township of Lincoln co., on Broad Bay Sound, 35 m. S.S.E. of Augusta.

Brem'en, in *Missouri*, a village of St. Louis co., 4 m. from St. Louis on the Mississippi river.

Brem'en, in *Ohio*, a post-village of Fairfield co., 10 m. E. of Lancaster, and 49 S.E. of Columbus.

Bre'mer, FREDERIKA, a Swedish novelist, born in 1802, known to American readers by her novels of *The Neighbours*, *The President's Daughters*, *Life in Dalecarlia*, and several other works, which have been translated into almost all the languages of Europe, and have everywhere been deservedly popular. Died Dec. 31, 1866.

Bre'mer, in *Iowa*, a N.E. county, intersected by the Cedar, English, and Wapsipincon rivers. *Area*, 430 sq. m. *Surface*, well timbered. *Soil*, good. *Cap.* Waverly. *Pop.* (1898) 16,200. This co. was named after Frederika Bremer, the popular Swedish novelist.

Bre'mer Green, *n.* (*Chem.*) A pigment composed of carbonate of copper, carbonate of lime, and alumina.

Bre'mo Bluff, in *Virginia*, a P. O. of Fluvanna co.

Breneau (*bren'ō*) **River,** in *Idaho;* Lat. 43° 30′ N.; Lon. 115° 30′ W. It empties into Lewis river.

Bren'ford, in *Delaware*, a post-office of Kent co.

Bren'ham, in *Texas*, a township and city, the cap. of Washington co., 100 m. E. of Austin, and 20 m. S.W. of the Brazos river. *Pop.* (1898) 7,460.

Bren'ner, one of the culminating points of the mountains of the Tyrol. It rises between the Inn, the Aicha, and the Adige, to a height of 6,778 feet; and the mountains to which it belongs are traversed at an elevation of 4,650 feet on the way to Innspruck from Brixen.

Bren'nus. [Celtic *brenin*, king.] Two individuals are known in history under this name. 1. The first was the hero of an early Roman legend, which relates to the migration of the Gauls into Italy and their march to Clusium and Rome. In the account given by Livy (v. 33, &c.), he figures as the "regulus Gallorum," or chieftain of the Gauls. When he arrived at Clusium, the inhabitants called on the Romans for aid. He engaged with and defeated the Romans on the banks of the Allia, the name of which river they ever after held in detestation. (*Virg. Æn.* vii. 717.) The whole city was afterwards plundered and burnt; and the capitol would have been taken but for the bravery of Manlius. At last, induced by famine

and pestilence, the Romans agreed that the Gauls should receive 1,000 lbs. of gold, on the condition that they would quit Rome and its territory altogether; the barbarian brought false weights, but his fraud was detected. The tribune Sulpicius exclaimed against the injustice of Brennus, who immediately laid his sword and belt in the scale, and said, "Woe to the vanquished." The dictator Camillus arrived with his forces at this critical time, annulled the capitulation, and ordered him to prepare for battle. The Gauls were defeated; there was a total slaughter, and not a man survived to carry home the news of the defeat. The date of the taking of Rome, assigned by Niebuhr, is the 3d year of the 39th Olympiad, B. C. 382. — 2. A king of the Gauls, who, B. C. 279, made an irruption into Macedonia with a force of 150,000 men and 10,000 horse. Proceeding into Greece, he attempted to plunder the temple at Delphi. He engaged in many battles, lost many thousand men, and himself received many wounds. In despair and mortification he killed himself.

Brent, *a.* [Goth. *bryn;* Sw. *brant.*] Steep; high. (Prov. Eng.)

Brenta, (*brain'ta,*) a river of N. Italy, rising from two small lakes in the Tyrol. After a course of 112 m., it falls into the Adriatic, through the canal of Brenta-Nova, or Breutono, at Brondolo.

Brent'ford, in England, a market-town of Middlesex, on the Thames, 8 m. W. of London.

Brent, or **Brant,** *n.* (*Zoöl.*) A species of goose, *Bernicla brenta*, of the Atlantic coast of N. America. It resembles the Barnacle-goose, but is smaller.

Brent'idæ, *n. pl.* (*Zoöl.*) A family of Coleopterous insects, which are among the most remarkable of the beetle tribe, and almost entirely confined to tropical climates. Distinguishing characters: — body much elongated; tarsi with the penultimate joints bilobed; antennæ filiform, or in some with the terminal joint formed into a club; proboscis projecting horizontally; palpi minute. They are found crawling on trees, or under the bark, and sometimes on flowers. Their general color is black or brown, with red spots or markings. The *Brenthus septentrionalis*, found in Massachusetts, about six-tenths of an inch, inhabits on the trunk and under the bark of the white oak.

Bren'ton, in *Minnesota*, a village of Anoka co., 24 m. N. of St. Anthony.

Bren'tonville, in *Indiana*, a village of Owen co., 18 m. N.W. of Bloomington.

Brents'ville, in *Indiana*, a village of Owen co.

Brents'ville, in *Virginia*, a township and village, former cap. of Prince William co., on the Occoquan creek, 104 m. N. of Richmond.

Brent'wood, in *New Hampshire*, a post-township of Rockingham co., 30 m. S.E. of Concord.

Brent'wood, in *Tennessee*, a post-village of Williamson co., 9 m. S. of Nashville.

Breseia, (*brai'sha,*) the ancient *Brixia*, a city of N. Italy, cap. of a province of same name, on the Garza, at the foot of the Alps, on the margin of the great plain of Lombardy, 60 m. E.N.E. of Milan and 30 N.N.E. of Cremona. It is strongly fortified, has a fine cathedral, and is distinguished by its industry and trade.

Breslau, (*bres'lou.*) the second largest city of Prussia, cap. of prov. Silesia, at the confluence of the Ohlau with the Oder, 190 m. S.E. of Berlin, comprising various suburbs, some of them built on islands of the Oder, and united to the body of the town by numerous bridges. *Manf.* Wool, linen, cotton, silk, alum, &c. It is the centre of a very extensive commerce. The fair held here in June for the sale of wool is the greatest of its kind in Germany, the quantity sold being usually about 6,000,000 lbs. *B.* is one of the most animated towns in Prussia. The inhabitants are wealthy, the town salubrious; with provisions abundant and cheap; education excellent; its people intelligent, frank, and sociable; the literary institutions numerous and easily accessible; and the country around it beautiful. *B.* was taken from Austria by Frederick the Great. *Pop.* (1895), 335,186.

Bressay, (*bres'sai,*) one of the Shetland Islands: 4½ m. long and 3 broad. It is separated from the mainland of Shetland by Bressay Sound. Lat 60° 14′ N., Lon. 1° 12′ W. *Pop.* about 1,000.

Bressumer, *n.* (*Arch.*) A contraction of *Breast-summer.* — See BEAM.

Brest, a strongly fortified maritime town of France, dep. Finistère, on the N. side of a spacious bay, near the extremity of the peninsula of Brittany, 30 m. N.W. of Quimper, 310 m. W.S.W. of Paris by road; Lat. 48° 23′ 32″ N., Lon. 4° 29′ 25″ W. The greatest part of the town is built on a hill, and consists of narrow, steep, winding, and dirty streets; in the suburb of Reconvrance, however, these are broad and regular, and the houses very handsome. The harbor, situate between this suburb and the town, is in the form of a long canal, and is capable of containing 60 ships of the line. On a steep rock at the entrance stands the citadel, which is defended towards the land by strong outworks. Opposite to it is a stately tower, which serves, with the citadel and several batteries, to protect the harbor. The principal public buildings and objects of curiosity in the town are the barracks, rope-walks, cloth-manufactories, forges, and foundries; the immense naval arsenal and dockyard; the two quays which encompass the harbor; the house of correction, the hospital, theatre, two marine academies, and the fine walk called *Le Cours.* Its commerce is principally limited to the supplying of provisions to the town and port. Cardinal Richelieu was the first to take advantage of the situation of *B.* and convert it into a naval station. Vauban extended and improved its fortifications. It was at *B.* that Mary Queen of Scots landed, when on her way to St. Germain. In 1694 it was attacked by an English fleet under Admiral Berkeley; but the expedition failed. As a naval school and port of construction, it ranked both before Cherbourg and Toulon, until the vast extensions and improvements made by Napoleon III. at Cherbourg, placed the latter in advance of all the other ports of France. *Pop.* (1895), 75,854.

Brest, *a.* (*Architecture.*) The moulding of a column; the torus.

Bret, or **Burt,** *n.* A name formerly given to a fish of the turbot kind.

Bretagne, Brittany, (*brit'a-ne,*) one of the provinces into which France was divided. It now forms the dep. of Finistère, Côtes-du-Nord, Morbihan, and Loire-Inférieure. In ancient times, *B.*, under the name of *Armorica*, was the central seat of the confederated Armorican tribes, who were of Celtic and Kymric origin. Traces of them still remain in the old Kymric dialect of the three most westerly departments, and in the numerous so-called Druidical monuments. The Breton has generally a tinge of melancholy in his disposition; but often conceals, under a dull and indifferent exterior, lively imagination and strong feelings. "The tenacity with which the Breton clings to the habits and belief of his forefathers is apparent by his retention of the Celtic language almost universally in Basse *B.*, and by his quaint costume, which in many districts is that of the 16th century." The greater number of the people are found to be ignorant and coarse in their manners, and their agriculture is of a very rude character, by no means calculated to develop the natural resources of the country. Apart from the beauty of its scenery, *B.* possesses great interest, as the only place where men can be seen living and acting much as our forefathers did three centuries ago. Under the Romans, the country, after 58 B. C., was made the *Provincia Lugdunensis Tertia;* but its subjugation was hardly more than nominal, and it was entirely liberated in the 4th C., when it was divided into several allied republican States, which, afterwards, were changed into petty monarchies. *B.* became subject to the Franks in the reign of Charlemagne, and was handed over by Charles the Simple to the Northmen in 912. After some fierce struggles, the Bretons appear to have at length acknowledged the suzerainty of the Norman dukes. Geoffroi, Count of Rennes, was the first to assume the title of Duke of Bretagne in 992. The duchy of *B.* was incorporated with France in 1532, by Francis I., to whom it had come by marriage, and subsequently shared in the general fortunes of the empire, but retained a local parliament until the outbreak of the Revolution. During the Revolution, *B.*, which was intensely loyal, was the arena of sanguinary conflicts, and especially of the movements of the Chouans (*q. v.*), who reappeared as recently as 1832.

Breth'ren, *n. pl.* of BROTHER, *q. v.* This plural occurs frequently in the New Testament, and was currently applied to each other by the first Christians. It denotes persons of the same society, and is now only used in the Solemn or Scriptural style.

Brethren of Social Life, *n.* (*Eccl. Hist.*) This association, which professed to imitate the social condition of the primitive Christians, was founded about 1376 by Geert Groote and Florentius Radewin. They had their goods in common, and were protected against the opposition of the religious orders by several popes and councils. The last fraternity was founded at Cambray in 1505. At the Reformation many members of these societies joined the reformed congregations, while others were united with the Jesuits. They were also called Brethren of the Common Lot, Brethren of Good Will, Hieronymites, and Gregorians.

Brethren of the Christian Schools. (*Eccl. Hist.*) An order of the Roman Church, established at Rheims by the Abbé de La Salle in 1725, sanctioned by Benedict XIII. in 1725, and now established in almost all the Catholic towns of Europe. In France principally, they number upwards of 500 schools. The object of the order is to provide instruction for the poorest classes of the population. The members of the order take upon themselves the vows of chastity, poverty, and obedience. Their costume is a coarse black cassock, and a small collar or band around the neck, for the house, and a hooded cloak and a wide hat for out-door purposes. Their diet is of the simplest kind. Their teaching is mainly rudimentary, although in some of their schools Latin and the higher mathematics form part of the course. Priests may be admitted to the order, but no member may become a priest. They are very numerous in Ireland. They have established schools in several towns of the U. States, where they count about 10,000 pupils.

Brethren, (White.) See WHITE BRETHREN.

Bretigny, (*bre-teen'ye,*) a village of France, dep. Eure-et-Loir, 6 m. from Chartres, celebrated as the place where, in 1360, Edward III. concluded a peace with France, by which John II. of France was released from his captivity in England, on agreeing to pay 3 million crowns for his ransom, England renouncing her pretensions to Normandy, Anjou, Maine, and Touraine, and being confirmed in the possession of Gascony, Guienne, and several other parts in France, recently acquired by conquest.

Breton de Los Herreros, DON MANUEL, a Spanish poet, B. 1796, at Quel, prov. of Logrono. He served in the army from 1814 to 1822, and afterwards held several situations under Government. At the age of 17 he wrote *A la Vejez Viruelas*, a comedy, which was performed with success. After that period he composed a very large number of plays, some original and others either translations or adaptations: *Poesias Sueltas* (1831); *La Desvergüenza*, a humorous poem (1858), and numerous volumes of satirical works. Died in 1873.

Bre'ton, (Cape,) in Lat. 45° 55′ N., Lon. 59° 40′ W., on the E. coast of CAPE BRETON Island, *q. v.*

Brett, a river of England, in Essex, falling into the Stour.

Bret'tice, Brattice, *n.* (*Mines.*) One of the wooden plankings used in coal mines to prevent the falling in of the strata.

Bretwal'da, *n.* [A. S., Ruler of Britain.] (*Hist.*) A title assigned by the Saxon chronicle to those kings of the Heptarchy who extended their government over the entire nation. The following are mentioned by Bede, but Hallam and other historians doubt whether any sovereign in those early times possessed such authority: A. D. 492, Ella, king of Sussex; 571, Ceawlin, king of Wessex; 594, Ethelbert, king of Kent; 615, Redwald, king of the West Angles; 623, Edwin, king of Deira; 634, Oswald, king of Bernicia; 643, Oswy, king of Bernicia.

Breughel, (*broi'gel,*) the name of a celebrated family of Flemish painters. — 1. *B.*, PETER, the son of a peasant, was born at Breughel, a village in the neighborhood of Breda. He was placed under Peter Koek of Aalst (Alost), whose daughter he subsequently married. Having learned painting under that master, he travelled into France and Italy. He took many views by the way, particularly among the Alps. Returning from Italy, he fixed his residence at Antwerp, and was admitted into the academy of that city in 1551. Here he lived for a long time with a mistress, whom he would have married, but for a habit she had of lying; which so displeased him, that he transferred his affections to the daughter of his old master, now dead, and obtained her hand upon condition of residing at Brussels, where she lived. As he lay on his death-bed, he ordered many of his paintings, which were either satirical or licentious, to be brought before him, and made his wife burn them in his presence. The dates of his birth and death are unknown. — He painted chiefly comic subjects, after the manner of Jerome Bosche, whom he excelled; and he has been considered by many inferior to Teniers alone in that branch of art. His composition has been objected to; but his drawing is correct and spirited, though not very highly finished. It was his frequent custom to disguise himself and mix with the peasantry at their festivals and games; and the happiness with which he transferred the living actions he thus witnessed to the canvas, has been aptly compared to Molière's, though in a different kind of satire. Besides comic subjects, he painted landscapes, and a few historical pictures. Two sons survived him, John and Peter. — 2. *B.*, JAN, B. at Brussels about 1570. He received the first principles of his art from his father, and for some time he confined himself to flower-painting; but travelling into Italy, he enlarged his style, and painted landscapes, which he adorned with small figures, executed with exquisite correctness and beauty. Many painters availed themselves of his liberality, and induced him to enrich their pictures with his beautiful little figures or landscapes; among them are Steenwick, Van Baelen, Rotenhamer, Momper, &c. Even Rubens made use of his skill in more than one picture, in which Rubens painted the figures, and *B.* the landscapes, flowers, animals, and even insects. JAN *B.* was extremely industrious, as the great number of his pictures, and the care with which they are finished, sufficiently attest. Growing rich by his industry, he cultivated a magnificence in his apparel, and was nicknamed *Velvet B.*, from the material of his dress, which was a costly stuff. His touch is light and spirited, his drawing correct, and his finish elaborate. His pictures are much admired, although his landscapes are injured by an exaggerated blueness in the distance. D. about 1642. — *B.*, PETER, the eldest son of Peter *B.*, was the pupil of Giles Coningsloo. From the diabolic nature of his favorite subjects he has been surnamed *Hellish.* He did not attain the eminence either of his father or brother. B. 1569; D. 1625.

Breun'nerite, *n.* (*Min.*) A native carbonate of magnesia and iron. It generally occurs crystallized in embedded rhombohedrons, in chlorite-slate and serpentine.

Breve, (*brēv,*) *n.* [It. *breve;* Lat. *brevis,* short.] Literally, a short note or precept. — (*Mus.*) A note, now seldom or ever used except in cathedral music. — See ALLA BREVE.

(*Old Law.*) A writ. An original writ. Any writ or precept issuing from the king or his court.

(*Printing.*) A curved mark, thus, ⏑, used to give a particular intonation to the sound of a vowel.

Brevet, (*bre-vet',*) *n.* [Fr., from Lat. *brevis.*] In French, this term signifies a royal act in writing, conferring some privilege or distinction; as, *brevet d'invention,* a patent. In England and the U. States it is applied to a commission giving *army rank,* as distinct from *regimental rank.* Brevet rank is attained either by distinguished service, or by seniority in the army.

—*a.* (*Mil.*) Holding rank by brevet; as, a *brevet* colonel.

—*v. a.* (*Mil.*) To confer rank upon by brevet.

Brevetcy, (*bre-vet'si,*) *n.* The rank or condition of a brevet. (R.)

Breviary, (*brē'vi-a-re,*) *n.* [Fr. *breviaire*; Lat. *brevia rium,* from *brevis.*] An abridgment; an epitome; a brief account.

"Cresconius, an African bishop, has given us an abridgment, or *breviary* thereof." — *Ayliffe.*

A book of the offices of daily prayer of the R. C. Church. The canonical hours are eight,—the night office of *matins* divided into three nocturns. The day offices are seven, viz., *lauds, prime, terce, sext, nones, vespers* and *compline.* Only the clergy are required to recite the *B.* daily. Formerly it was exacted of all.

Bre'viate, *n.* [Lat. *breviatus*, from *breviare*, to shorten.] A short summary; a brief epitome or compendium.

"The whole counsel of God, . . . is comprised in one *breviate* of evangelical truth." — *Decay of Piety.*

Bre'viature, *n.* An abbreviation. (R.)

Brev'icite, *n.* (*Min.*) The name given to the better crystallized variety of Bergmannite, which occurs in transparent colorless prisms, and in a white radiated mass, in Brevig, in Norway.

Brevier, (*brĕ-vēr'*,) *n.* [Fr. *breviaire*. See BREVIARY.] (*Typography.*) A small kind of type, originally used in printing breviaries, between the sizes of Bourgeois and Minion, as in the following line:

"To be born, to suffer, to die."

Brev'iped, *n.* [Lat. *brevis*, short, and *pes, pedis*, a foot.] An animal that has short legs.

—*a.* Having short legs.

Brev'ipen, *n.* [Lat. *brevis*, short, *penna*, quill.] (*Zoöl.*) One of the BREVIPENNES, *q. v.*

Brevipen'nate, *a.* Short-quilled, or short-feathered.

Brevipen'nes, Brevipen'nates, *n. pl.* [See BREVIPEN.] (*Zoöl.*) A name applied by Cuvier to distinguish the first family of his order *Grallæ*. The ostrich (*Fig.* 395), and the Cassowary (*Fig.* 415), are types of this family, corresponding to the order CURSORES, *q. v.*

Fig. 415. — CASSOWARY. (*Casuarius galeatus.*)

Brev'ity, *n.* [Lat. *brevitas* — *brevis*, short.] Shortness of time or duration; as, the *brevity* of one's stay upon earth.

—Conciseness or briefness of speech or composition; contraction into few words.

"*Brevity* is the soul of wit." — *Shaks.*

Brew, (*broo,*) *v. a.* [A.S. *brivan;* O. Ger. *briuwan;* W. *berw*, a boiling: from *berwi*, to boil or bubble.] To boil and mix: to stir or agitate with violence.

—To steep, boil, and ferment malt, &c., so as to make beer, ale, &e.

"We have drinks also *brewed* with several herbs, and roots, and spices." — *Bacon.*

—To concoct or prepare: to mingle together; as, to *brew* a bowl of punch.

"Take away these chalices; go, *brew* me a pottle of sack finely." *Shaks.*

—To contrive; to plot; as, to *brew* mischief.

"I found it to be the most malicious and frantic surmise, ... that I think had ever been *brewed* from the beginning of the world." — *Wotton.*

—*v. i.* To be in a state of boiling, mixing, forming, or collecting; as, a storm is *brewing.*

"Or *brew* fierce tempests on the wat'ry main,
Or o'er the globe distil the kindly rain." — *Pope.*

—To perform the business of brewing: as, to *brew* ale.

"I keep his house, and . . . *brew*, bake, scour." — *Shaks.*

Brew, *n.* Manner of brewing, or the thing brewed; as, beer of a good *brew.*

"Trial would be made of the like *brew*." — *Bacon.*

Brew'age, *n.* Malt liquor brewed; a mixture of various things.

"With eggs, sir?—
Simple of itself; I'll no pullet-sperm in my *brewage*." — *Shaks.*

Brew'er, *n.* One who brews; one whose business it is to brew malt liquors.

"When *brewers* mar their malt with water." — *Shaks.*

Brew'er, in *Maine*, a flourishing post-township of Penobscot co., on the Penobscot River, near Bangor; *pop.* 3,264.

Brew'er's Mills, in *Kentucky*, a P. O. of Marshall co.

Brewer's Ranch, in *Nebraska*, former name of a post-office of Merrick co.

Brew'ersville, in *Indiana*, a post-village of Jennings co., 60 m. S.S.E. of Indianapolis.

Brew'erton, in *New York*, a post-village on the Oneida River, 144 m. W. by N. of Albany; part of which belongs to Onondaga county, and part to Oswego county.

Brewer, in *Maine*, a town of Penobscot co.

Brew'ery, *n.* A house or place in which brewing is carried on.

Brew'-house, *n.* A brewery; a house appropriated to brewing.

"In our *brew-houses*, . . . are made divers drinks." — *Bacon.*

Brew'ing, *n.* Act of preparing malt liquors. — The quantity of liquor brewed at once. — See BEER.

(*Naut.*) A congregation of black clouds, augurring a storm.

Brew'ington, in *S. Carolina*, a P. O. of Sumter dist.

Brew'is, *n.* [A. S. *briw, es*, broth.] Bread soaked in boiling fat pottage made of salted meat.

Brews'ter, SIR DAVID, F.R.S., LL.D., K.H., an eminent natural philosopher, B. at Jedburgh, Scotland, 1781. He was educated for the Church of Scotland, of which he became a licentiate; and in 1800 received the honorary degree of M. A. from the University of Edinburgh. In 1808 he undertook the editorship of the *Edinburgh Encyclopædia*, which was not finished till 1829. In 1815 he received the Copley medal for his paper on the *Polarization of Light by Reflection*, and in the following year, for his discoveries in physics, received from the Institute of France 1,500 francs, which was the half of their prize. In 1816 he invented the kaleidoscope, in 1818 received the Rumford medal of the Royal Society, and in 1830 was presented with the medal of the Royal Society for his further researches on the properties of light. In the same year, with Davy, Herschel, and Babbage, he originated the British Association, the first meeting of which was held at York, in 1831. He was now knighted by William IV., and decorated with the Hanoverian Guelphic order. In 1841 he became principal of St. Leonard's College at St. Andrew's. In 1849 he was elected president of the British Association, and the same year had the high honor of being chosen, in the place of Berzelius, one of the eight foreign associates of the French Academy of Sciences. His discoveries in reference to the properties of light have led to great improvements in the illumination of light-houses. Among his more popular works are, a *Treatise on the Kaleidoscope*, a *Treatise on the Stereoscope*, a *Treatise on Optics*, *Letters on Natural Magic*, *The Martyrs of Science*, and *Memoirs on the Life and Writings of Sir Isaac Newton.* D. Feb. 2, 1868.

Brews'ter, in *Massachusetts*, a post-township of Barnstable co., 65 m. S.W. of Boston.

Brewsterite, (*broos'ter-ite,*) *n.* (*Min.*) A hydrated silicate of alumina, strontia, baryta, and lime, named after Sir David Brewster. It occurs in small gray or yellow transparent crystals at the Giant's Causeway, Ireland.

Brewster's Law, *n.* (*Optics.*) The tangent of the angle of polarization is equal to the refractive index of the polarizing material. This requires manifestly that the line of the reflected ray, when polarized, should be perpendicular to that of the refracted ray. There are several other optical laws discovered by Brewster, and passing current under his name. They have, however, generally been merged in higher laws.

Brewster's Station, in *New York*, a post-office of Putnam co.

Brexiaceæ, (*brex-i-ai'se-e,*) *n. pl.* (*Bot.*) An order of plants, alliance *Saxifragales*.—DIAG. Consolidated styles, a many-leaved calyx, alternate leaves, and no albumen. This small order comprises four genera, namely, *Brexia*, *Ixerba*, *Argophyllum*, and *Roussea*, belonging principally to Madagascar. The properties and uses of the plants are altogether unknown. They are trees with coriaceous, alternate, and simple leaves: the flowers are green, in axillary umbels; the calyx is five-parted and persistent; the petals and stamens are hypogynous, and equal in number to the divisions of the calyx; the fruit is drupaceous, five-cornered, and five-celled.

Brez'iline, *n.* (*Chem.*) The coloring matter of Brazil-wood.

Brian, (surnamed **Boroimhe,**) (*bo-roo',*) a celebrated king of Ireland, son of Kennedy, king of Munster, son of Lorcan. He ascended the throne of both Munsters, *i. e.* the present counties of Tipperary and Clare, A. D. 978. His earlier exploits were against the Danes of Limerick and Waterford; but being elated by frequent successes against these invaders, he deposed O'Maelachaghlin, the supreme king of the island, and eventually became himself monarch of Ireland. He derived his surname from the tribute which he now imposed upon the provinces. King *B.* supported a rude but royal magnificence at his chief residence of Kincora, near the present town of Killaloe, in the county of Clare. He had also castles at Tara and Cashel. *B.* continued for many years to rule his dominions with vigor and prosperity, reducing the Danes and subduing their native allies, building numerous *duns* or castles, causing roads and bridges to be constructed, and enforcing the law by taking hostages from all the petty kings of the country. Having, however, disputed with Maelmora, the king of Leinster, Maelmora revolted, and, inviting a new invasion of Danes to his assistance, brought on the battle of Clontarf, in which king *B.* fell, after gaining a glorious victory over the united forces of the invaders and revolted natives, on Good Friday, anno 1014. *B.* and his son Murrough, who fell in the same battle, were buried together in the Cathedral of Armagh. The funeral obsequies lasted twelve days and nights, and the possession of the heroic remains was afterwards contested by rival potentates. *B.* is said to have defeated the Danes in twenty-five pitched battles. Prior to the battle of Clontarf he had confined them to the cities of Dublin, Wexford, Waterford, and Limerick: and from the final blow which he gave their power in that engagement they never recovered. He was the founder of the numerous sept of O'Brien, *O* or *Ua* being a distinctive adnomen not assumed by Irish families till after his time. This national prefix means "descendant of," or, "of the kindred of," and was originally supplied by the more ancient Mac, which means "son."

Brian'chon's Theorem, *n.* (*Math.*) In conic sections, the reciprocal of *Pascal's theorem*, first given by its discoverer, M. Brianchon, in the *Journal de l'École Polytechnique*, cah. 13. It is thus enunciated: "The three diagonals of every hexagon circumscribed to a conic meet in a point, and may be easily deduced from the unharmonic properties of conics. By allowing two or more sides to coincide, numerous useful corollaries may be deduced."

Briançon, (*bre'an-sawng,*) a strongly fortified town of France, dep. Hautes Alpes, cap. of an arrond., on the Durance, 50 m. E.S.E. of Grenoble. This is the highest town in France, being 4,280 feet above the level of the sea. From its commanding a practicable defile, leading from Piedmont into Italy, *B.* has always been looked upon as one of the keys of the kingdom on the side of Italy. In consequence, no expense has been spared on its fortifications, which are now deemed all but impregnable. They consist principally of strong forts built on the contiguous heights, and which command all the approaches to the town. The two principal forts, *Trois*

Fig. 416. — BRIANÇON.

Têtes and *Randouillet*, communicate with each other and with the town by a bridge of a single arch, 130 feet in span, thrown over a deep ravine. With the exception of a single street, the town is ill-built, gloomy, and dirty. *Manf.* Cotton goods, hosiery, steel, and cutlery. *Pop.* 4,961.

Briansk', a town of European Russia, govt. Orel, cap. of a district on the Desna, 55 m. W. of Orel; Lat. 53° 16′ N., Lon. 34° 24′ E. This is a prosperous and well-built place, having extensive manufactories of cannon, arms, and leather. *Pop.* 13,341.

Bri'ar Creek, in *Pennsylvania*, a township of Columbia co.

Bri'are, a town of France, dep. Loiret, on the Loire, 25 m. S. of Montargis. The canal, to which the town is indebted for its importance, is the oldest work of the kind in France, having been begun in the reign of Henry IV., though it was not finished till 1740. It establishes, by means of its junction with the canal of Loing at Montargis, a communication between the Loire and the Seine, and conveys the various products of the prov. watered by the former to Paris. *Pop.* 4,319.

Bria'rean, *a.* Hundred-handed; relating to, or resembling, Briareus, *q. v.*

Briareus, (*bri-ai're-us.*) (*Myth.*) A famous giant, son of Cœlus and Terra, who had a hundred hands and fifty heads, and was called by men *Ægeon*, and only by the gods Briareus. He assisted the giants in their war against the gods, and, according to the accounts of some, was thrown under Mount Ætna.

Bribe, (*brib,*) *n.* [Fr. *bribe*, from Sp. *bribár*, to beg; W. *briw*, a break, also, broken; *bara briw*, broken bread.] A price, reward, gift, or favor bestowed or promised with a view to pervert the judgment, or corrupt the conduct of a judge, witness, or other person.

"Too poor for a *bribe*, and too proud to importune;
He had not the method of making a fortune."—*Gray.*

—Means of seduction; the thing that allures.

"If a man be covetous, profits or *bribes* may put him to the test."—*L'Estrange.*

Bribe, *v. a.* To give or promise a bribe to; to bestow by reward or hire for a bad purpose: as, to *bribe* a voter.

"The great, 'tis true, can still th' electing tribe;
The bard may supplicate, but cannot *bribe*."
Prologue to Good-natured Man.

—To gain over by bribes.

"How powerful are chaste vows! the wind and tide
You *brib'd* to combat on the English side."—*Dryden.*

—*v. i.* To give a bribe to a person; to seek to corrupt by a bribe.

Bribe'less, *a.* Without being bribed; innocent of a bribe.

"From thence to heaven's *bribeless* hall."—*Raleigh.*

Brib'er, *n.* One who gives bribes; he who bribes another.

"Affection is still a *briber* of the judgment."—*South.*

Brib'ery, *n.* The act or practice of giving or taking bribes.

(*Hist. and Law.*) This form of corruption is mentioned several times in the Bible, and is forbidden. (*Deut.* xvi. 19.) It prevailed extensively among most ancient nations. When Ergocles was convicted of having embezzled 30 talents, and payment was demanded of his friend Philocrates, his party openly boasted of having bribed 2,100 jurymen at Athens. *B.* prevailed to a fearful extent in Rome, and existed in various forms during the Middle Ages. — *B.* is an offence against public justice, and is committed when a judge or other person concerned in the administration of justice, takes any undue reward to influence his behavior in his office. — *B.* at elections for members of Parliament in Great Britain has always been held a crime at common law, and punishable by indictment or information. An attempt to bribe, even though unsuccessful, has been held to be criminal, and the offender may be indicted. In the U. States similar statutory provisions have been enacted. — "Judicial purity has been generally maintained in this country, but all penalties against improper influence at elections, and upon members of legislative

bodies, have been ineffectual, here and abroad."

Brib'ery-oath, *n.* In England, an oath taken by a voter to make assurance that he has not been bribed.

Bribe'-worthy, *a.* Worth the expense of bribing.

Bric-à-brac, (*brik-a-brak,*) *n.* [Fr.] Knick-knacks, old things, curiosities, fancy ware, old china, &c.

Brick, (*brik,*) *n.* [Fr. *brique*, from Celt. *brig*, baked earth.] A mass of clay-earth, sometimes mixed with coal-ashes, chalk, and other substances, and then moulded into a rectangular form, which in the U. States varies in size in the different States, running from 7¾ to 8⅓ inches in length, 4 to 4½ in width, and from 2¼ to 2½ in thickness. *B.* have been used in building from a very early period; the Tower of Babel was a structure of *B.*, and the imposing edifices of Nineveh and Babylon, reared on huge mounds of many acres in extent, also some of the pyramids of Egypt, were built of the same material. The Greeks and Romans also used *B.* in many of their public works; and it is probable, from the inscriptions stamped on those of Babylon, and the various marks on those of Greece and Rome, that all were formed in moulds before they were hardened by the sun or fire. One peculiarity to be noticed with respect to the Roman *B.*, is that they are but a little thicker than an ordinary tile, and longer and wider than ours. *B.* were little used during the mediæval period, although it is to that time that we owe the introduction of glazed *B.* for ornamental work. For the last 300 years *B.* have been extensively used in Europe, particularly in districts where clay is plentiful, and it is difficult and expensive to procure stone. There are many different kinds of *B.*, which may be divided into three classes, as follows: — 1. *Bricks used for walling;* 2. *Fire-bricks;* and 3. *Clinkers*, or *Paving Bricks.* There are two methods of burning *B.* for walling, and they are accordingly called *kiln-burnt B.*, or *clamp-burnt B.* The latter *B.* are the most common, and are generally known as "common *B.*" They are made of coarse stiff clay, which requires sand to be mixed with it to allow it to be worked with facility. These *B.* are burnt in clamps or stacks of 500,000 to

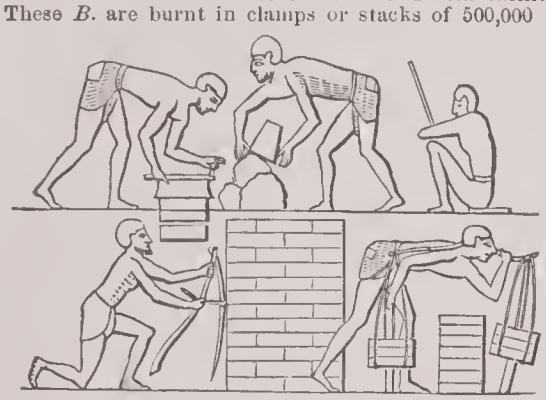


Fig. 417. — ANCIENT EGYPTIAN BRICKMAKING.
(From Rosellini's "Paintings of Egypt.")

1,000,000 in number, with the fuel interspersed among them, that every *B.* may be thoroughly exposed to the action of the fire. If the fire is too strong, it causes the *B.* to fuse and run together, and form hard irregular masses, called *clinkers;* but if the fire is not strong enough, the *B.* turn out to be soft, and therefore unfit for building purposes. About one-tenth of every clamp is lost by the unequal action of the fire and breakage. When the clamp is sufficiently baked, the *B.* are divided into classes known as *cutters*, fine close-grained *B.*, rather soft, and better suited for work in which the *B.* require cutting; *picked stocks*, *B.* of a uniform red tint; *paviours*, hard *B.* fit for paving; *common stocks*, or ordinary *B.*; *grizzles*, or soft *B.*; and *burrs*. The *B.* also vary in color, according to the degree of heat to which they were exposed. Kiln-baked *B.*, also called *malm B.*, are made of a finer clay, which contains a considerable quantity of carbonate of lime; for which reason great care is taken to prevent the air getting to the *B.* while they are baking, for this would cause the lime to pass into a caustic state; and, when exposed to the action of the atmosphere, it would absorb moisture, which would cause it to swell and burst the *B.* in pieces. These malms are slowly burnt in kilns; they are better for ornamental purposes, being of a pretty buff color, but they are not so durable as the common *B.* From 20,000 to 30,000 are baked at once. *Fire-B.* are made of clay containing a considerable quantity of silicate of alumina, and as free as possible from lime, in any form, or iron. The clay is carefully prepared, and the *B.* are exposed to an intense heat in kilns, as they are required for building up furnaces, and other purposes, for which it is necessary that they should be able to withstand the action of fire. *Paving-B.* are made of clay which contains a great amount of silica, that fuses when the bricks are burnt, and causes them to become very hard. The *B.* of the Egyptian and Babylonian builders, above spoken of, were largely sun-dried, this being the case to a minor extent in Egypt, and almost wholly in the Babylonian and Assyrian structures, the scarcity of fuel in this region rendering the process of brick-burning much too costly. Yet some of the most ancient Babylonian terraces, such as those at Warka and Mugheir, are faced with brilliantly colored glazed bricks, showing a considerable development of the brick making art at a very remote date. The great mounds erected were provided with carefully-constructed drains to save them from ruin by the action of infiltrated rain-water. But subsequent ages of neglect gave full sway to disintegration by water, and these enormous structures are now reduced to hills of clay, within which invaluable antiquities are fortunately preserved. Sun-dried bricks were also largely used in America by the natives, and later by the Spaniards of Mexico and the Pueblo region. These, under the name of *adobe*, are still much employed in that region. In Peru excellent bricks were prepared. Glazed or enameled bricks, used, as we have said, in ancient Babylonia, were also made in India, Persia and China, and have recently come again considerably into

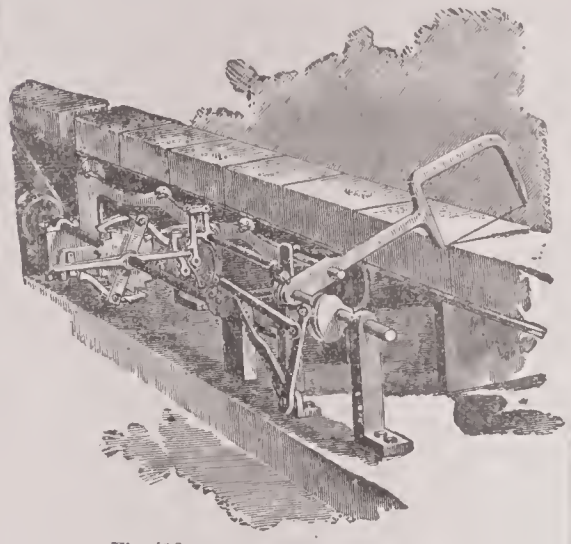


Fig. 418.—BRICK-CUTTING MACHINE.

use in England and America. The glazed bricks, being washable and non-absorbent, quickly found favor when introduced some thirty years ago, and are now largely employed in the cities of England. Their principal seat of manufacture is the Leeds district, where the material for producing the glaze exists in unusually fine condition. The output is from four to five million bricks per week, of which about one-sixth are shipped to America. At present excellent enameled bricks are made in this country, though no clay has been found that will burn with so smooth a surface as that of the Leeds district. The common red brick of the past is to-day rapidly losing favor and being replaced by bricks of a light shade, the clay being colored buff, yellow, pink and other attractive shades. Bricks of this character are now somewhat widely coming into use.—*Slag bricks.* The manufacture of *B.* from the refuse slag of blast furnaces has grown to be an important industry in Germany, where the Luhrmann furnaces have turned out millions of *B.* of this character. The slag is carefully granulated and mixed with lime, the mixture being then moulded into bricks by a machine. When finished they are too soft for building purposes, and need to stand from six to twelve months before they gain the requisite hardness.—*Paving bricks.* The employment of vitrified *B.* for paving purposes is steadily growing in favor in American cities, in whose streets many miles of such pavement now exist, more particularly in the residential and suburban districts, where they are less likely to be subjected to heavy traffic. If the bricks be carefully selected, such pavements are found to be very durable.—*Water-proofing bricks.* Various experiments have recently been made in the production of water-proof bricks, by soaking them in oil until they take up all they can absorb. Where crude mineral oil—"blue oil"—was employed, the oil evaporated and the *B.* re-

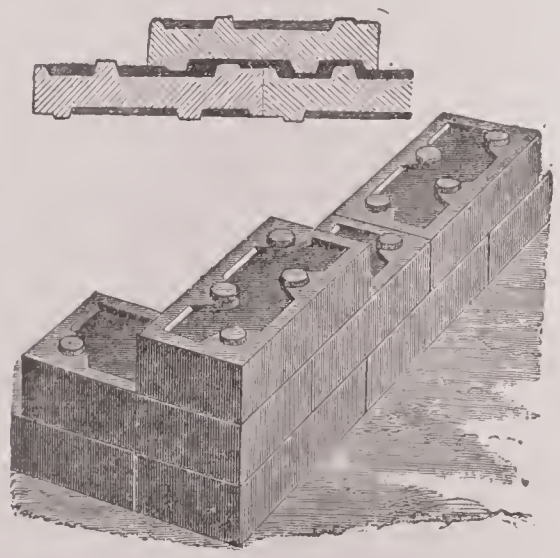


Fig. 419.—INTERLOCKING BRICKS.

turned to the original weight in a year's time, but those treated with linseed retained the oil and manifested excellent water-proof qualities.—*Glass bricks.* A movement in the same direction, of considerable interest, has been made in the manufacture of bricks of blown glass. These contain a hollow space about one-third their cubic content, and as the opening is closed at 500° of heat, it is filled with rarefied air. These bricks are non-conductors alike of heat, cold and moisture. They are made in cubic, hexagonal, and other shapes, and are intended for building walls of plant houses and winter gardens, though their useful qualities have brought them into favorable consideration for house building purposes. For this they would have several advantages, their non-conducting properties keeping out the cold in winter and the heat in summer, while they would freely admit the light although opaque to vision.—*Special shapes.* For building purposes many forms of *B.* are made, among which may be mentioned the interlocking shape designed by Kleinberger in 1896 (Fig. 419), the purpose of which is to impart additional firmness to the walls thus composed. The engraving represents a portion of the corner of a wall in which these bricks are used, the smaller figure showing a sectional view of bricks thus laid to break joints. Upon both the upper and lower faces of the bricks are recesses and projections or nipples, the latter being ordinarily made to extend a slight distance above the plane of the margin of the brick. These interlocking bricks are designed to tie themselves together in such a way that the wall cannot be sprung outward or cracked.—*Brick-making machines.* The old hand manufacture of *B.* has now been very largely replaced by the use of machines, which at once make a more shapely and a cheaper brick. Several such machines have been invented, each with some feature to recommend it. There are two general classes of *B.* machines, one in which a continuous stream of clay is forced from the pug-mill (or mixing hopper) in a continuous stream, and afterwards cut into the proper lengths by knives or wires which make a smooth transverse cut across the slab. In the second class the clay is expressed into molds moving under the nozzle of the pug-mill. This latter class has several varieties, based on the arrangement of the molds, they being borne on wheels or cylinders having varied motions—linked into an endless belt or otherwise arranged. The clay being shovelled into the hopper of the machine is cut by a series of revolving knives and thoroughly mixed so as to form a homogeneous mass, and at the same time is pressed forward to the orifice of the mill. In a machine of the first class,

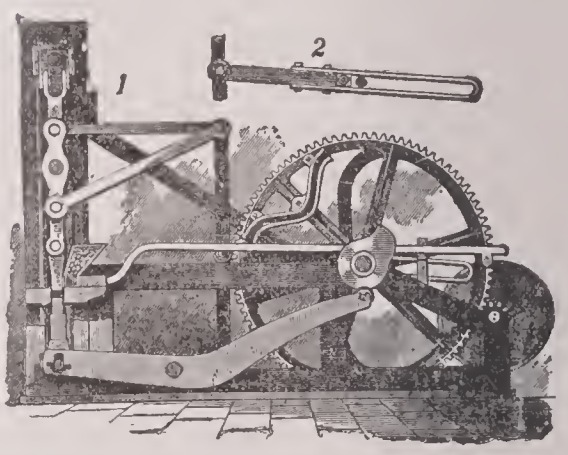


Fig. 420.—GERDING AND HARRISON'S BRICK MACHINE.

of which a typical example is the Chambers machine, the clay is urged into a chamber, where it is at once forced onward and compressed by the gradually diminishing space. The orifice of the die holder, into which the clay enters, is of the shape of the end of a brick, and the die is made hollow to admit the entrance of steam, whose action much facilitates the flow of the clay. The cutting into proper lengths of the steadily advancing stream of compressed clay is alone needed to complete the process, the bricks thus formed being carried away on an endless belt, whence they are taken by hand and finally prepared for burning. Of the second class the Morand machine is a typical example. This consists of two pug-mills, a horizontal revolving mold-board, and an "off-bearing" belt. The clay and water being put into the horizontal mill, a spirally arranged set of knives thoroughly mix and temper it, and force it forward to the end, where it descends into the vertical mill. Here again it is exposed to the action of cutting and mixing knives, the double pugging giving it a high degree of plasticity and homogeneity. Under the vertical mill, and in contact with its lower end, there revolves continuously the horizontal mold-table, on whose periphery eight molds are placed, near each other, at equal distances. The clay is forced downward through a slot in the bottom of the mill, and fills each mold in succession as they pass below. Each mold then passes under a pressure plate, which confines the clay on top, while a movable plate which fills the bottom of the mold is forced up into it by passing over a revolving cam on a shaft below. This compresses the brick, while the air and excess clay are forced through a small circular aperture in the pressure plate. As the mold passes on, a second cam lifts the brick up to the level of the top of the mold table, where it is pushed off automatically to an off-carrying belt. From this belt the bricks are taken, sanded, hand-pressed, put on cars, and conveyed to the drying ovens, all being done within a few minutes after the crude clay has been introduced into the mill. The principle adopted in this machine is employed in various others, differing in method of action, yet each producing similar results. The product of such machines is large, that of the Morand machine being from 20,000 to 24,000 bricks per ten hours, while the

thorough tempering and uniform density and shape of machine bricks give them superiority over the hand product. The machine devised by Gerding and Harrison in 1894 (Fig. 420), follows the idea of the Morand machine in the essentials for its mechanism.—*Brick Burning.* The methods of burning bricks vary with the form and size of the kiln and the fuel used. The earlier kilns were rectangular, the bricks being "set" so as to allow a free circulation of heat. The fire-chambers were arranged in parallel jointed arches, whose axes were perpendicular to the sides of the kiln. The fire was started gently near the outer walls and worked in gradually near the centre, care being taken not to force it too rapidly. In another method the fire began in the centre and worked out toward the sides. Again, it passed up a central flue and drawn through the bricks arranged around it, being then drawn into a chimney or flue. The kiln in this case was annular in shape. Bricks are also burned in England in "clamps," or piles without protecting walls, the fuel being placed in layers between the courses of bricks. The time of burning varies from four to seven days, and the fuel requisite from ¼ to ¾ cord of wood, or its equivalent, to the thousand bricks. After the burning is completed—which is tested by the amount of settling in the kiln—cooling must be allowed to proceed very slowly, great care being taken to lute up the doors of the fire-chambers and ash-pits, and other openings, since if a current of cold air should penetrate to the interior, it would injure, and might ruin, the bricks with which it came into contact.

—Bricks taken collectively; a thousand of *brick*.

—A loaf shaped like a brick.

—A term used colloquially in a cant sense, to denote a good fellow; an excellent friend; as, he's a regular *brick*.

—*v. a.* To lay with bricks; as, to *brick* a wall.

> "The sexton comes to know whether his grave is to be plain or *bricked*."—*Swift.*

—To fashion in imitation of bricks.

To brick up. To fill up with layers of bricks.

Brick, in *New Jersey*, a flourishing township of Ocean county.

Brick'axe, *n.* An implement used for axing off the soffits of bricks to the saw-cuttings, and the sides to the lines drawn; as the bricks are always rubbed smooth after axing, the more truly they are axed the less labor there will be in rubbing.

Brick'bat, *n.* A piece or fragment of a brick.

> "Earthen bottles, filled with hot water, do produce in bed a sweat more daintily than *brick-bats* hot."—*Bacon.*

Brick Church, in *North Carolina*, a post-office of Guilford co.

Brick'-clay, *n.* A common variety of clay adapted to the making of bricks. Many mixtures and combinations of silicate of alumina with silica, iron, and alkaline earths are available; but the best kinds contain little of the latter materials, as they are apt to cause the bricks to melt and run together into a kind of glass in the kiln. There is no special geological age for brick-clays, as they belong indifferently to the oldest and newest formations. The red color of bricks is derived from the oxide of iron that most clays contain. The clay in the vicinity of Milwaukee, Wisconsin, is remarkably free from iron, and the bricks made of it are of an agreeable straw color, with no tinge of redness. These are so highly valued, that they are transported even to New York city.

Brick'-dust, *n.* The dust of pounded bricks.

> "This ingenious author, being thus sharp set, got together a convenient quantity of *brick-dust*, and disposed of it into several papers."—*Spectator.*

Brick'-earth, *n.* Earth or clay suitable for the manufacture of bricks.

Brick'erville, in *Pennsylvania*, a P.O. of Lancaster co.

Brick'-grouns, *n. pl.* (*Building.*) The intersecting or meeting of two circles upon their diagonal elevations, drawn upon the different sides of a square, whose principal strength lies in the united force of elevation divided by geometrical proportions to one certain gravity.

Brick Head, in *Georgia*, a district of De Kalb co.

Brick'-kiln, *n.* A kiln or furnace in which bricks are baked or burned.

> "Like the Israelites in the *brick-kilns*, they multiplied the more for their oppression."—*Decay of Piety.*

Brick'land, in *Virginia*, a post-office of Lunenburg co.

Brick'layer, *n.* One who builds with bricks; a brick-mason.

> "And ignorant of his birth and parentage,
> Became a *bricklayer* when he came of age."—*Swift.*

Brick'laying, *n.* The art by which bricks are joined and cemented, so as to adhere as one body. The thickness of walls of houses built of brick is regulated by the length of the *B.*; walls, therefore, are spoken of as being half a *B.*, a *B.*, a *B.* and a half, &c., in thickness. In houses, generally, the outer walls are from one *B.* to two in thickness, and the partition walls only half a *B* thick. In bricklaying, care must be taken that the *B.* are well bounded, that is, that the successive layers of *B.* may be so placed that no joint in any layer shall come immediately over another joint in the layer below it. Each layer of *B.* is called a *course*. When *B.* are laid with the side facing outward, and lengthwise in the course, they are termed *stretchers*, and the course is called a *stretching course*; but when the end appears in the face of the wall, they are called *headers*, and the course a *heading-course*. There are four principal methods of bonding *B.* together, called English bond, Flemish bond, Herring bond, and Garden bond. *English bond* consists of stretching-courses and heading-courses alternately; *Flemish bond*, in laying a stretcher and header alternately in each course; *Herring bond* is used for the core of thick walls, alternate courses of *B.* being laid between the outer and inner faces diagonally, at an angle of 45° to the face, each course being also laid in an opposite direction to that on which it rests; this leaves triangular spaces between the core and the face of the wall, but it is supposed to give strength to walls the faces of which are built on the principle of the Flemish bond. *Garden bond* consists of three stretchers and a header in every course; it is only used for walls of the thickness of one brick.

Brick'ley, in *Mississippi*, a post-office of Jackson co.

Brick'maker, *n.* One whose trade it is to make bricks.

Brick Meeting House, in *Maryland*, a township of Cecil co.

Brick Mill, in *Tennessee*, a post-office of Blount co.

Brick'-nogging, *n.* (*Building.*) Brickwork carried up and filled in between timber framing.

Bricks'borough, in *New Jersey*, a village of Cumberland co., on Maurice River, 14 m. S.E. of Bridgeton.

Bricks'burgh, in *New Jersey*, a P.O. of Ocean co.

Bricks'ville, in *Ohio*, a post-office of Cuyahoga co.

Brick'-tea, *n.* A preparation of tea-leaves made by saturating the fresh leaves with fat, or with an alkaline solution, and pressing them into large cakes like tiles. It is used throughout Thibet and Mongolia.

Brick'ton, in *Illinois*, a post-office of Cook co.

Brick'-trimmer, *n.* (*Building.*) A brick arch abutting upon the wooden trimmer under the slab of a fire-place, to prevent the communication of fire.

Brick'-trowel, *n.* (*Building.*) A tool used for taking up mortar and spreading it along the wall, to cement the bricks, &c. together.

Brick'ville, in *Illinois*, a village of Morgan co., 26 m. W. by S. of Springfield.

Brick'-work, *n.* A structure formed of bricks.

Brick'y, *n.* Formed of, or belonging to, bricks. (R.)

Brick'-yard, *n.* A place or enclosure where bricks are made.

Bricole', *n.* [Fr.] (*Mil.*) Men's harness for dragging guns when horses are not available.

Bricquebec, (*breek'bek,*) a town of France, dep. La Manche, cap. of a cant., 8 m. W.S.W. of Valognes. *Pop.* 4,365.

Brid'al, *a.* Belonging to a bride, or to a wedding; nuptial; connubial; as, a *bridal*-day.

> "Come, I will bring thee to thy *bridal* chamber."—*Shaks.*

Brid'al, *n.* [A. S. *bryd-ealc*, bride-ale.] A wedding; the nuptial ceremony; a wedding-feast.

> "Sweet day, so cool, so calm, so bright,
> The *bridal* of the earth and sky."—*Herbert.*

Bridal Veil Falls, in *California*. See POHONO.

Bride, *n.* [A. S. *bryd;* Frisian, *breid;* O. Ger. *brût;* Ger. *braut;* Icel. *brudr;* W. *briduw*, a solemn adjuration.] A woman newly married; a recently espoused woman.

> "To Germany, what owe we not besides?
> So oft bestowing Brunswickers and *brides*."—*Byron.*

—A woman espoused, or contracted to be married.

> "Has by his own experience tried
> How much the wife is dearer than the *bride*."—*Lord Lyttelton.*

Bride, a river of Ireland, rising in the Nagle Mountains, co. Cork, and after flowing E. for 25 m. joins the Blackwater, in Waterford co., 8 m. N. of Youghal.

—Another river, co. Cork, joining the Lee, near Cork city, after a course of 11 m.

Bride'-ale, *n.* A rustic bridal festival. (Prov. English.)

Bride'-bed, *n.* The nuptial bed.

> "To the best *bride-bed* will we,
> Which by us shall blessed be."—*Shaks.*

Bride'-cake, *n.* The cake which is made for the guests at a wedding.

> "And divide the broad *bride-cake*
> Round about the bride-stake."—*Ben Jonson.*

Bride'-chamber, *n.* The bride's apartment; the nuptial room.

Bride'groom, (*brīd'grōm,*) *n.* [A. S. *bryd-guma* — *bryd*, bride, and *guma*, a man.] The bride's man; specifically, a newly married man; a man about to be married.

> "As are those dulcet sounds in break of day,
> That creep into the dreaming *bridegroom's* ear,
> And summon him to marriage."—*Shaks.*

Bride'-maid, Brides'-maid, *n.* A woman who attends upon a bride at a wedding.

Bride'-man, Brides'-man, *n.* A man who attends upon bridegroom and bride at a wedding.

Brides'burg, in *Pennsylvania*, a suburb of the city of Philadelphia, on the Delaware River, at the mouth of Frankford Creek. A U. States arsenal is situated here.

Bride'-stake, *n.* A hole or post set in the ground to dance around at a wedding festival; as, "Round about the *bride-stake*."—*Ben Jonson.*

Bride'well, *n.* A house of correction for offenders is commonly so called in England. The name is derived from the ancient London house of correction, originally a hospital founded by Edward VI. on the site of *St. Bride's Well*, in Blackfriars, a well-known object of pilgrimage in Roman Catholic times. The original *B.* is under the control of the Lord Mayor, and used as a receptacle for vagrants, &c., within the jurisdiction of the city.

Bridge, *n.* (*Mech. and Eng.*) See BRIDGE in SEC. II.

(*Mus.*) The arch supporting the strings in stringed musical instruments.

(*Gunnery.*) The two pieces of timber that connect the transoms of a gun-carriage.

Bridge of Steamer. (*Naut.*) A platform raised above the deck for the purpose of connecting the paddle-boxes.

—An elevated observation platform, or half deck, crossing a vessel transversely, upon which the commanding officer or pilot has his station. On warships, an armored conning-tower is similarly located and employed.

Bridge of the Nose. (*Anat.*) The upper part of the nose.

Bridge-train. (*Mil.*) A train of wagons employed for the conveyance of materials required for the construction of temporary military bridges or pontoons.

Bridge, *v. a.* To build a bridge or bridges over; as, to *bridge* a stream, &c.

—To make a passage or road by a bridge, or bridges.

Bridge'-board, *n.* (*Arch.*) A board on which the ends of the steps of wooden stairs are fastened. Sometimes called *notch-board*.

Bridge'borough, in *N. Jersey*, a post-village of Burlington co., on Rancocas Creek, 12 m. E.N.E. of Camden.

Bridge Creek, in *Georgia*, flowing into Ocklockonee River, in Thomas co.

Bridge Creek, in *Wisconsin*, a township of Eau Claire co.

Bridged-gutters, *n. pl.* (*Carp.*) Gutters made with boards supported by bearers, and covered over with lead.

Bridge'hampton, in *Michigan*, a township of Sanilac co.

Bridge'hampton, in *New York*, a post-village of Suffolk co., 20 m. W. of Montauk Point.

Bridge'-head, *n.* [Fr. *tête-de-pont.*] (*Mil.*) A fortification designed for the defence of a bridge, built either to secure the bridge from the sudden attack of an enemy, and then forming an essential portion of the regular works constructed for the defence of any town; or, thrown up hastily to secure the retreat of an army across a river, and to enable a small body of defenders to hold the enemy in check until the retreat has been safely effected, and means have been taken to destroy the bridge by which the passage has been made. The common form of a *B.* is a breastwork open in the rear, offering a salient angle to the attacking force; sometimes it is formed by bastions regularly connected by curtains, or by a series of redoubts. The army in retreat should gain the bridge by openings in the breastwork, which should be placed in the re-entering angles, if the work be of sufficient extent, and protected by a cross-fire from opposite faces of the fortification, and a direct fire from traverses in the interior. The most favorable position for a *B.*, or *tête-du-pont*, as it is generally called, is when the bridge which it is intended to defend is situated at a re-entering bend of the river, or where the river forms an arc, having the chord which subtends it on the same side as the *B* — *B.* are to be found at many fortified towns on the Rhine.

Bridge'less, *a.* Without a bridge.

Bridge Leyden, in *Illinois*, a village of Cook co., 12 m. W.N.W. of Chicago.

Bridge'north, a town of England, co. Salop, on the Severn, 125 m. N.W. of London. It is divided by the river into upper and lower towns; the former is built on the acclivity of a precipitous rock, whose summit is crowned by an ancient castle and a modern church. *Manf.* Carpets, tobacco-pipes, and nails. *Pop.* 8,468.

Bridge'port, in *Alabama*, a twp. of Jackson co.

Bridge'port, in *California*, a post-village and township, cap. of Mono co., 200 m. S.E. of Sacramento.

—A village and township of Nevada co., 7 m. W.N.W. of Nevada city.

Bridge'port, in *Connecticut*, a fine city and seaport of Fairfield co., on an arm of Long Island Sound, at the entrance of Pequonnock River, 18 m. W.S.W. of New Haven, 54 S.W. of Hartford, and 58 N.E. of New York. *B.* has a flourishing coasting trade, and once had considerable business in the whale fisheries.—*Manf.* Articles of brass and aluminium, hardware, sewing-machines, carriages, projectiles, &c. Black Rock harbor is a favorite stopping place for yachting squadrons and has sufficient depth of water for large vessels. *Pop.* 1890, 48,866; 1897, estimated, 60,000.

Bridge'port, in *Illinois*, a village of Greene co., on the Illinois River, 15 m. N.W. of Carrollton.

—A post-village of Lawrence co., 14 m. W. of Vincennes.

Bridge'port, in *Indiana*, a village of Elkhart co.

—A prosperous village of Harrison co., on the Ohio River, 130 m. S. of Indianapolis. Boat-building is extensively pursued here.

—A post-village of Marion co., 9 m. W.S.W. of Indianapolis.

—A village of Perry co.

Bridge'port, in *Iowa*, a village of Jackson co., on the Makoqueta River, 75 m. N.E. of Iowa city.

Bridge'port, in *Kentucky*, a post-village of Franklin co., 4 m. S.W. of Frankfort.

Bridge'port, in *Maryland*, a P. O. of Frederick co.

Bridge'port, in *Michigan*, a village and township of Saginaw county, on Cass River, 25 miles N.N.W. of Flint.

Bridge'port, in *Missouri*, a post-village of Warren co., near the Missouri River.

Bridge'port, in *New Jersey*, a village of Burlington co., on Wading River, 29 m. S.S.E. of Mount Holly.

—A post-office of Gloucester co.

Bridge'port, in *New York*, a post-village of Madison co., on Chittenango Creek, 12 m. N. E. of Syracuse.

—A post-village of Seneca co., on Cayuga Lake, 12 m. W. of Auburn.

Bridge'port, in *Ohio*, a flourishing post-village of Belmont county, on the Ohio river, opposite Wheeling.

—A village of Montgomery co., 10 m. S.S.W. of Dayton.

Bridge'port, in *Oregon*, a post-village of Baker co.

Bridge'port, in *Pennsylvania*, a thriving borough of Bridgeport township, Fayette co., on the Monongahela River, 40 m. S. of Pittsburg.

—A village of Clearfield co.

—A village of Franklin co., 12 m. W. by S. of Chambersburg.

—A post-borough of Montgomery co., on the Schuylkill River, opposite Norristown.

Bridge'port, in *West Virginia*, a post-village of Harrison co., 5 m. E. of Clarksburg.

Bridge'port, in *Wisconsin*, a village of Brown co., on the Neenah or Fox River, at the mouth of Plum Creek. —A post-village of Crawford co., on the Wisconsin River, 8 m. S.E. of Prairie du Chien.

Bridge'port Centre, in *Michigan*, a post-office of Saginaw co.

Bridge Prairie, in *Illinois*, a township of St. Clair co.

Bridge'-stone, *n.* (*Arch.*) A stone laid from the pavement to the entrance-door of a house, over a sunk area, and supported by an arch.

Bridget, (St.,) (*brid'jet,*) or ST. BRIDE, a Roman Catholic saint, native of Ireland, who flourished in the end of the 5th and beginning of the 6th centuries, and was renowned for her beauty. To escape the temptations to which this dangerous gift exposed her, as well as the offers of marriage with which she was annoyed, she prayed God to make her ugly. Her prayer was granted, and she retired from the world, founded the monastery of Kildare, and devoted herself to the education of young girls. Her day falls on the 1st of Feb. She was regarded as one of the three great saints of Ireland, the others being *St. Patrick* and *St. Columba*. She was held in great reverence in Scotland, and was regarded by the Douglases as their tutelary saint. Under the name of *Sisters of St B.*, an order was founded in 1803, by Dr. Delany, bishop of Kildare, and afterwards approved by Gregory XVI. It was named after St. Bridget. The rule embraces three vows — *poverty, chastity,* and *obedience*; and the sisters specially direct themselves to the education of girls.

Bridge'ton, in *Indiana*, a post-village of Parke co., on Racoon Creek, 10 m. S E. of Rockville.

Bridge'ton, in *Maine*, a post-township of Cumberland co., 35 m. N.W. of Portland, possessing many tanneries and saw-mills.

Bridge'ton, in *Michigan*, a post-village and township of Newaygo co., on the Muskegon River, 34 m. N.N.W. of Grand Rapids.

Bridge'ton, in *Missouri*, a post-village of St. Louis co., 15 m. N.W. of St. Louis.

Bridge'ton, in *New Jersey*, a flourishing city and port of entry, cap. of Cumberland co., situate on both sides of Cohansey Creek, 20 m. from its embouchure into Delaware Bay, 60 m. S.S.W. of Trenton, and 40 S. of Philadelphia. It is a neatly built town, with a considerable shipping trade, and possessing manufactures of iron, glass, nails, woolens, &c. *Pop.* (1897), abt. 12,500.

Bridge'town, the capital of the island of Barbadoes, situate in Carlisle Bay, which is 4 miles broad and 3 long. It is esteemed one of the finest cities in the West-India islands. Lat. 13° 4′ N.; Lon. 59° 37′ W.— Bridgetown was made a city in 1842, and has suffered, at different times, both from fires and hurricanes It was burnt down in April, 1668. The greater part of it was again destroyed by fire in 1756, 1766, and 1767. It had scarcely recovered from the effects of the dreadful conflagrations of these years, when it was torn from its foundations by the storm of Oct. 10, 1780, in which over 4,000 of the inhabitants miserably perished. *Pop.* abt. 20,000.

Bridge'town, in *Maryland*, a P. O. of Caroline co.

Bridge'town, a parish of Ireland, co. Cork. — There are also several small villages of this name in the same country.

Bridge Valley, in *Pennsylvania*, a post-office of Bucks co.

Bridge'ville, in *Alabama*, a post-office of Pickens co.

Bridge'ville, in *Delaware*, a post-village of Sussex co., on the Nanticoke River, 38 m. S.W. of Dover.

Bridge'ville, in *Michigan*, a P. O. of Gratiot co.

Bridge'ville, in *New York*, a post-village of Sullivan co., on the Neversink River, 106 m. S.S.W. of Albany.

Bridge'ville, in *New Jersey*, a post-village of Warren co., on the Pequest River, 3 m. E. of Belvidere.

Bridge'ville, in *Ohio*, a post-village of Muskingum co., 62 m. E. of Columbus,

Bridge'water, FRANCIS EGERTON, second DUKE OF, the "Father of Inland Navigation in Great Britain," was B. 1736. Early inheriting great wealth, and actuated by scientific tastes, he devoted himself to the development of the resources of his large estates, and the prosperity of his tenantry and neighbors. For the purpose of connecting the two rising cities of Liverpool and Manchester, he conceived the idea of cutting a navigable canal, which would commercially unite their interests; and, accordingly, in spite of the scepticism of the men of science of his day, he succeeded with difficulty in getting an Act of Parliament passed in 1758–9, to enable him to enter upon the project. With the assistance of his celebrated engineer, Brindley (*q. v.*), and after enormous expense, and years of difficulty, this great undertaking was successfully accomplished in 1761. He afterwards promoted the Grand Trunk Canal Navigation, and by the two schemes, for a while, so impoverished himself that he was frequently at a loss for $50, lived in a style of the closest frugality, and denied himself almost the commonest comforts of life. He became ultimately the possessor of immense wealth, realized from the results of his life's labors, and D. in 1803. The annual value of the "Bridgewater Canal Estate" is estimated at about $1,250,000.

Bridge'water, a seaport of England, co. Somerset, on the Parret, 28 m. S.S.W. of Bristol, and 152 W. of London. *B.* is a place doing an extensive shipping-trade both coastwise and foreign. *Pop.* 12,462.

Bridge'water, in *Connecticut*, a post-twp. of Litchfield co., 30 m. N.W. of New Haven. *Manf.* Hats.

Bridge'water, in *Maine*, a post-township of Aroostook co., 130 m. N.N.E. of Bangor.

Bridge'water, in *Massachusetts*, a post-township of Plymouth co., 27 m. S. by E. of Boston. *Manf.* Machinery.

Bridge'water, in *Michigan*, a post-township of Washtenaw co., 18 m. N. by E. of Adrian.

Bridge'water, in *Minnesota*, a township of Rice county.

Bridge'water, in *New Jersey*, a township of Somerset co., containing Somerville, the co. seat.

Bridgewater, in *New Hampshire*, a post-township of Grafton co., 48 m. N. by W. of Concord.

Bridgewater, in *North Carolina*, a P. O. of Burke co.

Bridgewater, in *New York*, a post-village and township of Oneida co., 15 m. S. of Utica.

Bridgewater, in *Ohio*, a post-township of Williams co., 30 m. N.N.W. of Defiance.

Bridgewater, in *Pennsylvania*, a borough of Beaver co., on the Ohio River, near the mouth of Beaver River, 28 m. N.W. of Pittsburg.

—A post-office of Bucks co.

—A village of Mercer co.

—A township of Susquehanna co.

Bridgewater, in *Vermont*, a post-township of Windsor co., watered by the Queechy River, 52 m. S. of Montpelier. Soapstone and iron ore are abundantly found here.

Bridgewater, in *Virginia*, a post-village of Rockingham co., on the North River, an arm of the Shenandoah, 125 m. N.W. of Richmond.

Bridg'ing-floors, *n. pl.* (*Building.*) Floors in which bridging-joists are used.

Bridg'ing-joists, *n. pl.* (*Building.*) The smallest beams in naked floorings, for supporting the boarding for walking upon.

Bridg'ing-pieces, *n. pl.* (*Building.*) Pieces placed between two opposite beams to prevent their nearer approach, as *rafters, braces, struts,* &c.

Bridle, (*brī'dl,*) *n.* [A. S. *bridl,* or *bridel*; Goth. *bridol, ride,* and *ol,* a strap or rein.] A restraint; a curb; a check.

"A bright genius often betrays itself into many errors, without a continual *bridle* on the tongue." — *Watts.*

(*Mil.*) A guard to protect the arm; — used by cavalry.

(*Saddlery.*) A riding strap or rein; specifically, the contrivance by which a horse is curbed, governed, and restrained by a rider, comprising the headstall and reins.

(*Naut.*) A short rope used on board a ship, serving to connect various portions of a base of a sail with the bowline, which otherwise only draws on the corner of the sail. — *Bridles of the bowlines.* The spans of rope attached to the leeches of square sails, to which the bowlines are made fast. — *Bridle-cable.* In the navigation of a vessel, when a vessel is moored by laying down a cable upon the ground, with an anchor at each end, then another cable attached to the middle of the ground-cable, is called a *bridle-cable.*

Bridle, *v. a.* (*imp.* BRIDLED; *pp.* BRIDLING.) To put a bridle on; as, to *bridle* a horse.

"The queen of beauty stopp'd her *bridled* doves."—*Prior.*

—To check, restrain, curb, control; as, to *bridle* one's temper.

"With a strong, and yet a gentle hand,
You *bridle* faction, and our hearts command."— *Waller.*

—*v. i.* To hold up the head and draw in the chin, as an act expressive of scorn, indignation, or disdain. Often followed by *up;* as, the good lady *bridled up* with dignity.

Bri'dle Creek, in *Virginia*, a P. O. of Grayson co.

Bri'dle-hand, *n.* The hand that holds and directs the bridle in riding on horseback; the left hand.

"In the turning one might perceive the *bridle-hand* something gently stir."—*Sidney.*

Bri'dle-path, Bri'dle-road, Bri'dle-way, *n.* A path, or road, &c., used by travellers on horseback.

Bri'dle-port, *n.* (*Naut.*) The foremost port-hole of a ship, through which the hawsers, cables, &c. are passed in order to be stowed.

Bri'dler, *n.* One who bridles, curbs, checks, or governs.

Brid'lington, (pronounced, and sometimes written, BUR'LINGTON,) a seaport town of England, in the E. Riding of the co. of York, a mile from the sea-coast, 24 N. by E. of Hull, 37 E.N.E. of York, and 96 N. of London. The harbor is good, and *B.* is much frequented in summer as a sea-bathing resort. *Manf.* Hats, malt, bones, &c.

Bridoon', *n.* [Fr. *bridon,* from *bride,* a bridle.] (*Mil.*) The snaffle and rein of a military bridle, which acts independently of the bit, at the pleasure of the rider.

Brid'port, a seaport town of England, co. Dorset, 127 m. W.S.W. of London. It is a handsome place, with an improved harbor, and carries on a considerable import and export trade. *Manf.* Sail-cloth, twine, fishing-nets, &c. *Pop.* 8,490.

Brid'port, in *Vermont*, a post-township of Addison co., 45 m. S.W. of Montpelier, on the E. shore of Lake Champlain, and opposite Crown Point, in the State of New York.

Brief, (*brēf,*) *a.* [Fr. *bref,* from Lat. *brevis,* short.] Short; concise; expressed in but few words; as, a *brief* answer.

"The *brief* style is that which expresseth much in little."
Ben Jonson.

—Short of duration; lasting but a little time; as, a *brief* engagement.

"But man, proud man,
Drest in a little *brief* authority."—*Shaks.*

—Common; customary; rife. (Used in some parts of England and the U. States.)

—*n.* [Ger. *brief,* a letter.] A short or concise writing; a short extract or epitome rendered in a few words.

"There is a *brief,* how many sports are ripe:
Make choice of which your highness will see first."— *Shaks.*

(*Law.*) An abridged statement of the facts in a cause before a court, and of the evidence in support thereof, with observations of the attorney or solicitor engaged for the party on whose behalf it is prepared, and references to decided cases affecting any legal points in dispute. The object of the *B.* is to inform the person who tries the case, of the facts important for him to know, to present his case properly; when it has been prepared by another person,— as is the general practice in England, and to some extent in this country. — or as an aid to the memory of the person trying a case, when he has prepared it himself. In some of the State courts, and in the Supreme Court of the United States, it is enstomary or requisite to prepare briefs of the case for the perusal of the court. These are written or printed. — In the English Prayer-Book, the name *B.* denotes the sovereign Letters-Patent authorizing a collection for a charitable purpose.

(*Papal Brief.*) A pontifical letter dispatched from the court of Rome to princes or other high personages. A papal brief is issued to decide affairs of inferior importance to those adjudicated upon by a papal bull, and differs from it by being less ample, and in being always written upon paper sealed with red wax, with the pope's private seal, "the fisherman's ring;" hence it concludes with *Datum Romæ, sub annulo piscatoris* (given at Rome, under the ring of the fisherman). — *A papal bull,* on the other hand, is always written upon the rough side of a sheet of parchment, and in ancient Gothic characters.

Brief, *v. a.* To make an abridgment of; as, to *brief* a cause.

Brief'less, *a.* Without a brief; having no client; as, a *briefless* barrister.

Brief'ly, *adv.* Concisely; laconically; in few words.

"The modest queen awhile, with downcast eyes,
Ponder'd the speech; then *briefly* thus replies." — *Dryden.*

Brief'man, *n.* One who writes a brief. An amanuensis; a copyist.

Brief'ness, *n.* Shortness; conciseness; laconism.

"They excel in . . . quickness and *briefness.*" — *Camden.*

Brieg, (*breeg,*) a town of Prussia, in Silesia, on the Oder, (over which there is here a stately wooden bridge,) 24 m. from Breslau. It has a ducal castle, a gymnasium and library, and there are various work-houses and establishments for the poor.— *Manf.* Linen, cotton, and woollen fabrics. A little to the W. of *B.* is the battlefield of Mollwitz.

Briel, or **Brielle,** (*breel,*) a fortified sea-port of the Netherlands, prov. S. Holland, on the N. shore of the island of Voorn, near the mouth of the Meuse, 13 m. W. of Rotterdam; Lat. 51° 54′ 11″ N., Lon. 4° 9′ 51″ E. Admiral Van Tromp (*q. v.*) was born here. *B.* is also famous in Dutch history as being the place where the first foundation of the Republic of the Seven United Provinces was laid, in 1572. *Pop.* 4,734.

Brienne, a town of France, dep. Aube, cap. cant., 15 m. N.W. of Bar-sur-Aube. This place is remarkable as formerly possessing a military college where the Emperor Napoleon I. received the first rudiments of his education. — Here also he attacked Blücher, Jan. 29, 1814, forcing him from the town, which was reduced to ashes, and compelling him, on the following day, to retreat to Trannes.

Briens'burgh, in *Kentucky*, a P. O. of Marshall co.

Brienz, (*bre-entz',*) a small town of Switzerland, in the canton of Berne, beautifully situated at the foot of the Bernese Alps, on the north-east shore of the lake of the same name, and about 30 m. E.S.E. of Berne. Its cheese is held in high repute. *Pop.* 3,511.

B., (LAKE OF.) It is formed by the river Aar, at the foot of the Hasli valley, and by the same river it discharges its surplus waters into Lake Thun. It is about 8 m. long and 2 in breadth. This beautiful lake is situated at an elevation of 850 feet above the sea; its average depth is about 500 feet, but in some places it is said to have a depth of more than 2,000 feet. It is surrounded by towering mountains, the principal of which is the Roth-Horn, from which splendid views of the whole range of the Bernese Alps are obtained. A small steamer plies daily on the lake between *B.* and Interlachen, touching at the celebrated Giessbach Fall every trip.

Bri'er, *n.* [A. S. *brōer*; Ir. *briar*; W. *brath,* a bite, a stab.] A prickly plant or shrub.

"What subtle hole is this,
Whose mouth is cover'd with rude growing *briers?*" — *Shaks.*

Bri'er Creek, in *Georgia*, takes its rise in Warren co., and flowing S.E. for more than 100 m., empties into the Savannah River, E. of Jacksonborough. Here, on March 3d, 1779, General Ash, with 2,000 men, was surprised by the English under General Prevost, and defeated with a loss of nearly 500 men.

Briered, (*brī'erd,*) *a.* Set or studded with briers.

Bri'erfield, in *Alabama*, a post-office of Bibb co.

Bri'er Hill, in *New York*, a P. O of St. Lawrence co.

Bri'ery, *a.* Full of briers; rough; thorny; prickly; as, a *briery* hedge.

Brieuc, (St.,) a seaport town of France, cap. of dep. Côtes-du-Nord, on the Gouet, near its embouchure in the Bay of St. Brieuc, 38 m. W.S.W. of St. Malo. It is a fine and well-built town, with a commodious harbor. *Manf.* Linen, serge, flannels, paper, leather. Lat. 48° 31′ N., Lon. 2° 45′ W. *Pop.* 15,812.

Brigade (*brī-gād'*), *n.* [Fr.; from Celt. *briga,* a company of men; It. *brigata,* a company, a troop, a crew.] (*Mil.*) This term applies either the union of two or more regiments or battalions of infantry or cavalry, or both together, either with or without artillery, under one command. In the U. S. army, 3 or more regiments of infantry or cavalry constitute a *B.,* which is commanded by a brigadier-general, or a colonel acting as such.

Brigade Inspector. An officer whose duty it is to inspect troops in companies, before they are mustered into service. — *Brigade Major.* An officer who is attached to a brigade to perform duties similar to those of the adjutant of a regiment, and acts as an aide-de-camp to

the brigadier-general. He must be a captain or subaltern officer, and is generally selected from among the captains of the regiments forming the brigade.

Brig, *n.* [From BRIGANTINE.] In its original sense, a vessel which was used by *brigands* or pirates, specifically, a general term for a two-masted vessel, carrying a boom-mainsail, being otherwise square-rigged; that is,

Fig. 421.—BRIG.

having her sails brought to yards hung horizontally by the middle.—*Hermaphrodite Brig.* See HERMAPHRODITE.

Brig, Brigg, *n.* [See BRIDGE.] A term used in Scotland, and some parts of England, for a bridge; as, the *Brigs* of Ayr; Glandford *Brigg*, &c.

—(*Nautical*) On ship-board, the room where prisoners are confined.

Brigadier-general, (*brig-a-dēēr',*) *n.* (*Mil.*) The name given to the officer appointed to the command of a brigade. The post is generally given to one of the colonels commanding the regiments of which the brigade is composed. He holds temporary rank between a colonel and a major-general.

Brig'and, *n.* [Fr.; W. *brigant*, from *brig*, top, summit.] Literally, a mountaineer; specifically, a robber; a free-booter; a bandit; as, a *brigand* of the Abruzzi.

Brigandage, (*brig'and-āj,*) *n.* [Fr.] The avocation of a brigand; freebooting; robbery; plunder; as, the Italian government is endeavoring to suppress *brigandage.*

Brigandine, BRIGANTINE, *n.* [O. Fr. *brigant*; from L. Lat. *brigans*, a light-armed soldier.] (*Mil.*) A kind of scale armor, worn during the Middle Ages by a description of light troops called *Brigands*, who were employed as skirmishers.

"Then put on thy helmet,
And *brigandine* of brass."—*Milton.*

Brigantine, (*brig'an-tēn,*) *n.* [Fr. *brigantin*, from *brigand;* Sp. *bergantin.*] The name sometimes applied to a *brig.* The latter term, as an abridgment of *B.*, is now commonly used.—See BRIG.

Briggs, in *Minnesota*, a township of Sherburne co.; now called CLINTON LAKE.

Briggs' Logarithms, *n. pl.* (*Math.*) The common or vulgar system of logarithms, constructed on the base 10, is sometimes called *Briggs' system*, after their constructor Henry Briggs, a contemporary of Lord Napier, who discovered logarithms in the early part of the 17th century.—See LOGARITHMS.

Briggs'ville, in *Pennsylvania*, a P. O. of Luzerne co.

Briggs'ville, in *Wisconsin*, a post-village of Marquette co., 11 m. N.W. of Portage city.

Brig'ham City, in *Utah*, a city, the capital of Box Elder co., near Beaver river, 60 m. N. of Salt Lake City. *Pop.* (1890), 2,139.

Bright, (*brīt,*) *a.* [A.S. *beorht, briht, byrht*, or *bryht*; probably related to *bar, bær*, bare, naked; Goth. *bar*, naked, manifest, clear, conspicuous.] Glancing; twinkling; clear; luminous; shining; full of light and splendor; as, a *bright* moon.

"It were all one
That I should love a *bright*, particular star,
And think to wed it."—*Shaks.*

—Transmitting light; translucent; transparent; as, *bright* crystal.

"*Bright* as young diamonds in their infant dew."—*Dryden.*

—Resplendent with shining or attractive qualities; as, a *bright* young face.

"All that 's *bright* must fade,—
The *brightest* still the fleetest."—*Moore.*

—Sparkling with wit; acute in intellect; cheerful in spirit; brilliant in manner and presence.

"*Brightest* and best of the sons of the morning."—*Bishop Heber.*

—Lucid; clear; manifest; evident to the mind; as, a *bright* idea.

"That he may with *brighter* evidence draw the learner on."—*Watts.*

(*Painting.*) Shining with light; a term applied to a picture in which the lights preponderate over the shadows.

Bright, JOHN, a distinguished English orator and statesman., B. 1811. He was a partner in the firm of "John Bright & Brothers," cotton spinners and manufacturers at Rochdale, and entered public life by taking part in the reform agitation of 1831–2. In 1839, he distinguished himself politically by becoming one of the earliest members of the *Anti-Corn-Law League*, which grew out of an association formed in 1838 to obtain the repeal of the Corn Laws. He was the representative of the city of Durham from 1843 until 1847, when he was returned for Manchester. During the interval between his election for Manchester and the accession of the first Derby Ministry to power, *B.*'s activity in Parliament and on the platform was varied and continuous. In the House of Commons he proposed to apply the remedy of free trade in land to the state of things which produced the Irish famine. He appealed unsuccessfully for the dispatch of a royal commission to investigate the condition of India; and in 1849 he was appointed one of the members of the celebrated special committee of the House of Commons on official salaries. In the legislature, and in the provinces, especially at Manchester, he co-operated with Mr. Cobden in the movement which the latter sought to create in favor of financial reform, mainly with a view to the reduction of the naval and military establishments of the kingdom. In 1851, he voted with those who attempted to censure Lord Palmerston in the Don Pacifico affair, and in 1852 he took a prominent part in the welcome given to Kossuth by the advanced liberals of Lancashire. On the formation of the first Derby ministry, *B.* aided in that temporary reorganization of the Anti-Corn-Law League, which the acceptance of free trade by the new government afterwards rendered unnecessary. With the accession of Lord Aberdeen's ministry to power began the discussion of the Eastern question, his share in which alienated from *B.* many of his former supporters. He denounced the policy of the Russian war with the characteristic energy of what his opponents styled his *peace-at-any-price* principles; but his protests against it were stopped by an attack of illness that compelled him to forego all public action and retire to Italy to recover his health. The news of the defeat of the Palmerston cabinet on the Canton question reached *B.* while in Italy, in March, 1857. Although he had necessarily taken no personal part in the debate or division which produced Lord Palmerston's appeal to the country, yet he expressed his entire approval of the vote of censure which had been proposed and carried on the motion of Mr. Cobden. At the ensuing general election, *B.* (at this time very unpopular) was rejected at Manchester by a large majority, but was afterwards returned for Birmingham, a seat which he has since constantly retained. From that time forward, *B.*'s name was mainly identified with a scheme for the reform of the electoral representation, by a wide extension of the suffrage, and a more equal distribution of the seats with reference to population, and alterations in the law of entail. He was an uncompromising advocate of the Union during the Civil War, and afterward distinguished himself by his strenuous support of Mr. Gladstone's Reform Act, which, after keen opposition, was passed in 1868. After the general election in November of the same year, Mr. Gladstone and the advanced liberal party acceded to power, when *B.* became a member of the Cabinet as President of the Board of Trade, with the rank of a Privy Councillor.—He was one of the triumvirate of great orators then adorning the British Senate, viz, Gladstone, Disraeli, Bright. He was the leader of the liberal party till 1871, when owing to ill health, withdrew from active affairs until 1880, when he came in office under Gladstone. He differed with Gladstone upon his Egyptian and Irish policy, in consequence of the former, he resigned from the Ministry in 1882, he retained his seat in Parliament, but did not actively participate in political affairs, chiefly however from continued ill health. D. March 27, 1889.

Bright'en, (*brīt'n,*) *v. a.* To make bright or brighter; to increase the lustre of; to make to shine; as, his looks *brightened.*

"Salutes the Spring, as her celestial eyes
Adorn the world, and *brighten* up the skies."—*Dryden.*

—To make illustrious; to add lustre or distinction to.

"How blessings *brighten* as they take their flight!"—*Young.*

—To make gay or cheerful; to relieve by throwing light upon gloom; as, *brightening* prospects.

—To become acute or witty.

"How the wit *brightens*! how the style refines!"—*Pope.*

—*v. i.* To grow bright or more bright; to clear up; as, the sky *brightens.*

"And, all his prospects *brightening* to the last,
His heaven commences ere the world be past."—*Goldsmith.*

Bright-harnessed, (*brīt'hār-nest,*) *a.* Decked with glittering armor. (Poetical.)

Bright-hued, (*brīt'hūd,*) *a.* With a bright tint or color.

Bright'ly, *adv.* Splendidly; with lustre; as, how *brightly* the stars shine.

"Safely I slept, till *brightly* dawning shone
The moon, conspicuous on her golden throne."—*Pope.*

Bright'ness, *n.* Quality of being bright, splendid, or clear; lustre; splendor; glitter.

"The blazing *brightness* of her beauty's beam . . .
To tell, were as to strive against the stream."—*Faërie Queene.*

—Acuteness of intellect; perspicuity of understanding; keenness of wit.

"The *brightness* of his parts . . . distinguished him in an age of great politeness."—*Prior.*

Bright'on, (formerly BRIGHTHELMSTONE,) a fashionable watering-place, and parliamentary borough of England, co. Sussex, 47 m. S. of London. This place—which has been called the modern *Baiæ*—is situate on the coast of the British Channel, between Beachy Head and the Selsey Bill, and is one of the handsomest towns in the kingdom, and so constant a resort of the upper classes of metropolitan society that it has received the appellation of *London-super-Mare* ("London-by-the-Sea"). *B.* is pre-eminently distinguished for its architectural beauty, its fine surrounding scenery, its superb promenades and drives, and for the general air of fashion, wealth, and gayety. It would be going beyond our limits were we to particularize the various attractive features of *B.*; we may mention, however, the magnificent but fantastic palace erected here by George IV., bearing the name of *The Pavilion*, but which has, since that monarch's demise, been disused as a royal residence. It is in the Oriental style, being copied from the Kremlin at Moscow. It now belongs to the corporation of the town by purchase from the royal family. *B.* has little or no commerce, being exclusively dependent upon the patronage of its wealthy visitors and temporary residents. *Pop.* (1895), 115,402.

Bright'on, in *California*, a post-township of Sacramento co., on the American River, 5 m. E. of Sacramento.

Bright'on, in *Illinois*, a post-village of Macoupin co., 60 m. S.W. of Springfield.

Bright'on, in *Indiana*, a post-office of La Grange co.

Bright'on, in *Iowa*, a post-village and township of Washington co., 40 m. S.S.W. of Iowa City.

—A township of Cass co.

Bright'on, in *Maine*, a post-township of Somerset co., 45 m. N. of Augusta.

Bright'on, in *Massachusetts*, a post-township of Middlesex county, 4 miles W. from Boston; annexed to Boston in 1874.

Bright'on, in *Maryland*, a P. O. of Montgomery co.

Bright'on, in *Michigan*, a post-village and township of Livingston county, on Ore Creek, 43 m. S.E. of Lansing.

Bright'on, in *Missouri*, a post-village of Polk co., 24 m. N. of Springfield.

Bright'on, in *New York*, a post-village and township of Monroe co., 3 m. S. of Rochester.

A township of Franklin co.

Bright'on, in *Ohio*, a village of Cuyahoga co., 4 m. S.W. of Cleveland.

—A village of Clarke co., 35 m. W. by S. of Columbus.

—A post-township of Lorain co., 30 m. S.E. of Sandusky City.

Bright'on, in *Pennsylvania*, a township of Beaver co., on the Ohio River.

Bright'on, or **Old Bright'on,** in *Pennsylvania*, a prosperous borough of Beaver co., on Beaver River, near its confluence with the Ohio, 29 m. N.W. of Pittsburg. *Manf.* Cotton, paper, and flour; possesses an active trade.

—A village of Mercer co.

Bright'on, in *South Carolina*, a post-office of Hampton county.

Bright'on, in *Vermont*, a township of Essex co., 60 m. N.E. of Montpelier.

Bright'on, in *Wisconsin*, a post-village and township of Kenosha co.

—A township of Winnebago co.

Bright'on, a post-vill. of prov. of Ontario, Northumberland co., on Presque Isle Harbor, Lake Ontario, 92 m. E.N.E. of Toronto.

Bright's Disease, or ALBUMINURIA. (*Med.*) A disease of the kidneys, so named from Dr. Bright, the first to draw attention to the existence of this singular affection, the chief characteristic of which is the presence of a greater or less amount of serum separated from the blood, and found in the urine voided from the bladder.—*Symptoms.* Pain in the back and loins, at first slight and occasional, but becoming heavy, dull, and settled, accompanied with restlessness and fever, and the usual functional disturbance in the other organs; loss of appetite, hectic flushes, and general disturbance. These symptoms are succeeded by enlargement in the loins, œdema, or swelling of the face and extremities, and finally a state of general dropsy. Should these symptoms fail to point out the disease, heat applied to the urine will at once indicate its character; for the serum will become coagulated, and, according to the amount present, either the whole will be rendered solid, or masses of *coagulum* will be seen floating about the water.—The *causes* of this terrible malady are any which cause congestion of the kidneys—indulgence in strong drinks, long-continued suppuration, exposure to wet and cold, the exanthematous fevers, and pregnancy. The cure is very uncertain.

Bright'some, *a.* Bright; lucid; lustrous; brilliant.

Brights'ville, in *South Carolina*, a village of Marlborough district.

Bright'wood, in *District of Columbia*, a post-office of Washington co.

Brignais, a village of France, near Lyons, where, April 2, 1361, the French, under Jacques de Bourbon, were defeated by the Free Companies in the service of England.

Brignoles, (*breen'yōlz,*) a town of France, dep. Var, on the Carami, 22 m. N.N.E. of Toulon. The town is neat and well-built, and is finely situated in a fertile basin, surrounded by high, wooded hills. *Manf.* Oil, wine, liquors, brandy, and the choice prunes known as *brignolles. Pop.* 6,757.

Bri'gown, a parish of Ireland, co. Cork.

Brihue'ga, a town of Spain, in New Castile, on the Fajnna, 20 m. E.N.E. of Guadalahara. Here, Dec. 9, 1710, the French, under the Duke de Vendôme, defeated the allies commanded by Lord Stanhope.

Brill, (*bril,*) *n.* (*Zoöl.*) The *Pleuronectes rhombus*, a fish resembling the turbot in its general form, but inferior to it in size and quality. It is distinguished from the turbot by the perfect smoothness of its skin, which is covered with scales of moderate size, and by its pale brown color above, marked by scattered yellowish or rufous spots.

Brill, PAUL, an eminent fresco-painter, B. at Antwerp, 1554. Emulating the example of his brother, a painter of some note in his day, he placed himself under his tuition, and assisted him in his works at the Vatican, where they were employed by Pope Gregory XIII. On the accession of Sixtus V., *B.* was engaged in the Sistine Chapel, St. Maria Maggiore, and the Scala Santa of St. John Lateran. By direction of Clement VIII., he painted his great work in the Scala Clementina, a landscape on

a grand scale, 68 feet wide, in which he introduced the subject of St. Clement thrown into the sea with an anchor round his neck. D. at Rome, 1626.

Brill'iance, Brill'iancy, *n.* Quality or state of being brilliant; splendor; glitter; great brightuess or lustre; as, *brilliance* of execution.

Brilliant, (*bril'i-ant,*) *a.* [Fr. *brillant*, from *briller*, to shine. sparkle, or glitter; allied to *beryl* and *pearl.*] Shining; glittering: sparkling; twinkling; splendid; lustrous; as, a *brilliant* gem.

"Replete with many a *brilliant* spark,
As wise philosophers remark." — *Lord Dorset.*

—Eminent by admirable qualities of miud or manner; as, a *brilliant* orator.

"Just knows, and knows no more, her Bible true,
A truth the *brilliant* Frenchman never knew." — *Cowper.*

—*n.* A diamond of the finest cut, formed into a number of facets, so as to refract the light, by which it derives increased lustre. The principal face, which is called the *table*, is surrounded by a fringe composed of a number of facets, which is all that is visible above the bezel when set. The proportion for the depth should be half the breadth of the stone, terminated with a small face parallel to the table, and counected with the surface by elongated facets. As the octohedron is the most common natural form of the stone, and the brilliant cut is by far the most advantageous in point of effect, hesides being the most economical form that can be adopted, it is generally preferred. — See DIAMOND.

Brilliante, (*bril-lăn'te,*) *n.* [It.] (*Music.*) Prefixed to a movement, this term denotes that it is to be played in a gay and lively, or brilliant manner.

Brill'iantly, *adv.* Splendidly.

Brill'iantness, *n.* State of hrilliancy; splendor: lustre.

Bril'lion, in *Wisconsin*, a post-township of Calumet co., 13 m. E.S.E. of Appleton.

Bril'lon, a town of Prussia, prov. Westphalia, reg. Arnsberg, cap. circ., 24 m. S.E. of Soest. *Manf.* Linen, and hrass goods. Silver, lead, and calumine are found in the vicinity. *Pop.* 4,730.

Brills, *n. pl.* The hairs on the eyelids of a horse.

Brim, *n.* [A. S. *brymm* — *be*, and *ryman*, to enlarge, to extend.] The rim, edge, lip, margin, or brink of a vessel or other thing; as, the *brim* of a hat.

"How my head in ointment swims!
How my cup o'erlooks her *brims!*" — *Crashaw.*

—The hrink, margin, or verge of a fouutain, &c.; a border.

"Within whose cheerful *brims*,
That curious nymph had oft heen known
To hathe her snowy limhs." — *Drayton.*

Brim, *v. a.* To fill to the brim, edge, or top.

"Then *brims* his ample howl; with like design
The rest invoke the gods with sprinkled wine."—*Dryden.*

—*v. i.* To he full to the brim; as, a *brimming* stream.

"Now horrid frays
Commence, the *brimming* glasses now are hurl'd
Wlth dire Intent." — *Philips.*

Brim'field, in *Illinois*, a township of Peoria co., abt. 20 m. W.N.W. of Peoria.

Brim'field, in *Indiana*, a vill. of Noble co.

Brim'field, in *Massachusetts*, a post-township of Hampden co., 70 m. W. by S. of Boston, possessing manufactures of carriages, leather goods, &c.

Brim'field, in *Ohio*, a post-village of Portage co., 40 m. S.S.E. of Cleveland.

Brim'ful, *a.* Full to the brim or top; as, *brimful* of liquor.

"The good old king at parting wrung my hand,
His eyes *brimful* of tears." — *Addison.*

Brim'less, *a.* Without a brim; as, a *brimless* cap.

Brimmed, (*brĭm'd,*) *p. a.* Having a brim; — used generally with a compouud qualification; as, a broad-*brimmed* hat.

Brim'mer, *n.* A bowl full to the top; as, a *brimmer* of wine.

"When healths go round, and kindly *brimmers* flow,
Till the fresh garlands on their foreheads glow."—*Dryden.*

Brim'ming, *a.* Full to the top or brim.

"And twice heslde her heestings never fail,
To store the dairy with a *brimming* pail." — *Dryden.*

Brimstone, (*brim'stōn,*) *n.* [A. S. *bryne*, a burning, and *stone;* Goth. *briunan*, to burn; Sansk. *bhr;* Icel. *bænnstein.*] (*Min.*) A commercial name for refined sulphur.—See SULPHUR.

(*Scrip.*) Sodom and the other cities of the Plain were destroyed "by *B.* and fire." (*Gen.* xix. 24.)

—*a.* Made of, or pertaining to, brimstone; as, *brimstone*-colored.

Brim'stony, *a.* Full of brimstone; containing sulphur; sulphurous.

Brin'ded, *a.* [See BRINDLED.] Streaked; brindled; variegated with different colors.

"She tam'd the *brinded* lioness,
And spotted mountain pard." — *Milton.*

Brindisi, (*brin-dē'se,*) (anc. *Brundusium,*) a fortified seaport city of S. Italy, prov. Otranto, at the bottom of a bay between capes Cavallo and Gollo. In antiquity, this was one of the most important cities of Italy, and was the port whence the interconrse between Italy and Greece and the East was usually carried on. It was a poor, decayed place; but a vast plan for the reconstruction of the old harbor (long ago filled up) was approved of by the Italian government in 1865, and since carried out. The harbor is now well sheltered and undergone great improvements, large quays, a great breakwater and mole, have been made. Steamers can now lie alongside the quays in 26 ft. of water. *B.* is but 60 hours by rail from London and via *B.* is the shortest route to India, via Egypt and the travel is very large, 1000 vessels annually enter the port.

Brin'dle, *n.* Quality or state of being brinded, variegated, spotted; as, "A natural *brindle*." — *Richardson.*

Brin'dled, *a.* [From A. S. *brennan*, to burn.] Marked with streaks of different colors, as if burned in; variegated; spotted; brinded; as, a *brindled* cow.

"The hoar, my sisters! aim the fatal dart,
And strike the *brindled* monster to the heart."—*Addison.*

Brin'dletown, in *North Carolina*, a P.O. of Burke co.

Brind'ley, JAMES, an eminent English civil engineer and mechaniciau. B. 1716. On accouut of the poverty of his family, he received little more than the mere rudiments of education, and became, at 17, apprenticed to a wheelwright at Macclesfield, where his natural abilities soon developed themselves. After distinguishiug himself by the contrivance of water-engines and other mechanical apparatus, he became knowu to the Duke of Bridgewater (*q. v.*), then planning his great scheme of inland navigation for connecting Liverpool and Manchester by means of a canal. This work, ridiculed as it had been by all the scientific men of the day, the duke persevered in, and *B.* undertook the charge of it: when, after encouutering almost insuperable difficulties, and for the time almost financially ruining the duke, the success of this bold attempt was triumphautly established. In 1766, *B.* commenced the formation of the Grand Trunk Canal, nniting the rivers Trent and Mersey; which undertaking was completed after his death, in 1777. The variety of his inventions aud the fertility of his resources were only equalled by the simplicity of the means he adopted. He seldom used any model or drawing, but relied on the retentiveness of his memory; and when conceiving any great design, passed days in bed to meditate over it. When asked, on his examination before the House of Commons, "For what purpose do you consider rivers to have been created?" *B.* at once replied, "Undoubtedly, to feed navigable canals." D. 1772.

Brine, *n.* [A. S. *bryne*, from *brym*, the sea; Icel. *brim.*] The sea or ocean.

"The air was calm, and on the level *brine*
Sleek Panope, with all her sisters, played." — *Milton.*

—Salt water; water strongly impregnated with salt; as, to steep meat in *brine.*

"Add to it as much salt as will make a strong *brine*."—*Mortimer.*

—Metaphorically, tears; so designated from their saltness.

"What a deal of *brine*
Hath wash'd thy sallow cheeks for Rosaline!"— *Shaks.*

—*v. a.* To steep in brine: as, to *brine* beef.

—To strew salt over; as, to *brine* a meadow.

Brine'-cock, Brine'-valve, *n.* (*Marine Engineering.*) Au apparatus for allowing the escape of the brine at the boiler, at every stroke of the feed-pump. It consists of two cocks, or valves, fixed on the same vertical spindle; the one valve is in the passage between the feed-pump and the hoiler, and the other to the brine discharge; the feed-water acts on the under-surface of the upper valve, by which means it is raised, and allows the feed-water to enter the boiler. But in rising, it raises also the lower valve, because they are connected together by the spindle, and thus the brine is permitted to escape; on the up-stroke of the feed-pump, the feed-water ceases to flow, and the entrance of water and exit of brine stop at the same time. A difference in the areas of the valve regulates the proportion between the quantity admitted and that expelled.

Brine'-pan, *n.* The term applied to a receptacle of salt water, where salt becomes crystallized by solar action.

Brine'-pit, *n.* A salt spring or pit, whence water is taken for chemical evaporation into salt.

Brine'-pump, *n.* (*Marine Engineering.*) The pump in a steamship, used occasionally for drawing off a sufficient quantity of water, to prevent the salt from depositing in the boiler.

Brine'-spring, *n.* A spring of salt water.

Bring, *v. a.* (*imp.* and *pp.* BROUGHT.) [A.S. *bringan:* Ger. *bringen;* Goth. *briggan;* Swed. and Goth. *bringa;* probably allied to *bear*, or to *reach.*] To lead, draw, or cause to come; to guide; to induce.

"I was the chief that raised him to the crown,
And I'll he chief to *bring* him dowu again." — *Shaks.*

—To bear, convey, or carry to: as, he *brings* bad news.

"In that sweet mood when pleasant thoughts
Bring sad thoughts to the mind." — *Wordsworth.*

—To fetch; to procure; to produce: as, he *brought* her home.

"Take away the sword;
States can he saved without it; *bring* the pen!"—*Bulwer Lytton.*

—To prevail over; to attract; to induce; to lead by degrees.

"In years that *bring* the philosophic mind." — *Wordsworth.*

—To convey; to move; to carry; to draw along; as, that cloud *brings* rain.

"In distillation, the water ascends difficultly, and *brings* over with it some part of the oil of vitriol." — *Newton.*

To bring forth. To give birth to; to produce: to make manifest; to bring to light; as, *to bring forth* a child, an argument, &c.

"The good queen,
For she is good, hath *brought* you *forth* a daughter." —*Shaks.*
"Idleness and luxury *bring forth* poverty and want."—*Tillotson.*

To bring about. To bring anything to pass: to effect; to cause to occur; as, *to bring about* a quarrel.

"This he conceives not hard *to bring about*,
If all of you would join to help him out." — *Dryden.*

To bring in. To gather, as persons or things dispersed; to introduce, as an adherent: to produce, as money; to reduce within certain limits.

"He protests he loves you,
And needs no other suitor, but his liking,
To bring you *in* again." — *Shaks.*

To bring down. To abase; to humble; to cause to descend from a certain position; as, *to bring down* her pride.

To bring off. To clear; to procure to be acquitted; to cause to escape; to bear or convey away; as, *to bring off* a prisoner, *to bring off* water from shore.

"Set a kite upon the hench, and it is forty to one he 'll *bring off* a crow at the har." — *L'Estrange.*

To bring on. To produce as an occasional cause; to induce to begin; to originate; as, *to bring on* a battle, a disease, &c.

"The great question which . . . has *brought on* them all those miseries." — *Locke.*

To bring over. To carry across; as, *to bring over* reinforcements, passengers, &c.; to convert; to make proselytes, &c.

"The Protestant clergy will find it, perhaps, no difficult matter to *bring* great numbers *over* to the church." — *Swift.*

To bring out. To exhibit; to show; to introduce to society; to expose; to detect; to hring to light.

"These shake his soul, and, as they boldly press,
Bring out his crimes, and force him to confess." — *Dryden.*

To bring under. To suhdue; to repress; to reduce to obedience.

"To say that the more capahle, . . . hath such right to govern, as he may compulsorily *bring under* the less worthy, is idle." *Bacon.*

To bring up. To educate; to instruct: to form; to rear; to train; as, *to bring up* a child; to cause to advance; as, *to bring up* troops.

"He that takes upon him the charge of *bringing up* young men, ... should have something more in him than Latin." — *Locke.*

To bring back. To recall; to induce or cause to return; as, *to bring back* a truant. — *To bring forward.* To place prominently before; to lead forth into notice; as, *to bring forward* a suggestion. — *To bring to.* To restore to life or consciousness; as, *to bring to* a half-drowned man. — *To bring to.* (*Naut.*) To check a ship's course, by brailing the sails so as to counteract each other. — *To bring by the lee.* To stand to the leeward, when a ship is sailing large, so as to bring the leeside rapidly to windward, and therefore, by throwing the sails aback, exposing her to be capsized.

Bring'er, *n.* The person who conveys or brings anything.

"Yet the first *bringer* of unwelcome news
Hath hut a losing office." — *Shaks.*

Bringer-up. A trainer; an instructor.

"Italy and Rome have been breeders and *bringers-up* of the worthiest of men." — *Ascham.*

Bring'iers, in *Louisiana*, a vill., cap. of St. James par.

Brin'ish, *a.* [See BRINE.] Having the taste of brine; saltish: saline.

"Expecting ever when some envious surge
Will, in his *brinish* bowels, swallow him." — *Shaks.*

Brin'ishness, *n.* Saltness: tendency to saltness.

Brink, (*bringk,*) *n.* [Dan. and Swed. *brink*, from the root of *break.*] Literally, a break or termination: hence, the edge, margin, or border of a steep place, as of a precipice, cliff. gully, or river.

"And from the precipice's *brink* retire,
Afraid to venture on so large a leap." — *Dryden.*

Brink'erton, in *Pennsylvania*, a P.O. of Clarion co.

Brink'leyville, in *North Carolina*, a post-village of Halifax co., 90 m. N.E. of Raleigh.

Brinley's Station, in *Ohio*, a post-office of Preble co.

Brinvilliers, MARIE MARGUERITE, MARQUISE DE, (*bran-ve-ye-a',*) a notorious poisoner, was the daughter of Dreux d'Aubray, lieutenant of Paris, and received a careful education. In 1651 she was married to the marquis, and formed an improper attachment to St. Croix, a young cavalry officer. The latter was imprisoned in the Bastile, and there learned from Exili, an Italian, the composition of poisons, which art he afterwards taught to his mistress. They then commenced a series of poisonings, the first victim being the marquis's father, then his two brothers and his sister, with a view to the ultimate possession of their fortunes. These crimes were not discovered until the death of St. Croix, in 1676, when there were found on him some papers which cast suspicion on the marchioness. She fled, but was arrested at Liège, and beheaded, 1676. Her career had excited such terror in France, that Louis XIV. instituted a distinct tribunal, the *Chambre Ardente* (q.v.), to investigate cases of poisoning by the "succession powder" used by the marchioness.

Brin'y, *a.* Pertaining to brine, or to the sea; as, the *briny* deep.

"Then, *briny* seas, and tasteful springs, farewell." — *Addison.*

Bri'ony, *n.* (*Bot.*) See BRYONIA.

Brionde, (*bre'yūde,*) (anc. BRIVAS,) a town of France, dep. Haute-Loire, near the river Allier, 29 m. N.W. of Le Puy. It is the birthplace of Lafayette. *Pop.* 5,128.

Brisach, (New,) or BREISACH, a fortified town of Germany, prov Alsace-Lorraine, near the Rhine, opposite to Old *B.*, and 9 m. S.E. of Colmar. *B.* was built, in 1690, by Louis XIV., and fortified by Vauban. It is a regular octagon, and is regarded as one of the finest works constructed by that celebrated engineer. *Pop.* 3,955.

Bris'bane, in Australia, a county of Queensland: Lat. between 36° and 37° S., Lon. 149° E. It was formerly a British penal settlement, which it ceased to be in 1842.

BRISBANE, a sea-port and *Cap.* of the above county, and now the chief city of Queensland. It is situate about 640 m. N. of Sydney, near the mouth of a river of its own name.

Bris'coe Run, in *W. Virginia*, a P. O. of Wood co.

Briseis, (*bri-se'is.*) (*Anc. Lit.*) A girl of Lyrnessus, called also *Hippodamia.* When her country was taken

by the Greeks, she fell to the share of Achilles in the division of the spoils. Agamemnon afterwards took possession of her, and Achilles thereupon made a vow to absent himself from the field of battle at Troy. This incident Homer makes one of the chief features of his Iliad.

Brisk, *a* [W. *brysg*, from *brhys*, extreme ardor or eagerness; Fr. *brusque*, from It. *brusco*.] Lively; quick; active: nimble; vivacious; gay; sprightly of action; as, a *brisk* walk.

"Kind, and *brisk*, and gay, like me." — *Denham.*

—Full of spirit; sharp and effervescing to the taste; as, *brisk* cider.

"Our nature here is not unlike our wine;
Some sorts, when old, continue *brisk* and fine." — *Denham.*

A brisk fire. One burning with freedom, activity, and clearness.

A brisk fire of artillery or musketry. A rapid and continuous discharge of heavy guns, or small-arms.

—*v. a.* To cheer; to enliven; to animate; to render sprightly.

To brisk up. To make brisk or lively; to animate.

—*v. i.* To come up in a sharp, lively, active manner.

Bris'ket, *n.* [Icel. *brioskr*, a gristle, from Goth. *brusts*, the breast; Fr. *brechet*; Gael. *brisgean*, a gristle.] That part of the breast of an animal that lies next to the ribs

Brisk'ly, *adv.* Actively; vigorously; with life and spirit.

Brisk'ness, *n.* Liveliness; vigor; quickness; gayety; vivacity; effervescence.

Brisson, BARNABÉ, (*bre'son,*) an eminent French jurist, B. 1531. He attained to the highest honors of the French bar, and became president à mortier in 1583. Henri III. used to say that no other king could boast of having in his service so learned a man as *B.*, and he commissioned him to collect and edit the ordinances of his predecessors and his own, which appeared under the title, *Code de Henri III., Roy de France et de Pologne, redigé en ordre par messire Barnabé Brisson*, fol., 1587, afterwards republished, with additions, under Henri IV., by Le Caron, 1609, and commonly called *Code Henri. B.* was also the author of many other works, exhibiting the highest erudition. In 1589, he was made first president of the Parliament, and after Henri's death, in Aug. of the same year, proclaimed the Duke de Mayenne, the chief of the League, lieutenant-general of the kingdom. *B.* soon after became suspected by the faction of the "Sixteen" who ruled in Paris, and who thought that he was favorable to Henri IV. He was accordingly arrested and summarily hanged on the 15th Nov., 1591.

Brissot, JEAN PIERRE, (*bre'so,*) one of the leading men of the French Revolution, B. at Ouarville, near Chartres, 1754. He was the son of a pastry-cook, and bred to the law, which he never followed. An acquaintance with English books gave him a turn for politics; when, for a time, he settled at Bonlogne, and edited the *Courier de l'Europe.* On the suppression of this journal, he went to Paris, where he soon afterwards published his *Theory of Criminal Laws*, 2 vols. 8vo. He began, also, a book entitled *A Philosophical Library of Criminal Laws*, and wrote a volume on *Truth, or Meditations on the Means of reaching Truth in all Branches of Human Knowledge.* About this time he married Mademoiselle Dupont, who was employed as reader to the daughter of the Duke of Orleans. Finding little encouragement in France, however, he went to London, where he conducted a periodical journal called *Universal Correspondence on all that concerns the Happiness of Men in Society.* This journal was designed to disseminate in France such political principles as were based on reason. It therefore gave offence to the French government, and was seized and suppressed. On his return to Paris, in 1784, he was sent to the Bastile on the charge of having assisted in the publication of a libel; but obtained his release through the intercession of the Duke of Orleans, whose ambitious projects on the government he labored, by his talents, to advance. His political pamphleteering activity forced him to flee from France, whence he went to Holland, and thence to the U. States, where he wrote against slavery, having previously been one of the original founders of "La Société des Amis des Noirs." In 1789, the progress of events in France enabled him to return home. He floated forward on the revolutionary torrent. He was elected member of the first municipal council of the city of Paris, and in that capacity received the keys of the captured Bastile, on the 14th of July. Soon after he was elected by the citizens of Paris to be their representative in the Constituent Assembly. He joined the party called the *Girondins*, and co-operated with Vergniaud, Guadet, Gensonné, the Provençal Isnard, and others, who were weak and imprudent politicians, but among the most eloquent and best men in France. The Girondists triumphed over the *Feuillans* or moderate constitutional monarchy party; but they were in their turn defeated in much the same manner by the Jacobins or party called the *Mountain*, who went as much farther than the Girondists, as the Girondists had gone farther than the *Feuillans.* The Gironde was nothing more in the revolution than a party of transition from the power of the middling classes of society to that of the mob. The members of it put themselves and their country in a position from which there was no escape except through seas of blood. During the fearful struggle, *B.* incurred the deadly hatred of Robespierre, which was equivalent to a death-warrant. On the 2d of June, 1793, a sentence of arrest was passed against him. *B.* was calm and firm, and at first not inclined to do anything to escape death, but on the entreaties of his family and friends he attempted to get to Switzerland. Being arrested at Moulins, he was carried back to Paris, and brought before the revolutionary tribunal, where the Jacobins in vain endeavored to destroy his courage and self-possession. The only regrets he expressed were at the political errors he had committed, and at leaving his wife and children in absolute poverty. He was condemned, of course, and went to the guillotine with twenty other Girondists, his associates and friends, on the 31st of October, 1793, just nine months and ten days after they had voted the death of Louis XVI. (whose life however they attempted to spare), and fifteen days after the execution of the Queen Marie Antoinette. They marched to the scaffold with all the stoicism of the times, and singing, as it was the fashion to do, the *Marseillaise*, or song of the republic. They all died with courage. *B.* was only 39 years old. His companions in death were Vergniaud, Gensonné, Fonfrède, Ducos, Valazé, Lasource, Silléry, Gardien, Carra, Duprat, Beauvais, Duchâtel, Mainvielle, Lacaze, Boileau, Lehardy, Antiboul, and Vigée. *B.* stood at the head of the party, which he embraced. At one time in his political career a large section of the house was called after his name, *The Brissotins.* He was singularly honest and disinterested; he sincerely wished the good of his country, but he knew not how to accomplish it.

Bris'ted, CHARLES ASTOR, an American author, B. in N. Y. 1820; D. 1874. His works include: *The Upper Ten Thousand* (1852); *The Interference Theory of Government* (1867); and *Anacreontics* (1872).

Brist'ersburg, in *Virginia*, a P. O. of Fauquier co.

Bristle, (*bris'l,*) *n.* [A. S. *bristl*; Frisian, *boarstel*; Dn. *borstel—baar*, and *steb*, a stalk.] The long, stiff, coarse hair growing on the back of the hog and wild-boar, and extensively used in the manufacture of brushes, and also by shoemakers and saddlers. The quality of *B.* depends on the length, stiffness, color, and straightness.

(*Bot.*) Rigid, thick-walled hair, usually of a single cell; or any similar bodies, of whatever nature; as the pubescence on certain plants.

—*v. a.* To erect in bristles. (Sometimes followed by *up.*)

"Boy, *bristle* thy courage *up*." — *Shaks.*

—To attach a bristle to; as, to *bristle* a thread.

—*v. i.* To rise or stand erect, as bristles.

"Thy hair so *bristles* with unmanly fears,
As fields of corn that rise in bearded ears." — *Dryden.*

—To present an appearance of standing close and erect, like bristles.

"The hill of La Haye Sainte *bristling* with ten thousand bayonets." — *Thackeray.*

To bristle up. To manifest courage, defiance, or scorn.

"Which makes him plume himself and *bristle up*
The crest of youth against your dignity." — *Shaks.*

Bris'tle-bearing, *a.* Possessing bristles.

Bris'tleness, *n.* State or quality of having bristles.

Bris'tle-pointed, *a.* (*Bot.*) That terminates gradually in a sharp point, as the leaves of certain mosses.

Bris'tle-shaped, *a.* Resembling a bristle in shape.

Bris'tle-tail, *n.* (*Zoöl.*) The GADFLY, *q. v.*

Bristly, (*bris'ly,*) *a.* Thick set with bristles, or with hairs like bristles; rough.

"Thus mastful beech the *bristly* chestnut bears,
And the wild ash is white with bloomy pears." — *Dryden.*

Bris'toe Station, in *Virginia*, a post-village of Prince William co., 4 m. W.S.W. of Manassas Junction. Here, on the 15th Oct., 1863, a battle was fought between Warren's corps of the Army of the Potomac, and the Confederates under Gen. Hill. The attack of the Confederates was bravely repulsed, with heavy loss on their part, and Gen. Warren, then confronted by nearly the whole of Lee's army, succeeded in joining the main army on the heights of Centreville.

Bris'tol, an ancient and important city, county, and seaport of England, at the confluence of the Avon and Frome, 8 m. S.E. of the embouchure of the former into the British Channel, 108 m. W. of London. The city extends over 7 hills and their intermediate valleys, amidst a picturesque and fertile district. Some portions of it are very quaint and old-fashioned, but the major and newer parts of the city are finely built, spacious, well paved and lighted. *B.* is famous for its magnificent cathedral (700 years old) and churches; the principal of the latter, St. Mary's Redcliffe, being one of the finest Gothic edifices in the kingdom, and renowned for its superb tower. *B.* is replete with other handsome buildings: municipal, commercial, educational, literary, and domestic, too numerous to be enumerated, but comprising the Guildhall, Exchange, Banks, Mechanics' Institute, literary institutions, libraries, assembly rooms, theatres, &c. At Clifton, one of its suburbs, are the celebrated hot wells, baths, and pump-rooms, so well known and resorted to by invalids. In consequence of the high tides in the British Channel, vessels of the largest size ascend the river almost into the centre of the city. The harbor is about 3 m. long, and very spacious, with docks, basins, and magnificent quays. The river here is spanned by numerous bridges connecting the two divisions of the city, and communication by canals and railways extends thence to London and the greater part of the kingdom. *B.* was for a lengthened period the second most important commercial seaport and emporium after London, monopolizing nearly the whole of the American and W. Indian trade, until excelled and surpassed by Liverpool. It still, however, maintains a most important trade with the W. Indies, the E. Indies, and China, and may be accounted the third great seaport of England. — *Manf.* Tobacco, sugar, brass and copper wares, soap, glass, machinery, steam-engines, pottery, iron and tin goods, chain-cables, hardware, shot and projectiles, chemicals, liquors, &c., &c. Tonnage of vessels entering the port during the year 1890, was given at 1,500,000 tons.— The city rose to notice towards the close of the Saxon dynasty, and was at times frequented by ships from all parts of Europe. During the civil war in the 17th century it suffered severely, being alternately taken and retaken by the hostile armies. Sebastian Cabot, Chatterton, Southey and Sir Thomas Lawrence, were born here. *Pop.* (1895), 234,815.

Bris'tol, in *Connecticut*, a post-village and township of Hartford, 15 m. S.W. by W. of Hartford. Here are extensive factories of clocks, and also iron and brass foundries.

Bristol, in *Florida*, a p.-v., cap. of Liberty co.

Bristol, in *Illinois*, a post-township of Kendall county.

—A post-village of above township, on the Fox River, 6 m. from Oswego, and 52 W.S.W. of Chicago.

—A village of Effingham co., 12 m. S.W. of Ewington.

Bristol, in *Indiana*, a flourishing post-village of Elkhart co., on the St. Joseph's River, 156 m. N. of Indianapolis.

Bristol, in *Iowa*, a post-village and township of Worth co., of which it was the former cap., 120 m. N. by E. of the city of Des Moines. *Pop.* (1898) 135.

Bristol, in *Maine*, a post-township of Lincoln co., on the Atlantic, 30 m. S. by E. of Augusta. Ship-building is extensively carried on.

Bristol, in *Maryland*, a post-office of Anne Arundel co.

Bristol, in *Massachusetts*, a S.E. county, *area* 517 sq. m. It is bounded S. by Buzzard's Bay, and watered by the Taunton River, &c. Its sea-coast, about 18 m. in extent, is indented by numerous bays and good harbors, affording facilities for navigation, and the fisheries are extensively prosecuted. *Surface.* Mainly level. *Soil.* Partially fertile; iron is extensively found. *Prin. Towns.* Taunton, and New Bedford.

Bristol, in *Minnesota*, a township of Fillmore co., near the frontier of Iowa.

Bristol, in *Missouri*, a post-office of Webster co.

Bristol, in *New Hampshire*, a post-township of Grafton co., 30 m. N. of Concord. *Manufactures.* Leather and woollens.

Bristol, in *New York*, a post-village and township of Ontario co., 212 m. W. of Albany.

Bristol, in *Ohio*, a post-township of Morgan co., 30 m. N.W. of Marietta.

—A village of Perry co., 48 m. W.N.W. of Marietta.

—A township of Trumbull co.

—A village of Wayne co., 100 m. N.E. of Columbus, and 14 from Wooster.

Bristol, in *Pennsylvania*, a handsome post-borough of Bucks co., on the Delaware River, 19 m. above Philadelphia, and 115 E. by S. of Harrisburg.

—A post-twp. of Bucks co., on the Delaware.

—A suburb, forming part of the city of Philadelphia.

Bristol, in *Rhode Island*, an E. county, possessing an area of about 25 sq. m., bounded S. and W. by Narragansett Bay, and E. by Mount Hope. *Surface.* Undulating. *Soil.* Fertile. The inhabitants are largely interested in the fisheries. *Cap.* Bristol.

—A flourishing port of entry, seat of justice, and township of the above co., on a neck of land extending S. into Narragansett Bay, 16 m. S.S.E. of Providence, 14 N. by E. of Newport, and 7 W.S.W. of Salt River. The town is well built and prettily situated, and has an excellent harbor accessible to ships of large tonnage. Its shipping-trade, both coastwise and foreign, is very active, and it is much resorted to in the summer as a sanatorium. King Philip, the enemy of the early New England settlers, resided at Mount Hope, in the vicinity, and was killed at this place in 1676. During the war of the Revolution, *B.* was bombarded by the British, and the greater part of the town destroyed. *Pop.* of township (1890), 5,478.

Bristol, in *Tennessee*, a post-village of Sullivan co., 15 m. W.S.W. of Abingdon, and 130 E.N.E. of the city of Knoxville.

Bristol, in *Vermont*, a thriving post-township of Addison co., 28 m. S.W. by W. of Montpelier.

Bristol, in *Wisconsin*, a township of Dane co., 18 m. N.E. of Madison.

—A post-village and township of Kenosha co.

Bristol Bay, an arm of the Pacific Ocean, in Alaska, Lat. about 54° N., Lon. 160° W. It lies immediately N. of the peninsula of Alaska, and receives the waters of two considerable lakes, which, communicating with each other, afford an opening into the interior.

Bristol-board, *n.* A description of strong pasteboard, made smooth by glazing, and used for artistic purposes.

Bristol-brick, *n.* A kind of brick employed in cleaning steel;— so called from the seat of its original manufacture, Bristol, in England.

Bristol Channel, an inlet of St. George's Channel, bet. Wales and England, its upper extremity forms the estuary of the Severn. A tunnel under this Channel was completed in 1885, its total length beneath the sea is 7,764 yards, and is 100 ft. below the bed of the Channel. The dimensions are 26 ft. wide by 26 ft. 6 in. high, the brick work is 3 ft. thick and the total cost was $10,000 000. It is used by the Great Western Railway System.

Bristol-diamond, BRISTOL-STONE, *n.* (*Min.*) A small and brilliant crystal of colorless quartz, found in the mountain limestone in the vicinity of Bristol, England. It is occasionally used, in a cut and polished state, for ornamental purposes.

Bristow Station, in *Kentucky*, a p. o. of Warren co.

Brisure, (*bre-zoor'.*) [Fr., from *briser*, to break.] (*Fort.*) Any part of a parapet or rampart which is constructed in a direction different to that part of the fortification of which it forms a continuous portion. In field-works, the term *brisure* is applied to the faces of a star fort, or those of any line of defensive works consisting of a series of re-entering and salient angles.

Brit, *n.* (*Zoöl.*) See CLUPEA.

Britain, (Great.) See GREAT BRITAIN.
Britain, (New.) See NEW BRITAIN.
Britan'nia. See GREAT BRITAIN.
Britannia Metal, *n.* An alloy of tin with a little copper and antimony. It is much used for spoons, teapots, &c., on account of the ease with which it may be worked and polished.
Britannic, (*bri-tan'ik,*) *a.* [Lat. *Britannicus*, from *Britannia*, Great Britain.] Pertainiug to Britain, or to the British Empire.
Britannicus, (*bri-tăn'ne-kus,*) son of the emperor Claudius, by his third wife, Messalina. His original name was *Tiberius Claudius Germanicus*, to which was subsequently added *Britannicus*, from the conquests which were made in Britain. D. 56; poisoned by Nero in his fourteenth year.
Brite, Bright, *v. i.* To be over-ripe, as wheat, barley, hops, &c. (Used in some parts of England.)
Brit'ish, *a.* [A.S. *Brittisc.*] Pertaiuing to Great Britain, or its inhabitants.
British Empire (The) embraces, with its colonies and possessions, about one-third of the surface of the globe, and nearly a fourth of its population, and has its nucleus in the British Islauds, or the *United Kingdom of Great Britain and Ireland*. G. Britain, the largest, richest, and most populous of the two islands, includes what were formerly the independent kingdoms of England and Scotland, now united under one crown, and form, with Ireland, the centre of the wealth and civilization of the whole empire. We give, from the latest official returns accessible in 1897, an abstract as follows:

States and Possessions.	*Area in Eng. sq. m.*	*Population.*
EUROPE.—Great Britain and Ireland, Gibraltar and Malta.....	121,239	37,934,284
ASIA.—British and Native States of India, Burmah, Ceylon, Labuan, Straits Settlements, Hong Kong, Aden and Socotra, and British North Borneo.	1,683,496	296,049,000
AFRICA.—Cape Colony, including Caffraria, Natal, Sierra Leone, British South and East Africa, Gold Coast, Mauritius, St. Helena, Ascension, &c.....	2,587,755	41,133,953
BRITISH NORTH AMERICA.—Dominion of Canada, including Newfoundland.....	3,490,466	5,031,239
WEST INDIES, CENTRAL AMERICA, &c.—Jamaica, Barbadoes, Trinidad, Tobago, Bahamas, Bermuda, Turk's Island, Virgin Islands, St. Kitt's, Nevis, Antigua, Montserrat, Dominica, St. Lucia, St. Vincent, Grenada, and Honduras.....	28,252	1,305,000
SOUTH AMERICA.—British Guiana and Falkland Islands.....	82,000	282,000
AUSTRALASIA.—New South Wales, Victoria, South Australia, Western Australia, Queensland, Tasmania, New Zealand, British New Guinea, and the islands of Auckland, Chatham, Caroline, Fanning, Fiji, Lord Howe's, Malden, Norfolk, Starbuck, &c.....	3,346,900	4,290,000
TOTAL	11,341,108	386,025,476

For further information regarding the various countries named above, see each name in the vocabulary order, and also the article GREAT BRITAIN.

British Gum, *n.* (*Chem.*) See DEXTRIN.
Brit'ish Hollow, in *Wisconsin*, a P. O. of Grant co.
Brit'on, *n.* [A.S. *bryt;* Celt. *brit*, variegated, spotted.] Originally, a painted man; an inhabitant of ancient Britain; in the modern sense, a native of England or Scotland (Great Britain proper). "*Britons* never shall be slaves." *Thomson.*—See GREAT BRITAIN.
Brit'tany, in France. See BRETAGNE.
Brittle, (*brit'l.*) *a.* [From A.S. *bryttian;* Swed. and Goth. *bryta;* Icel. *brióta*, to break.] Apt to break; easily broken; easily breaking short; not tough or tenacious: as, a *brittle* vase.—See BRITTLENESS.

"From earth all came, to earth must all return,
Frail as the cord, and *brittle* as the urn."—*Prior.*

Brit'tlely, *adv.* In a brittle manner. (R.)
Brit'tleness, *n.* (*Phys.*) A property of bodies which, although solid, yet are so weakly bound together that a very small mechanical force suffices to separate their particles. They can be easily reduced to powder. The cohesive force between their perceptible particles almost vanishes, but they differ from liquids in possessing a considerable cohesive force, acting between the particles, which are so small as to be almost imperceptible.
Brit'ton, JOHN, an English architect, antiquary, and topographical writer, B. 1771. He was the son of a small farmer, and received but a scanty education. Some short notices which he had contributed to the *Sporting Magazine* brought him into acquaintance with its publisher, Mr. Wheble, who employed him to compile the *Beauties of Wiltshire*, which he did in conjunction with a young literary friend named E. W. Brayley. They also prepared the *Beauties of Bedfordshire* in the same manner. *B.* afterwards issued a more elaborate work, entitled *The Architectural Antiquities of England.* One of the most important of his subsequent publications was *The Cathedral Antiquities of England*, 14 vols. fol. and 4to., 1814–1835, with upwards of 300 highly finished plates. Altogether, his illustrated works in the department of architectural and topographical description and antiquities number 87. D. 1857.
Brit'ton's Neck, in *South Carolina*, a post-office of Marion district.
Britt's Landing, in *Tennessee*, a P. O. of Perry co.
Britzska, (*brits'ka,*) *n.* [Russ. *britschka;* Pol. *bryzcka.*] An open, four-wheeled carriage, with shutters to close at pleasure, and space for reclining when on a journey.

Brive-la-Gaillarde, a town of France, dep. Corrèze, cap. arrond., in a beautiful and fertile plain on the Corrèze, 15 m. S.W. of Tulle. It is a well-built place, having a large trade in wine, cattle, chestnuts, and truffles. *Pop.* 10,839.
Brix'en, a fortified town of the Tyrol, 40 m. S.S.E. of Innspruck; *pop.* 3,975. Near it is the Fort of Francis, or Franzensveste, commanding the valley of Eisach, and the 3 roads from Germany, Italy, and Carinthia.
Brix'ham, a seaport of England, co. Devon, on Torbay, 186 m. W.S.W. of London. It is a thriving town, with a fine and secure harbor. Its principal trade is connected with the Torbay fishery. William III. landed here, and inaugurated the Revolution, Nov. 5, 1688.—*Pop* 4,829.
Brix'ton, in *Virginia*, a post-office of Alexandria co.
Bri'za, *n.* [Gr. *brizo*, I nod, on account of the quaking character of the spikelets.] (*Bot.*) The Quaking-grass, a genus of plants, ord. *Graminaceæ*. The species *B. media* is naturalized in the vicinity of Boston. Its dense clusters of flowers hang upon the ends of very delicate filamentous peduncles, forming elegant panicles, which shake with the slightest breath of air.
Brize, *n.* (*Zoöl.*) See GAD-FLY.
Briz'ure, *n.* [From Fr. *briser*, to break.] (*Her.*) Any charge that is in a broken condition or bruised. The terms *brizé* and *brisé* are used synonymously.
Broach, (*brōch,*) *n.* [Fr. *broche*, a spit; from Celt. *broc*, a point; Gael. *brag*, an awl; W. *proc*, a thrust, a stab.] Originally, a spit. (o.)

"And drip their fatness from the hazel *broach*."—*Dryden.*

—An awl or bodkin; a pointed or penetrating instrument.
—An ornament for the person; a clasp. See BROOCH.
—A sharp piece of wood used in some parts of England for thatching.—A candle-rod.
(*Mech.*) A tool of steel, generally tapering, and of a polygonal form, with from four to eight cutting edges, for smoothing or enlarging holes in metal; sometimes made smooth or without edges, as for burnishing pivot-holes in watches. The broach for gun-barrels is commonly square and without taper.—Also, a straight tool with file teeth made of steel, to be pressed through irregular holes in metal that cannot be dressed by revolving tools.
(*Arch.*) A small steeple or spire that is built on the top of a tower, rising immediately on the summit of its walls, without being surrounded at the base by a parapet or battlements.

Fig. 422.—BROACH.

—A start of the head of a young stag, growing sharp like the end of a spit.
—*v. a.* [Fr. *brocher.*] To pierce, as with a spit; to spit.

"Bringing rebellion *broached* on his sword."—*Shaks.*

—To tap; to let out; to pierce a cask in order to draw liquid; as, to *broach* a barrel of ale.

"And blood was ready to be *broach'd*,
When Hudibras in haste approach'd."
Butler.

—To open for the first time in order to give out; as, to *broach* the cabin stores.

"I will open the old armories, I will *broach* my store."—*Knolles.*

—To utter; to open up; to publish first: as, he *broached* the matter gently.

"This error, that Pison was Ganges, was first *broach'd* by Josephus."—*Sir W. Raleigh.*

To broach to. (*Naut.*) To fall off so much, when a ship is going free, as to bring the wind round on the other quarter, and take the sails aback.
Broach'er, *n.* A spit; a broach.

"The youth approach'd, and, as it burn'd,
On five sharp *broachers* rank'd, the roast they turn'd." *Dryden.*

—One who broaches a matter: the first author of a communication made: an opener or utterer of anything; as, a *broacher* of bad news.

"The first *broacher* of an heretical opinion."—*L'Estrange.*

Broach'ing-to, *n.* (*Naut.*) In navigation, to allow the ship's head to incline rapidly to windward of her proper course. This is occasioned by negligence, and may result in the sails being taken aback, and the dismasting of the vessel.—See BROACH.
Broad, (*brawd,*) *a.* [A.S. *brad;* Ger. *breit;* Swed. and Goth. *braedd*, the side: Goth. *braids;* allied to *spread.*] Wide; expanded; extended in breadth from side to side:—opposed to narrow; as, a *broad* river.

"The top may be justly said to be *broader*, as the bottom is narrower."—*Temple.*

—Extended in all directions; wide; ample; open; as, *broad* day.
—Unrestricted; unreserved; extended; as, a *broad* method.

"*Broad* based upon her people's will."—*Tennyson.*

—Vulgar; gross; indelicate; as, a *broad* jest; *broad* mirth.

"Because he seems to chew the cud again,
When his *broad* comment makes the text too plain."—*Dryden.*

Broad as long. Equal in all respects.

"For it is as *broad as long*, whether they rise to others, or bring others down to them."—*L'Estrange.*

Broadal'bin, in *New York*, a post-township of Fulton co., 40 m. N.W. of Albany.
Broad-arrow, *n.* (*Her.*) See PHEON.
—In England, a cuneiform mark, painted or branded, thus ➢, on all stores and materials belonging to the British Admiralty and the Board of Customs. It is unknown when this mark originated; but a penalty was affixed, in 1698, to the use of it by any private person under the Act 9 and 10 Will. III. cap. 41.
Broad'-axe, *n.* An axe with a broad edge, used for felling timber.
Broad Axe, in *Pennsylvania*, a post-office of Montgomery co.
Broad-bill, *n.* See FULIX.
Broad'-brim, *n.* A peculiar kind of hat for men's wear; more particularly applied to the head-covering used by the members of the Society of Friends.—A colloquialism for a Quaker, or male member of the Society of Friends.
Broad'-brimmed, *a.* That has a broad brim.
Broad Brook, in *Connecticut*, a thriving post-village of Hartford co., 15 m. N.N.E. of Hartford.
Broad'cast, *n.* (*Agric.*) A method of sowing seeds by casting them or scattering them abroad, so as to distribute them evenly over the entire surface of the soil; in opposition to sowing in drills or rows. The operation of sowing *B.* is generally performed by the hand, the operator carrying the seeds in a bag or sowing-sheet, or in a basket. There are also machines for sowing *B.*, but they are not much in use. In general, grasses are sown broadcast; while grain, pulse, and broad-leaved plants grown for their roots or leaves are sown in drills or rows. The term is sometimes applied to planting, but it is more generally restricted to sowing.
Broad'cast, *adv.* By scattering or loosely distributing from the hand; as, to sow a field *broadcast.*
Broad'cast, *a.* Scattered over the ground with the hand, as seed in sowing.—Widely diffused or spread over.
Broad'cloth, *n.* A fine quality of woollen cloth, over 29 inches in width, fabricated for men's outer garments.
Broad Creek, in *Delaware*, Sussex co., empties into the Nanticoke River.
Broad Creek, in *Maryland*, a P. O. of Queen Anne co.
Broad Creek Neck, in *Maryland*, a post-office of Talbot co.
Broad'en, *v. i.* To grow broad.

"Low walks the sun, and *broadens* by degrees."—*Thomson.*

—*v. a.* To make broad; to amplify in width or volume.
Broad'-eyed, *a.* Having a wide survey or scope of vision.

"In spite of *broad-eyed*, watchful day."—*Shaks.*

Broad'ford, in *Pennsylvania*, a post-village of Fayette co., 2 m. N. of Connellsville.
Broad'-gauge, *n.* (*Civil Engineering.*) See GAUGE.
Broad'haven, a bay on the W. coast of Ireland, co. Mayo, 11 m. N.W. of Bangor, and near Erris Head.
Broad'-horn, *n.* In the U. States, a term given to the broad, flat-bottomed boats plying on Western rivers.
Broad'-horned, *a.* Possessing widely extended horns.
Broad'ish, *a.* Somewhat broad; broad in moderation.
Broad'kill, in *Delaware*, a hundred of Sussex county.
Broad-leaf, *n.* (*Bot.*) See TERMINALIA.
Broad'-leafed, Broad'-leaved, *a.* Having broad leaves.

"Narrow and *broad-leaved* Cyprus grass."—*Woodward.*

Broad'ly, *adv.* In a broad manner.
Broad Mountain, in *Pennsylvania*, an extensive ridge, stretching S.W. from the middle of Carbon co., through Schuylkill co., into Dauphin, a distance of abt. 50 m., and forming along its summit, about 2,000 feet above sea, a broad table-land, whence its name. It is the highest mountain in the anthracite coal region of Pennsylvania.
Broad-mouth Creek, in *S. Carolina*, embouching into Saluda River, in Abbeville district.
Broad'ness, *n.* Breadth; extent from side to side; coarseness; grossness; as, *broadness* of style.

"I have used the cleanest metaphor I could find to palliate the *broadness* of the meaning."—*Dryden.*

Broad'-pennant, *n.* (*Naut.*) The pennant carried at the mast-head of a commodore's vessel.—See COMMODORE.
Broad'-piece, *n.* A piece of gold coin broader than a guinea.
Broad Ripple, in *Indiana*, a P. O. of Marion co.
Broad River, in *Georgia*, rises in Habersham co., and, after a S.E. course, empties into the Savannah River at Petersburg.
—A post-office of Elbert co.
Broad River, in *N. and S. Carolina*, springing at the base of the Blue Ridge in the first-named State, and passing into S. Carolina, in York District, takes a S. course, and joins the Saluda at Columbia, there to become the Congaree.
Broad River, in *South Carolina*, a strait between the mainland and Port Royal Island.
Broad Run Station, in *Virginia*, a post-office of Fauquier co.
Broad Run, in *Virginia*, a stream of Loudoun co., which, after a N. course falls into the Potomac a few miles S.E. of Leesburg.

—Another stream, rising in Fauquier co., and flowing S.E., enters the Occoquan River, 1 m. from Brentsville. —A post-office of Loudoun co.

Broad'-seal, *n.* The Great Seal of England; also, the public seal of a country or state.

Broad'side, *n.* (*Naut.*) The side of a ship above the water's edge. When a vessel is pressed down on one side in the water by the wind, she is said to be on her *broadside.* — (*Naval Gunnery.*) A discharging of the whole of the guns contained in one side of a ship at the same moment; precisely the same operation as soldiers would call a *volley.* The weight of shot and shell that can be delivered by the *B.* of a line-of-battle ship is very great; one of 131 guns being able to fire off at one *B.* a weight of metal amounting to 2,400 lbs.

(*Printing.*) Any large page printed on one side of a sheet of paper. Modern *B.* are of various sizes, sometimes consisting of several sheets, which, when put together, frequently cover a great space. The letters used in the largest are often two or three feet in length, each one occupying a whole sheet. Old English *B.* are frequently valuable as illustrating the history of the period.

Broad'-spread, *a.* Wide-spread.

Broad'-spreading, *a.* Spreading out widely; as, a *broad-spreading* view.

Broad'sword, *n.* A sword with a broad blade and a cutting edge, but capable of being used like the rapier for thrusting. When made so as to be employed in the latter way, as well as for cutting, it is called a *sabre*, and forms one of the weapons of the modern cavalry soldier. The modern representative of the old English *B.* is the *claymore* (q. v.), with which the Highland regiments of the British army are still armed. The English people became more and more skilful in the use of the *B.*, according as the wearing of suits of mail began to grow out. In the days of Queen Elizabeth, the "swash-bucklers," or "bullies," of that period achieved an unenviable notoriety for their skill in it. The *buckler*, or shield, a very ancient piece of armor, generally accompanied the *B.*, forming as it did the principal means of defence against it. At the close of the 16th century, sword-and-buckler combats began to decline, having been superseded by the continental mode of fighting with the rapier, or thrusting-sword, and the dagger. The Scots Highlanders, however, continued to use the *B.*, as well as the *target*, or buckler, until they were disarmed after the insurrection of 1745. Among the Highland clans, the *B.* was termed the *claymore*, and it was their national weapon.

"I heard the *broadsword's* deadly clang." — *Sir W. Scott.*

Broad Top, in *Pennsylvania*, a township of Bedford co.

—A post-village of Huntingdon co.

Broad Top Mountain, in *Pennsylvania*, situate partly in Bedford co., and partly in that of Huntingdon. The highest point is about 2,600 feet above sea-level. The mountain contains two principal coal-basins, lying parallel, side by side, N. 25° E., united by the passage of the lower coals from one over the principal anticlinal into the other, and each compounded of several subordinate parallel troughs. This isolated double coal-basin is separated from the bituminous coal-fields of the Alleghany Mountain upland, with an interval of 25 miles, by the great lower silurian anticlinal axis of Morrison's Cove and Nittany Valley. It contains in its deepest troughs about 900 feet of coal-measure, and takes in the Pittsburg coal-bed with one of the limestones above it.

Broad'way, in *New Jersey*, a post-village of Warren co., on the Pohatoong Creek, 8 m. S. of Belvidere.

Broad'way, in *Ohio*, a post-office of Union co.

Broadway Depot, in *Virginia*, a post-village of Rockingham co., about 34 m. N.N.E. of Staunton.

Broad'well, in *Illinois*, a twp. and post-vill. of Logan co., 21 m. N.N.E of Springfield.

Broad'well, in *Kentucky*, a post-office of Harrison co.

Broad'wise, *a.* According to the direction of the breadth.

Brocade, (*brō-kād'*,) *n.* [Sp. *brocádo*; Fr. *brocart*, from Celt. *broc*, a point, a needle.] A description of stout silken stuff, variegated with gold and silver, raised and enriched with foliage, flowers, and other ornaments, and used for the dresses of both sexes during the 17th and 18th centuries. In an inventory of the wardrobe of Charles II., in the Bodleian Library, is mentioned "white and gold *brocade* at two pounds three and sixpence per yard, and coliere-du-prince *brocade* at two pounds three shillings per yard." Brocade was not known in England till after the 13th century, and was a great rarity and luxury upon the Continent in the 14th.

Brocad'ed, *a.* Worked like brocade; as, a *brocaded* robe.

"Should you the rich *brocaded* suit unfold,
Where rising flow'rs grow stiff with frosted gold."—*Gay.*

—Apparelled in brocade; as, a lady in *brocade.*

Bro'eage, Bro'kage, *n.* A commission or profit gained by transacting business for others. — The business of a broker; brokerage.

Bro'cards, Brocardus, Brocardica, *n. pl.* Properly, maxims or principles of law, as the *Brocardica juris* of Azo; but the word has come to be applied to maxims or proverbs generally. It is said by Vossius to be derived from the Greek term *protarchia*, first elements: but others, with more probability, derive it from Burchard, or Brocard, bishop of Worms, who made a collection of canons, called from him *Brocardica*; and as they abounded in short sententious sayings and proverbs, the name came to be applied to works of that description.

Bro'catel, Brocatel'lo, *n.* [Fr. *brocatelle*; Sp. *brocatel*; It. *brocatello.*] A coarse kind of brocade used in tapestry.

Broccoli, (*brok'ko-li,*) *n.* [Fr. *brocoli*; It. *broccolo*; Sp. *broculi.*] (*Hort.*) The *Brassica oleracea*, a common garden vegetable differing from the cauliflower only in having colored instead of white heads. — See Cauliflower.

Broch'antite, *n.* (*Min.*) A native sulphate of copper, thus named after Brochant the French mineralogist.

Broche, (*brōch.*) See Broach.

Brochette', *n.* [Fr.] A skewer to stick meat on. — A mode of frying chickens.

Brochure, (*bro-shoor',*) *n.* [Fr., from *brocher*, to stitch, from *broche*, a needle.] A pamphlet; a printed and stitched publication on a small scale; as, the author of a witty *brochure.*

Brock, (*broc,*) *n.* [A.S. *broc*; Dan. *brok*; Ir. *broc*; Corn. and W. *brock*; Gael. *breac*, spotted, speckled, piebald.] (*Zoöl.*) A badger, so named from the white streaks on its face. — See Badger.

"Or with pretence of chasing thence the *brock.*"—*Ben Jonson.*

—A Brocket, *q. v.*

Brock, in *Ohio*, a post-office of Darke co.

Brocken, (*brok'kn.*) the culminating point of the Hartz Mountains, in N. Germany, kingdom of Saxony, cultivated nearly to its summit, which is 3,740 feet above the level of the sea. The phenomenon called the "Spectre of the Brocken" is here occasionally seen at sunset and sunrise. It is caused by the perpendicular rising of the mists from the valley opposite to the sun, at the same time leaving the top of the mountain clear. The effect produced is a wonderful enlargement of every object reflected by this dense mass of vapor ascending from the valley.

Brock'et, *n.* [See Brock.] A red hart two years old, so named from its having only a single snag to its antler. (Sometimes written *brock.*)

Brock'ett's Bridge, in *New York*, a post-office of Fulton co.

Brock'ish, *a.* Brutal; animalish; beastly.

Brock'port, in *New York*, a thriving post-village of Sweden township, Monroe co., 17 m. W. of Rochester. There are a number of mills and factories here.

Brock's'ville, in *Texas*, a post-office of Ellis co.

Brockton. See North Bridgewater.

Brock'town, in *Arkansas*, a post-office of Pike co.

Brock'ville, in *Pennsylvania*, a mining village of Schuylkill county, a few miles north-east of Pottsville.

Brock'ville, in *Indiana*, a flourishing village of Steuben county, 9 miles N.E. of Angola, the county-seat.

Brock'ville, in prov. of Ontario, a county town of the united counties of Grenville and Leeds, on the St. Lawrence, 125 m. S.W. of Montreal. This is a well-built and prosperous town, producing steam-engines, machinery, and other fabrics. *Pop.* 7,000.

Brock'way, in *Michigan*, a post-township of St. Clair co.

Brock'way, in *Minnesota*, a post-office of Stearns co.

Brock'way Centre, in *Michigan*, a post-office of St. Clair co.

Brock'way's Mills, in *Maine*, a post-office of Piscataquis co.

Brock'wayville, in *Pennsylvania*, a post-office of Jefferson co.

Broc'ton, in *New York*, a post-office of Chautauqua co.

Brod'becks, in *Pennsylvania*, a post-office of York co.

Brod'head, John Romeyn, an American historian, b. at Philadelphia, in 1814. In 1841, the New York State Legislature commissioned him to proceed as their agent to Europe, there to transcribe documents relating to the history of that State. *B.* employed three years in the task of exploring the government archives of England, France, and Holland, and brought home the fruits of his researches in 1844; which were printed by authority in 10 large 4to. vols. From 1846 to 1849, *B.* held the post of secretary of legation under Mr. Bancroft, at the English Court. On his return he began his long-cherished work, *A History of the State of New York*, the 1st vol. of which, comprising the Dutch period from 1609 to 1664, was published in 1853. D. 1873.

Brod'head, in *Pennsylvania*, a P. O. of Alleghany co.

Brod'head, in *Wisconsin*, a post-vill. of Green co., on Sugar River, 18 m. W. by S. of Janesville.

Brod'head's Creek, in *Pennsylvania*, Monroe co., emptying into the Delaware River.

Brod'headsville, in *Pennsylvania*, a post-office of Monroe co.

Bro'die, Sir Benjamin Collins, Bart, ll.d., f.r.s., an eminent English surgeon, b. 1783. Having devoted himself earnestly to the study of practical surgery, he was, when comparatively young, appointed surgeon at St. George's Hospital, London; and, after the death of Sir Astley Cooper, became the first consulting surgeon of his day. *B.*'s reputation did not rest so much upon his operative skill as upon his powers of diagnosis, and upon his knowledge of the advantageous effects of constitutional treatment in surgical affections. He was a prolific writer. Early in his career, he made a series of most valuable and interesting observations on the action of poisons, and he published various works on surgical science, which are held in high authority. Prominent among them stands his *Treatise on Diseases of the Joints*, which will in all time coming be a standard authority. Latterly, he brought out essays on psychological science of the most powerful character. Sir Benjamin was serjeant-surgeon to kings George IV. and William IV., and also to Queen Victoria. D. 1862.

Bro'dy, a town of Austria, prov. Galicia, circ. Zloczow. 52 m. E. by N. of Lemberg; Lat. 50° 7′ N., Lon. 25° 18′ E. Nearly half the residents are Jews. It is a mean place in appearance, but has a most extensive trade (principally transit), the value of which amounts to about $15,000,000 annually. Its fairs, too, are conducted on a great scale. On account of the great number of Jews in this town, it has been nicknamed the German Jerusalem. *Pop.* 18,743.

Brock, a village of Holland, 6 m. N.E. of Amsterdam. This village is celebrated for the wealth of its inhabitants, but more from the extreme cleanliness of its houses and streets, the attention to which is carried to almost an absurd excess. The entire *pop.* (about 1,600) consists of retired merchants and their families, who amuse themselves in keeping their dwellings free from every speck of dust.

Broffe'rio, Angelo, a distinguished Italian dramatic author, and historian; b. in Piedmont, 1802. His principal works are, *A History of Piedmont*; the dramas of *The Corsair*; *Return of the Proscript*; *Kenilworth Castle*; *Salvator Rosa*, &c. D. 1866.

Bro'gan, *n.* A strong, clumsy shoe. See Brogue.

Bro'glesville, in *Tennessee*, a P.O. of Washington co.

Broglie, Victor Maurice, Comte de, (*brō'le*, or *brōg'lē,*) a French general, was born of a good family at Quercy, served with credit in the wars of Louis XIV., and was made a marshal of France. D. 1727.

Broglie, *François Marie, Duc de*, son of the preceding, became a marshal of France, and distinguished himself in Italy, in the campaigns of 1733 and 1734. D. 1745.

Broglie, *Victor François, Duc de*, son of the preceding, b. 1718, was a lieutenant-general during the 7 Years' War, routed the Prussians at the battle of Bergen, was created a prince of the German empire by Francis I., and promoted to the rank of a marshal of France in 1759. He became Minister of War in 1789; and, in 1792, he led a body of French *émigrés*, who invaded Champagne. D. 1804, at Münster.

Broglie, *Claude Victor, Duc de*, son of the preceding, b. 1757, became active on the side of the popular party at the commencement of the French Revolution, and was made a maréchal-de-camp. Guillotined 1794.

Broglie, *Achille Charles Léonce Victor, Duc de*, son of the preceding, b. 1785. Entering early in life upon a career of diplomacy, he was charged with different foreign missions, and went in the suite of the Abbé de Pradt, in 1812–13, to the Congress of Prague. After the Restoration he was made a peer by Louis XVIII., and in this capacity he sat in judgment on Marshal Ney. He spoke strongly in favor of that illustrious man, and voted in the minority who voted against his being put to death. *B.* married the daughter of the celebrated Madame de Staël (*q. v.*), and his first political acts threw him necessarily into the opposition. He supported, against the various ministers of the Restoration, different measures of reform, and advocated with great eloquence, freedom of political discussion and of the press. In a multiplicity of questions he showed himself a good economist and jurist, while the sincerity of his convictions and the vigor of his logic, joined to a certain sharp irony, established his repute as an orator. In 1828, he founded the *Revue Française*, to which he contributed several articles anonymously. The revolution of July made M. de *B.* a doctrinaire throughout the whole of the reign of Louis Philippe. He did not fear liberty, but he was afraid of the democratic tendencies which the revolution had encouraged. He acted for a few days as Minister of the Interior, and yielded his position to his friend M. Guizot, a bolder organ of his own ideas, contenting himself with the portfolio of Public Instruction in the first ministerial combination attempted by the new king. Both men were obliged to give way to the Lafitte ministry, then better suited to the temper of the times. Associated with MM. Thiers and Guizot, and Marshal Gérard, he formed, October, 1832, a ministry that had a longer existence than most of those which held office under Louis Philippe, and in this cabinet he had the portfolio of Foreign Affairs. His principal act in that capacity was the arrangement with England to the suppression of the slave-trade. He retired from the ministry in April, 1834, in consequence of the rejection of the law on the American indemnity, but was shortly after recalled by the king to the same portfolio, and with the title of President of the Council. It was under *B.*'s presidency that the famous laws respecting the press, called the Laws of September (1835), so contrary to the principles he had maintained on this subject under the Restoration, were passed. In 1836, he retired finally from office, and withstood every solicitation to enter upon it again. With regret he saw the destruction of the royalty he had assisted in founding, in the revolution of February, 1848. For a time he was silent; but after the election of Louis Napoleon, he entered the Legislative Assembly, and proposed the law for a revival of the Constitution, in the hope of reopening the door to a monarchy more in harmony with his choice. The *coup d'état* brought about an order of things *B.* never expected, and he afterwards lived in retirement. In 1861, he prosecuted the prefect of police for the illegal seizure of a work on which he had been long occupied, *Considerations on the Government of France*, but which was not intended for publication. He succeeded however, in recovering the greater portion of the copies which had been seized at his printer's. D. 1870. His son Albert, b. 1821, author of *The Church and the Roman Empire in the Fourth Century* (1856), was Minister of Foreign Affairs in 1873–1875.

Brogue, (*brōg.*) *n.* A brogan; a stout, heavy leather shoe, resembling in form the French *sabot*. Applied generally to the pedal coverings of the Scottish Highlanders, and the Irish peasantry.

"I . . . put
My clouted *brogues* from off my feet. "—*Shak.*

—A cant phrase for a corrupt dialect, or mode of pronunciation; as, spoken with the Irish *brogue*.

"Or take, Hibernia, thy still ranker *brogue*."— *Lloyd.*

Broid'er, *v. a.* [Fr. *broder*, by transposition from *border*, to hiud, to edge, to border: because the *borders* of garments are embroidered.] To ornament with needlework. By modern usage, EMBROIDER, *q. v.*

"In mantles *broider'd* o'er with gorgeous pride."— *Tickell.*

Broid'erer, *n.* One who embroiders. (o.)

Broid'ery, *n.* Embroidery. (o.)

"The golden *broidery* tender Milkah wove."— *Tickell.*

Broil, *n.* [Fr. *brouille*, from *brouiller*, to mix; from It. *brogliare*, to confound.] A disturbance; agitatiou; brawl; a noisy quarrel; a confnsed tumult; as, their anger led to a *broil*.

"Rude were their revels, and obscene their joys;
The *broils* of drunkards, and the lust of boys."—*Granville.*

(*Cookery.*) A piece of meat broiled over a fire; as, it will make a nice *broil*.

—*v. a.* [Fr. *brûler*, for *brusler*, from *braise*, burning or glowing charcoal.] To agitate with heat; to dress or cook over coals or before the fire; as, to *broil* a beefsteak.

"Some strip the skin, some portion out the spoil,
Some on the fire the reeking entrails *broil*."—*Dryden.*

—*v. i.* To be subjected to heat; to be greatly heated; to be cooked by being placed over a fire; as, it is a *broiling* day.

"Where have you been *broiling*?
Among th' crowd i' th' abbey, where a finger
Could not be wedg'd in more."— *Shaks.*

Broil'er, *n.* One who broils: one who incites quarrels. (*Cookery.*) A gridiron; a kitchen-utensil for broiling meat.

Bro'kage, *n.* Same as BROKERAGE, *q. v.*

Broke, *v. i.* [A. S. *brucan*, to use, discharge, profit; Swed. and Goth. *bruka*, to use, exercise.] To transact bnsiness for another. (R.)

—To act as broker or procnrer in amatory intrigues.

"And *brokes* with all that can, in such a suit,
Corrupt the tender honor of a maid."—*Shaks.*

Broke, *imp.* and *pp.* of BREAK, *q. v.*

Bro'ken, (*pp.* of BREAK, *q. v.*, and *a.*) Parted by violence; rent asunder; as, a *broken* pitcher.

"When some traveller from New Zealand shall, in the midst of a vast solitude, take his stand on a *broken* arch of London Bridge to sketch the ruins of St. Paul's."—*Macaulay.*

—Infirm; incapacitated; weakened in body; as, *broken* health.

"The *broken* soldier, kindly bade to stay,
Sat by his fire, and talked the night away."—*Goldsmith.*

—Humbled; contrite; abashed; subdned; as, *broken* in spirit.

Broken number. A fraction of a unit.

Broken Arrow, in *Alabama*, a post-office of St. Clair co.

Broken Arrow, in *Georgia*, a village of Walton co., 7 m. W. of Monroe.

Broken-backed, (*brok'n-backt,*) *a.* Haviug the back broken.

(*Naut.*) A ship is said to be *broken-backed* when, in consequence of being loosened from age or injury, her frames droop on either end. Often called, technically, *hogged*.

Bro'ken-bellied, *a.* Having a ruptured belly.

Bro'kenburgh, in *Virginia*, a post-office of Spottsylvania co.

Bro'ken-hearted, *a.* Having the spirits crnshed or rnined by grief or fear.

"Had we never loved so blindly,
Never met or never parted,
We had ne'er been *broken-hearted!*"—*Burns.*

Bro'kenly, *adv.* Without a regular series; in a shattered or nnequal state.

"And thus the heart will break, yet *brokenly* live on."— *Byron.*

Bro'ken-meat, *n.* Fragments of meat; refuse after a meal.

Bro'kenness, *n.* Unevenness; state of being broken. Compunction: contrition; penitence ot heart.

Bro'ken Straw, in *New York*, a post-office of Chantauqua co.

Bro'ken Straw, in *Pennsylvania*, a township of Warren co.

Bro'ken Straw Creek, in *Pennsylvania*, Warren co., enteriug the Alleghany River.

Bro'ken Sword Creek, in *Ohio*, falls into the Sandusky River, in Wyandot co.

Bro'ken-wind, *n.* (*Farriery.*) A peculiar affection of the *wind* or breathing of the horse, in which the expiration of the air from the lungs, occupying double the time that the inspiration of it does, requires also two efforts rapidly succeeding each other, aud attended by a slight spasmodic action, in order fully to accomplish it. Examiuation of the animal after death has satisfactorily explained the reason of this. Some of the air-cells, particularly rouud the edges of the lungs, are ruptured; they have run into one another, and irregularly formed cavities have thus been made into which the air may easily enter, but cannot, without considerable difficnlty, be expelled. This disease may also be recognized by a characteristic low grunting cough, likewise easily explained by this morbid structure of the lungs. If the usual breathing has been rendered thus laborious, it is evideut that the horse, without skilful management, will be utterly incapable of rapid and continued exertion. In fact, if he is but a little hurried he evinces evident distress, and if still nrged on, he drops and dies; this therefore is one of the worst species of *unsoundness*. The canse oi the rnpture of the air-cells may be previous inflammation of the lungs, by which a portion of them has been rendered impervions, and thus greater labor thrown ou the remainiug parts. The delicate structnre of the cells, probably weakened by the inflammation in which it had shared, yields to the unnatural distention to which they are thus exposed. Many a horse has become broken-winded when urged to extra exertion immediately after he has been fed; for the air rushiug violently into the lungs in the act of sudden and forcible inspiration, and the full stomach lying against the diaphragm, with which the body of the lungs is in contact, their perfect expansion is prevented, and those parts, as the edges, which are free from this pressure, are nnnatnrally dilated and rnptured. The kind of food also to which the horse is accnstomed has much to do with this disease. If it is comparatively innutritive, a greater bulk of it must be eaten, and the distended stomach will oftener and longer press upon the diaphragm and impede the dilatatiou of the lungs, or render it unequal in different parts. Thus, broken-wind is a disease of the farmer's horse fed too much on hay or chaff; it is often prodnced in the straw-yard, where little more than the coarsest food is allowed; but it is comparatively seldom seen in the stable of the coach-proprietor, in which the food is of a better quality, and lies in a smaller compass, and is more regularly administered; and it never disgraces the hunting or racing stable. It must however be confessed that there is sometimes an hereditary predisposition to this disease, consisting in a narrowness of chest or a weakness of structure in the lungs. There is no cure for broken-wind; no art can restore the dilated cells to their former dimensions, or build up again a wall between them. But palliative measures may be adopted to a very considerable extent. The food should be of a more nutritive kind, and contained in a smaller compass. Straw and chaff should be forbidden, the quantity of hay perhaps a little diminished, and that of corn correspondingly increased. A mash should constitute a part of the evening's fare; water should be sparingly given during the day, and exercise should not be required when the stomach is full. Occasional or periodical fits of greater difficulty of breathing should be met by small bleedings and gentle laxatives. By this management not only will the broken-winded horse be rendered useful for many ordinary purposes, but will be capable of service and labor, which it would otherwise be cruel to require of him.

Bro'ken-winded, *a.* Having a shortened respiration, as a horse.

Bro'ker, *n.* [See BROKE.] One who does business for another.—(*Com.*) An agent or negotiator who transacts business for merchants; as, a ship-*broker*. A broker is a sort of middleman between vendor and purchaser. He is not, like a factor, intrusted with the possession of the article he vends, and he is not authorized to buy or sell in his own name.

"Some South-Sea *broker* from the city,
Will purchase me, the more's the pity."— *Swift.*

—One who deals in old furniture, goods, &c., or who sells personal effects, &c., after being distrained upon for rent.

—A pimp or procurer. (o.)

"To play the *broker* in mine own behalf." · *Shaks.*

Bro'kerage, *n.* The business of a broker.

—The percentage paid to a broker for his trouble in effecting a sale, or in negotiating any particular business.

Bro'king, *p. a.* Pertaining to the business of a broker: practised by brokers; relating to brokerage. (o.)

"Redeem from *broking* pawn the blemish'd crown."—*Shaks.*

Bro'ma, *n.* [Gr.] (*Med.*) Food of any kind that is masticated.

Bro'mal, *n.* (*Chem.*) An organic compound consisting of *Aldehyde*, in which three equivalents of hydrogen are replaced by chlorine. It is an oily liquid of unpleasant odor. Sp. gr. 3·35.

Bromar'gyrite, *n.* (*Min.*) See BROMARYTE.

Bro'mate, *n.* (*Chem.*) A compound of bromic acid with a base.

Bromatol'ogy, *n.* (*Med.*) A discourse on food.

Brom'berg, a town of Prussia, prov. Posen, cap. of a circ. of the same name, on the Braa, 6 m. from its junction with the Vistula. This place is one of the most thriving towns of E. Prussia. *Manf.* Tobacco, liquors, and chicory.

Brome, *n.* (*Chem.*) Same as BROMINE, *q. v.*

Brome, a S. County of Quebec, a Twp. and Lake. B. and W.B. Post Vills. same co. *Pop.* 13,757.

Brome'-grass, *n.* (*Bot.*) See BROMUS.

Brome'lia, *n.* (*Bot.*) A genus of plants, order *Bromeliaceæ*. The green fruit of *B. pinguin* is used as a diuretic in the W. Indies: the prickly leaves yield long fibres, which are twisted iuto ropes aud woveu iuto coarse cloth.

Bromeliaceæ, (*bro-me-le-ai'-se-e.* (*Bot.*) An order of plants, alliauce *Narcissales*, named after Bromel, a Swedish botanist.—DIAG. Tri-petaloidous six-leaved flowers, having imbricated divisions, and mealy albumen.—They are herbs or somewhat woody plants, stemless or with short stems, and rigid, channelled, often spiny and scaly leaves. The flowers are in racemes or panicles; the calyx 3-parted or tubular, persistent, more or less cohering with the ovary; the petals three, withering or deciduous, eqnal or nnequal, imbricated in bud. The stamens are six, inserted into the tube of the calyx and corolla, the anthers opening inwards. The ovary is 3-celled, the style siugle, the fruit capsular or succulent, many-seeded; the seeds with a minute embryo lying in the base of mealy albumen.—The order contains 28 genera and about 175 species, all natives of the warmer parts of America, although some of them are uow naturalized both in Asia and Africa. The best known plant of the order, and the only one much valued for its fruit, is the Pine-apple, *Ananassa sativa*. *B.*, with their strong spiny leaves, cover the grouud in many places, so as to form impenetrable thickets. Many of them are epiphytic, or grow upon trees, without being parasites, particularly the species of *Tillandsia*, one of which is the New Orleans Moss, Long Beard, or Old Man's Beard of the West Indies and of the southern parts of the United States, hanging from the trees like the lichens of colder climates. The leaves of some are so formed and placed as to retain near their base a quantity of water, often affording a delicious refreshment to the traveller in a hot climate. The water is, perhaps, of use to the plant itself in droughts. Not a few of the *B.* are capable of vegetating long without contact with earth, and of sustaining long drought without inconvenience: for which reason, and because of their beautiful and fragrant flowers, some of them are very frequently suspended from balconies in South America as air-plants. But the plants of this order are more generally valuable for their fibres than on any other account. The principal genera are, *Ananassa*, *Bromelia*, *Billbergia*, and *Tillandsia*, q. v.

Fig. 423.

FRUIT OF ANANASSA SATIVA. (Pine-apple.)

Bro'mic Acid, *n.* (*Chem.*) The only known compound of bromine and oxygen. Equivalent 120. It corresponds in composition to chloric acid, but has never been obtained in an anhydrous condition. In combination with water it forms a colorless liquid, which first reddens and then bleaches litmus. With bases it forms bromates, which are similar in their properties to chlorates. *Form.* B_2O_5.

Bro'mine, *n.* [Gr. *bromos*, a stench.] (*Chem.*) An elementary substance discovered by Balard, in 1826, in minute quantities in sea-water, in which it exists as bromine of magnesium. It also occurs in a native bromide of silver found in Chili, and in union with various alkalies in certain mineral waters. It is prepared by passing chlorine through a solution of alkaline bromides, until the yellow color produced remains uniform. Ether is added, which isolates the bromine. This is separated from the saline solution and shaken up with a solution of caustic potash. The solution is then evaporated to dryness, and the residue distilled with binoxide of manganese and sulphuric acid. Its aspect is totally different from that of any other element, for it distils over in the liquid condition, and preserves that form at ordinary temperatures, being the only liquid non-metallic element. Its dark red-brown color, and the peculiar orange color of the vapor which it exhales continually, are also characteristic; but, above all, its extraordinary and disagreeable odor, from which it derives its name, leaves no doubt of its identity. The odor has some slight resemblance to that of chlorine, but is far more intolerable, often giving rise to great pain, and sometimes even to bleeding of the nose. Liquid *B.* is twice as heavy as water (sp. gr. 2·96), and boils at 145°, yielding a vapor 5½ times as heavy as air (sp. gr. 5·54). It may be frozen at 9·5° to a brown crystalline solid. It requires 33 times its weight of cold water to dissolve it, and is capable of forming a crystalline hydrate corresponding to hydrate of chlorine. In its bleaching power, its aptitude for direct combination, and its other chemical characters, it very closely resembles chlorine — so closely, indeed, that it is difficult to distinguish, in many cases, between the compounds of chlorine and *B.* with other substances, unless the elements themselves be isolated. A necessary consequence of so great a similarity is, that very little use has been made of *B.*, since the far more abundant chlorine fulfils nearly all the purposes to which *B.* might otherwise be applied. In the daguerreotype and photographic arts, however, some special applications of *B.* have been discovered, and for some chemical operations, such as the determination of the illuminating hydro-carbons in coal-gas, *B.* is sometimes preferred to chlorine. The principal compounds of *B.* are *Hydrobromic acid*, a compound of one equivalent each of hydrogen and *B.* The action of hydrobromic acid on metallic oxide is precisely similar to that exerted on them by hydrochloric acid. Thus hydrobromic acid and potash combine, forming bromide of potassium and water. It is soluble in water to a considerable extent. It is colorless, strongly acid, and suffers no change on exposure to the air. On the addition of nitric acid, decomposition takes place, and a bromic *aqua regia* is formed, which, like the chloric *aqua regia*, dissolves gold and platinum. With oxygen, *B.* forms *bromic-acid*, q. v. With chlorine, a chloride, possessing bleaching properties. With sulphur it forms a single bromide. As a sedative in nervous excitement and sleeplessness, Bromide of Potassium gives great relief. The use of Bromine Compounds in large doses, often leads to unpleasant effects. The equivalent of *B.* is 80; its symbol Br.

Charlotte Bronte

1816–1855

Bro'mize, *v. a.* (*Photog.*) To treat with bromine; as, to *bromize* a silvered plate.

Brom'lite, *n.* [Gr. *bromos*, a stench, and *lithos*, a stone.] (*Min.*) A carbonate of lime and baryta.

Brom'oform, *n.* (*Chem.*) A compound of bromine and formyl; corresponding to chloroform. It has no particular interest. *Form.* C_2HBr_3.

Bromohy'dric, *a.* (*Chem.*) Applied to an acid composed of one equivalent of bromine and one of hydrogen.

Bromp'ton, a western division of London, 4 m. W. of St. Paul's.

Broms'grove, a town of England, co. Worcester, 108 m. N.W. of London. It is a prosperous and well-built place, doing an extensive trade in nail-making, buttons, and chemicals; *pop.* 5,788.

Bromuret, *n.* (*Chem.*) A basic compound of bromine with other elements.

Bro'mus, *n.* [Lat.; from Gr. *bromos*, wild oat.] (*Bot.*) The Brome-grass; a genus of plants, order *Graminaceæ*, characterized by the flowers being in lax panicles; the glumes many-flowered; the outer palea bifid, and the extremities awned beneath; and by the very short stigma growing from the face of the germen beneath its

Fig. 424. — RYE BROME-GRASS.
(*Bromus secalinus.*)

apex. Some species are very common in the United States. The *B. secalinus* is a handsome grass in fields, often among wheat. In a young state it has a great resemblance to rye. Its seeds, which are large, retain their power of germination for years, and do not lose it by passing through the intestines of animals. Deleterious effects have been erroneously ascribed to bread made from rye, along with which these seeds have been ground: but poultry are very fond of them.

Brom'wich (West,) a town and parish of Staffordshire, England, 3 m. from Wednesbury, with mines of coal and iron in the neighborhood.

Brom'yrite, *n.* (*Min.*) Native bromide of silver. When pure it is of a yellow color, with a slight tinge of green. It is met with in Mexico and Chili, accompanying other ores of silver.

Bronchitis, (*bron-kī'tis.*) *n.* (*Med.*) There are few diseases affecting the respiratory organs more common, and more serious, than that form of inflammatory action attacking the air-passages, known as the bronchial tubes, or any form of disease calling for more prompt or energetic action. The great exciting cause is cold, especially when combined with moisture; but, whatever tends to diminish the general vigor of the system, and excesses of every kind, predispose to it. Any sudden change of temperature is apt to produce it. It is especially prevalent during the spring months. Its first symptoms are generally those of a common cold, accompanied with an occasional cough, and a sense of weariness and headache. The cough increases, and there is a feeling of oppression in the chest, and the breathing produces a kind of wheezing noise. The pulse is rapid and weak, and there is extreme lassitude, with pain in the limbs, mental heaviness, &c. If the feverish symptoms increase, the breathing becomes difficult from the clogging of the tubes with mucus, which is, to some extent, expectorated during the cough. In severe cases, the symptoms become more and more alarming; the breathing becomes so embarrassed that the patient can no longer lie down, but requires to maintain an upright posture, and use all his muscles in respiration. At last, he is so exhausted that he ceases to expectorate, and dies of suffocation from the accumulated mucus, usually in from five to seven days. Even in less severe cases, the delicate respiratory tubes are frequently permanently injured, so that the proper aëration of the blood is interfered with. The treatment of this disease will vary, according to its nature and the constitution of the patient; and the necessity of always having recourse to a medical man cannot be too strongly insisted upon. The great object of the treatment is to reduce and remove the inflammatory condition of the organs; hence a mustard-poultice should be applied to the chest, the feet bathed in hot water, and warm diluent drinks, as barley-water or linseed tea, given. It is frequently necessary to administer emetics, in order to remove the accumulations of mucus. The bowels should be kept moderately open during the whole course of the disease. — See ASTHMA, CATARRH, COUGH.

Bron'chi, BRON'CHIÆ, BRON'CHLÆ, *n. pl.* [Gr. *bronchos*, the windpipe.] (*Anat.*) The bronchial tubes; though strictly meaning the bifurcations, or the two tubes into which the *trachea* or windpipe splits on entering the chest. The word *B.*, or air-passages, signifies every division, subdivision, and minute ramification into which the division of the trachea separates till opening into the air-cells in the substance of the lungs. The function of the bronchia is to convey the air received by the mouth and nostrils and the windpipe to every part of the three lobes of the lungs, and carry it to the bronchial cells, where it mingles with the impure blood, converting it into arterial blood, and changing it to a bright scarlet color. — See BRONCHITIS.

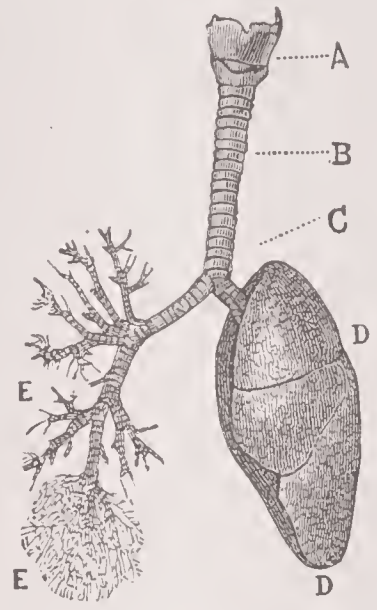


Fig. 425.

LUNGS AND TRACHEA IN MAN,
showing the position of the windpipe and bronchial tubes, relatively to the lungs.

A, Larynx and superior extremity of the trachea; B, trachea; C, division into bronchi; D, one of the lungs; E, bronchial ra-muscules.

Bron'chial, Bron'chic, *a.* Relating to the bronchi. *Bronchial glands.* (*Anat.*) Numerous small, dark-colored glands, situated on each side of the bronchial tubes in their course from the trachea to the lungs.

Bron'chocele, *n.* (*Med.*) The surgical name for a diseased enlargement of the thyroid gland. — See GOITRE.

Bronchoph'ony, *n.* [Gr. *broychos*, the throat, and *phone*, voice.] (*Med.*) A thrilling sound in the bronchial tubes, audible by auscultation, and occurring only in certain diseases.

Bronchot'omy, *n.* (*Surg.*) See TRACHEOTOMY.

Bron'chus, *n.* (*Anat.*) One of the two BRONCHI, *q. v.*

Brongniart, ALEXANDRE, an eminent French chemist and geologist, B. at Paris, 1770, was son of Alexandre Theodore *B.*, a distinguished architect. Appointed, in 1800, director of the porcelain manufactory at Sèvres, he held that office for the remainder of his life, and revived the almost lost art of painting on glass. In his *Essai d'une Classification des Reptiles*, 1805, he established the four divisions of reptiles, and first gave them the names of *Saurians, Batrachians, Chelonians,* and *Ophidians.* His *Traité Elémentaire de Minéralogie*, published in 1807, at the instance of the Imperial University, became a text-book for lecturers. In 1814 appeared his *Mémoire sur les Corps Organisés Fossiles nommés Trilobites*, a name which, as well as a basis of classification for those singular *crustacea*, naturalists owe to Brongniart. In 1815 he was elected a member of the Academy of Sciences of the French Institute; he was also a member of the Royal and Geological Societies of London, and of other learned bodies. In 1845 appeared his *Traité des Arts Céramiques.* D. 1847.

B., ADOLPHE THÉODORE, son of the preceding, B. at Paris, 1801. He early devoted himself to the study of the natural sciences, especially to that of botany, selecting cryptogamous plants for special notice. In 1825, he published a *Classification des Champignons*, and, in 1828, presented to the Institute the first portions of his *Histoire des Végétaux Fossiles, ou Recherches botaniques et géologiques sur les végétaux renfermés dans les diverses couches du globe.* The publication of this valuable work was stopped in consequence of the gifted author's ill-health. In 1834, B. was elected a member of the Academy of Sciences. He was also Professor of Botany and Vegetable Physiology in the Museum of Natural History after 1833, was Inspector General of the University for the Sciences after 1852, and was one of the principal founders of, and contributors to, the *Annales des Sciences Naturelles;* wrote the botanical portion of the *Voyage de la Coquille* in 1831, and published *Enumération des Genres de Plantes cultivées au Muséum d'Histoire naturelle*, in 1843. D. 1876.

Bro'ni, a town of N. Italy, prov. Alessandria, 11 m. S.E. of Pavia, at the foot of the Apennines. Near it is the castle of Broni, where Prince Eugene obtained a victory over the French in 1703. *Pop.* 5,076.

Bronn, HEINRICH GEORG, a German naturalist, B. 1800. He was educated at the university of Heidelberg, where he was nominated Professor in 1833, and appointed Lecturer on Zoölogy in succession to Leonhard. Among his various scientific works may be named, *A System of Antediluvian Zoöphytes*, (1827;) *Lethæa Geognostica*, an important geological work, (1837;) *History of Nature*, (1841–9;) and *Universal Zoölogy*, (1850.) D. 1862.

Bron'son, in *Florida*, the capital of Levy co., 140 m. S. E. of Tallahassee.

Bron'son, in *Ohio*, a township of Huron co., 20 m. S. by E. of Sandusky City.

Bron'son, in *Michigan*, a village and township of Branch county, 130 m. W. S.W. of Detroit, and 66 W. of Adrian. Is in a farming and lumbering district; has stave factories and flour mills, creamery, &c. *Pop.* (1897) about 1,000.

Bronte, or **Bronti,** (*bron'te,*) a town of S. Italy, in Sicily, Val di Catania, near the Giaretta, at the W. base of Mount Etna, 22 m. N.N.W. of Catania. *Manf.* Woollens and paper. The country around is productive of wine, oil, and fruits. *B.* gave the title of duke to the English admiral Lord Nelson. *Pop.* 12,791.

Bronte, a post-village of Upper Canada, Halton co., 28 m. S.W. of Toronto.

Brontë, CHARLOTTE, a distinguished English novelist, B. 1816. The daughter of a clergyman living secluded in the wild Yorkshire moors, she astounded the literary world in 1846 by the production of *Jane Eyre*, one of the most remarkable novels in the English language. She was at once placed on the pinnacle of popularity, and under the *pseudonym* of "Currer Bell," she, in conjunction with her two sisters Emily and Anne, who respectively assumed the cognomens of "Ellis Bell" and "Acton Bell," brought out a series of novels sufficiently meritorious to stamp them as writers of eminent mark; though, perhaps, no succeeding work from Charlotte's pen may justly rank with her first and most powerful effort. *Villette; Shirley; Wuthering Heights; Agnes Grey; The Professor*, &c., are the best known of the productions of the three sisters. Charlotte married in 1854, and D. in 1855. Her *Life* has been written by Mrs. Gaskell (2 vols., 1857), also by T. W. Reid (1877).

Bron'tern, *n.* [Gr. *bronte*, thunder.] (*Greek Arch.*) Brazen vessels under the floor of a theatre, used for imitating thunder, by rolling stones in them.

Bron'tolite, *n.* [Gr. *bronte*, thunder, and *lithos*, a stone.] The thunder-stone.

Brontol'ogy, *n.* [Gr. *bronte*, and *logos*, a discourse.] A dissertation upon thunder.

Bron'tozoum, *n.* (*Pal.*) A genus of the large, apparently cursorial, fossil birds of the triassic deposits in the Connecticut valley, has been thus called. It is only known by its gigantic footprints, some of which measure 12 inches between the tips of the inside and outside toes.

Bronx, in *New York*, a small stream of Westchester co., emptying into East River.

Bronx'ville, in *New York*, a small but improving post-village of Westchester co., on Bronx River.

Bronze, *n.* [Fr.] (*Metal.*) An alloy of copper and tin, to which are sometimes added small portions of zinc and lead. Gun, bell, and speculum metal partake much of the nature of bronze. The manufacture of bronze is very ancient, having been brought to a considerable state of refinement 700 years before the Christian era. The ancients used it for weapons and tools, on account of its great hardness; but it was at length superseded for these purposes by steel, and is now only employed for statuary and medals. For the former purpose, bronze is particularly well fitted, being tough, hard, and little affected by atmospheric influence, besides possessing the valuable property of flowing freely when melted, and expanding when solidifying; by which means the most intricate detail in the mould is copied with sharpness. Bronze may be tempered in an exactly contrary manner to steel. If cooled suddenly, it becomes so soft that it may be hammered and turned in the lathe; but if allowed to cool slowly, it becomes brittle, hard, and elastic. In casting large statues or other works, the greatest skill and care are necessary, from the circumstance that alloys of copper and tin have a tendency, when melted, to separate, the tin rising to the top of the melted mass, and forming a more fusible mixture. From the following analyses, it will be seen that bronze differs greatly in composition: — Ancient bronze from Celtic antiquities, — tin, 12; copper, 88. Egyptian bronze, — tin 22; copper, 78. Chinese bronze, — tin, 20; copper, 80. Roman bronze, — tin, 15; copper, 85. Modern bronze from the statue of Louis XV. — copper, 82·45; zinc, 10·30; tin, 4·10; lead, 3·15. See SEC. II.

Bronze, *v. a.* To color, harden, or give a superficial appearance to, as of bronze.

— To make hard in a manner of feeling; to brazen.

Bronze, AGE OF. (*Geol.*) See STONE, (AGE OF.)

Bronze-powder, *n.* See BRONZING.

Bronz'ing, *n.* (*Applied Chem.*) The process of covering plaster or clay figures, and articles in ivory, metal, and wood, so as to communicate to them the appearance of ordinary bronze. The materials usually employed for *B.* are termed *Bronze powders.* — The base of most of the secret compositions for giving the antique appearance is vinegar with sal-ammoniac. Skilful workmen use a solution of 2 ounces of that salt in a quart of French vinegar. Another compound which gives good results is made with an ounce of sal-ammoniac, and ¼ ounce of salt of sorrel (binoxalate of potash), dissolved in vinegar. The piece of metal being well cleaned, is to be rubbed with one of these solutions, and then dried by friction with a fresh brush. If the hue be found too pale at the end of two or three days, the operation may be repeated. It is found to be more advantageous to operate in the sunshine than in the shade. In *B.* plaster figures a cement may be used or not; if used, the *B.*

will be more durable; the powders are mixed with strong gum-water or isinglass, and laid on with a pencil. The subject may be covered with gold-size diluted with turpentine, and when nearly dry, rubbed with a piece of soft leather. — Copper coins and medals may be bronzed thus: dissolve in vinegar two parts of verdigris and 1 part sal-ammoniac. Boil, skim, and dilute the solution with water until it ceases to let fall a white precipitate. The solution is then boiled and poured upon the objects to be bronzed, being previously made perfectly clean and free from grease; the articles are then washed and dried. — A deposit of brass or bronze may be thrown on objects by the electrotype process, by employing a solution of 500 parts carbonate of potash, 20 parts chloride of copper, 40 parts sulphate of zinc, 250 parts nitrate of ammonia. — Dr. Wagner published in 1868 the formulas of metallic bronze powders that give the most favorable results. The metals employed are, for the most part, copper and zinc, an alloy of the two being reduced to an impalpable powder. The proportions are given as follows: for a bright yellow shade, 83 parts of copper, and 17 of zinc; for an orange shade, 90 to 95 of copper, and 5 to 10 of zinc; for copper red, 97 to 99 of copper, and 1 to 3 of zinc.

Bronz'ing-liquid, *n.* (*Applied Chem.*) A solution containing chloride of antimony and sulphate of copper, used for bronzing iron gun-barrels. Brass is sometimes bronzed by washing it over with a solution of chloride of platinum.

Bronz'ist, *n.* One who fabricates or imitates bronze.

Bronz'ite, *n.* (*Min.*) A variety of Diallage, with a pseudo-metallic lustre, frequently approaching to that of bronze.

Bronz'y, *a.* Resembling, or pertaining to, bronze.

Brooch, (*brōch,*) *n.* [Fr. *broche*, a spit, a needle, from Celt. *broc*, a point; Slav. *obrutch.*] An ornamental pin or buckle used to fasten dress; an ornament for the bosom: a jewel. — *B.* were much used in antiquity, and varied in form as much as in modern times. They were worn both by men and women, and with a view both to ornament and use, from the time of Homer to the fall of the Western Empire.

(*Painting.*) A painting all of one color, as an India-ink painting.

—*v. a.* To adorn as with a brooch or breast-ornament.

"Not th' imperious show
Of the full-fortun'd Cæsar, ever shall
Be *brooch'd* with me."—*Shaks.*

Brood, *v. i.* [A.S. *brod*, *bríd*, from *bredan*, to nourish, to cherish: Ger. *brüten.*] To sit, as on eggs; to hatch by warming and covering; as, to *brood* a covey of birds.

"They breed, they *brood*, instruct, and educate,
And make provision for the future state."—*Dryden.*

—To regard or think of with long anxiety; to ponder anxiously and constantly; as, to *brood* over one's troubles.

"Defraud their clients, and to lucre sold,
Sit *brooding* on unprofitable gold."—*Dryden.*

—*v. a.* To be in a state of care or watchfulness, as a mother over her young.

"Here nature spreads her fruitful sweetness round,
Breathes on the air, and *broods* upon the ground."—*Dryden.*

—*n.* [Ger. *brut.*] Offspring; progeny. (Generally used in a contemptuous sense, when applied to the human species.)

"The lion roars and gluts his tawny *brood!*"—*Wordsworth.*

—That which is bred, or the number produced at once: species generated; as, a *brood* of difficulties.

"Its tainted air, and all its *broods* of poison!"—*Addison.*

—A hatch: the number of young birds bred at once; as, a *brood* of chickens.

"I was wonderfully pleased to see a hen followed by a *brood* of ducks."—*Spectator.*

(*Mining.*) A heterogeneous mixture.

Brood'-mare, *n.* A mare kept for breeding purposes.

Brood'y, *a.* In a state of sitting on eggs for hatching; inclination to brood. (R.)

"The common hen, all the while she is *broody*, sits."—*Ray.*

Brook, *n.* [A.S. *broc* or *broac*, from *brocen*, the *pp.* of *brecan*, to burst or break forth.] A small natural stream of water which breaks forth from a source, and struggles through obstacles with babbling noise; a rivulet; a burn; a small stream of running water.

"Ill habits gather by unseen degrees,
As *brooks* make rivers, rivers run to seas."—*Dryden.*

—*v. a.* [A.S. *brucan*; Gr. *bru'ō. bruxō.*] To bear; to endure; to support; to be patient under; as, he cannot *brook* an affront.

"Heav'n, the seat of bliss,
Brooks not the work of violence and war."—*Milton.*

Brook, in *Indiana*, a post-office of Newton co.

Brook'dale, in *Pennsylvania*, a post-village of Susquehanna co., 5 m. W. of Great Bend.

Brooke, Henry, an English poet, politician, dramatist, novelist, and divine, b. 1706. He was one of the most prolific and popular authors of his time, but his best known work is the *Fool of Quality*, which has gone through many editions, and is still popular. With many faults it has rare beauties of style and incident; it is thoroughly original, and written in the purest English. John Wesley published an edition of it, and spoiled it. *B.* was a man whose mind was a hundred years in advance of his time on political and religious questions. D. 1783.

Brooke, Sir James, K.C.B., (Rajah of Sarawak,) an English explorer, b. 1803. He served in the Burmese war, and impelled by a spirit of enterprise, sailed in his own yacht, in 1830, for China, and in his passage through the Eastern Archipelago saw enough to convince him that if the island of Borneo were acquired, it might be made a powerful and wealthy dependency of Great Britain. On his return from China, he undertook an expedition at his own cost to Borneo, where he assisted the Malay king, Mudah Hassein, in suppressing a native insurrection. Afterwards becoming *Rajah of Sarawak*, he exerted himself in suppressing piracy, in facilitating European commerce, and in introducing civilization among the Dyak tribes. When the English govt., in 1847, took possession of the island of Labuan, *B.* was appointed governor and commander-in-chief, and created a K.C.B. He held authority at Labuan till 1856, acting also as commissioner and consul-general to the Sultan and independent chiefs of Borneo. Sir James became the pioneer of civilization and commerce in this remote part of the East, and resolved to govern these Asiatics not only for themselves but by themselves. There is no instance in ancient or modern history of an experiment so successfully carried out as in this case. *B.* governed the island, through a native council, for the benefit of the native races. He quelled intestine feuds, reconciled opposite races, introduced Christianity to a great extent, and exercised the sway of a suzerain over the native chiefs and princes. During the war between England and China, Sarawak was seized by the Chinese, and the greater part of its inhabitants, European and native, were massacred. Sir James, however, escaped, and returned to England in 1858. In 1861, he again went to Borneo, and suppressed an internecine war which had broken out in the island. The independence of Sarawak having been at last acknowledged by England, an object for which Sir James had toiled for many years, he bade his adopted home for so many years a last adieu, and returned in broken health to England, where he d. 11th June, 1868.

Brooke, in *W. Virginia*, a N.W. co., bordering on Ohio and Pennsylvania. *Area*, 75 sq. m., and bounded on the W. by the Ohio River. *Surface.* Hilly. *Soil.* Very fertile, containing coal and iron ore.

Brook'field, in *Connecticut*, a post-township of Fairfield co., on the Housatonic River, 29 m. N. by W. of Bridgeport.

Brook'field Iron Works, a post-village in the above township.

Brook'field, in *Illinois*, a township of La Salle county.

Brook'field, in *Indiana*, a post-village of Shelby co., 14 m. S.E. of Indianapolis.

Brook'field, in *Iowa*, a post-village and township of Clinton co., 55 m. E.N.E. of Iowa city, and 36 S. of Dubuque.

Brook'field, in *Massachusetts*, a thriving post-township of Worcester county, 55 miles W. by S. of Boston.

Brook'field, in *Michigan*, a post-township of Eaton co., 24 m. S.S.W. of Lansing.

Brook'field, in *Missouri*, a township and post-village of Linn co., 102 m. E. of St. Joseph, and 104 W. of Hannibal.

Brook'field, in *New Hampshire*, a post-township of Carroll co., 30 m. N.E. of Concord.

Brook'field, in *New York*, a post-village and township of Madison co., 88 m. W. by N. of Albany, on the Unadilla River.

Brook'field, in *Ohio*, a township of Noble county.

—A village of Starke co., 12 m. W. of Canton.

—A post-township of Trumbull county, 15 m. E. of Warren.

Brook'field, in *Pennsylvania*, a post-township of Tioga co., 20 m. N.W. of Wellsborough.

Brook'field, in *Vermont*, a post-township of Orange co., 15 m. S. of Montpelier.

Brook'field, in *Wisconsin*, a post-township of Waukesha co., 14 m. W. by N. of Milwaukee.

Brook'field Centre, in *Wisconsin*, a post-office of Waukesha co.

Brook'field Junction, in *Wisconsin*, a village of Waukesha co, 14 m. W. of Milwaukee.

Brook'haven, in *Mississippi*, the capital of Lincoln co., 60 m. S.W. of Jackson.

Brook'haven, in *New York*, a township of Suffolk co., extending across Long Island.

Brook'ings, in *South Dakota*, an E. county, on the frontier of Minnesota. *Area*, about 795 sq. m. It is watered by the Big Sioux river. *Pop.* (1895) 10,840. *Cap.* Brookings.

Brook'land, in *Pennsylvania*, a P. O. of Potter co.

Brook'landville, in *Maryland*, a post-office of Baltimore co.

Brook'let, *n.* A small brook.

Brook'lin, in *Illinois*, a township of Lee co.

—A township of McHenry co.

Brook'lin, in *Kentucky*, a post-office of Butler co.

Brook'lin, in *Maine*, a post-office of Hancock co.

Brook'lin, in *New Jersey*, a village of Middlesex co., 6 m. N.E. of New Brunswick.

Brook'lin, or **Brook'lyn,** in *Minnesota*, a twp. of Hennepin co., on the Mississippi River.

—A former township of Mower co., now merged in Windom township.

Brook'line, *n.* (*Bot.*) See Veronica.

Brook'line, in *Georgia*, a village of Madison co., 80 m. N. of Milledgeville.

Brook'line, in *Louisiana*, a P. O. of Jackson parish.

Brook'line, in *Massachusetts*, a post-township of Norfolk co., 5 m. S.W. of Boston, with which it is connected by steam and electric railways, crossing Charles river bay. This place is remarkable for its picturesque beauty and the many fine private residences that adorn it. *Pop.* (1895) 16,159.

Brook'line, in *New Hampshire*, a post-township of Hillsborough co., 30 m. S. by W. of Concord.

Brook'line, in *Vermont*, a post-township of Windham co., on the Connecticut River, 85 m. S. by E. of Montpelier.

Brook'lyn, in *Alabama*, a post-village of Conecuh county, on the Sepulga River, 100 m. S. of Montgomery.

Brook'lyn, in *California*, a post-village and township of Alameda co., on the E. side of the Bay of San Francisco, and 10 m. off the city of that name. It forms now a part of Oakland, and sometimes called East Oakland.

Brook'lyn, in *Connecticut*, a thriving village, post-township, and former cap. of Windham co., 38 m. E. by N. of Hartford.

Brook'lyn, or **Fish Trap,** in *Georgia*, a village of Baker co., 145 S.S.W. of Milledgeville.

Brook'lyn, in *Illinois*, a township of Ogle co.,—now called Rock Vale.

—A post-village of Schuyler co., on Crooked Creek, 76 m. W.N.W. of Springfield.

—A township of Lee co.

Brooklyn, in *Indiana*, a post-village of Morgan co., 24 m. S.S.W. of Indianapolis.

Brook'lyn, in *Iowa*, a flourishing village of Poweshiek co., 110 m. W. of Davenport.

Brook'lyn, in *Kansas*, a village of Douglas co., 11 m. S. of Lawrence.

—A post-office of Linn co.

Brook'lyn, in *Kentucky*, a village of Campbell co., on the Ohio River, 2 m. from Cincinnati, and 74 E.N.E. of Frankfort.

—A prosperous village of Jessamine co., on the Kentucky River.

Brooklyn, in *Maine*, a township of Hancock county.

Brook'lyn, in *Michigan*, a township and village of Jackson county, on the Raisin River, 53 m. S.S.E. of Lansing.

Brooklyn, in *Mississippi*, a village of Noxubee co., on Noxubee River, 126 m. E.N.E. of Jackson.

Brooklyn, in *Missouri*, a post-office of Harrison co.

Brooklyn, [Du. *breuck-landt*, broken land,] in *New York State*, a city and seaport, cap. of King's co., at the W. end of Long Island, opposite New York city, from which it is separated by East River, an arm of the sea, about ¾ of a mile wide, crossed by a magnificent suspension-bridge, and also, at every few minutes, by numerous steam-ferries. The city extends along New York Bay and East River to Newtown Creek, Lat. at the Navy Yard 40° 41′ 50″ N., Lon. 73° 59′ 30″ W. The exterior line of *B.* is 22 m.; its *area*, 16,000 acres. The S. and E. borders are occupied by a broad range of low hills, which extend E. into Queen's co. Along the shore opposite the lower point of New York is an irregular bluff known as *B. Heights.* A considerable portion of the S. part of the city is low and level. Newtown Creek, forming the N. boundary, is an irregular arm of the sea, receiving several small fresh-water streams. Wallabout Bay is a deep indentation lying between the old cities of Williamsburg and *B.* Gowanus Bay extends into the S. part of the city. The land that borders upon these bays is flat and marshy. Within the limits of the city are several districts known by the names which they bore when they were distinct localities. *B.* includes the old settled parts of the city S. of Wallabout Bay. Upon East River, in this district, are numerous large manufactories. The water front is entirely occupied by wharves and warehouses. — *Williamsburg* (annexed in 1854) includes the thickly settled portions N. of Wallabout Bay. It contains a large number of manufacturing establishments, and its entire water front is devoted to commercial purposes. *Green Point*, comprising the 17th Ward, lies between Bushwick and Newtown creeks, and occupies the N.W. part of the city. It contains extensive ship-yards, and manufactories of porcelain, coal-oil, lifeboats, and many other articles. *Wallabout* (or East) *B.* lies E. of Wallabout Bay. *Bedford* and *New B.* are localities on the R.R., in the E. part of the city. *Bushwick Cross Roads* and *Bushwick Green* are villages of Williamsburg. *Gowanus* is a village near the head of Gowanus Bay. *South B.* comprises the portion of the city lying S. of Atlantic St. It has an extensive water front; and along the shore immense works have been constructed to facilitate commerce, the Atlantic Dock alone containing an area of 40 acres, with sufficient depth of water for any vessel. The commerce of *B.* is considerable, though it scarce has an independent existence, from its intimate relation with that of New York. The docks and piers at South *B.* are among the most extensive and commodious in the

Fig. 426.— Seal of Brooklyn.

country. Ship- and boat-building and repairing are extensively carried on at Williamsburg and Green Point. The whole water front of the city is occupied by ferries, piers, ships, and boat- and ship-yards; and the aggregate amount of business transacted there forms an important item in the commerce of the State. In the extent and variety of its manufactures, *B.* ranks among the first cities in the Union. Located near the great commercial centre, it has become the seat of an immense manufacturing interest. The *U. S. Navy Yard* is located upon Wallabout Bay, and occupies an area of 45 acres. E. of it is the *U. S. Marine Hospital* for the care of sick and infirm seamen belonging to the navy. The city is well supplied with pure, soft water, derived from Hempstead, Hook, Valley, and Springfield creeks. *B.* has a paid fire department, and is supplied with gas by three companies. Among the numerous parks in *B.* the handsomest in *Prospect Park*, laid out at a cost of, up to 1890, over $12,000,000, which contains 600 acres. —The *Court House*, situated at the rear of the City Hall, is a fine building, as also is the *City Hall* itself.—The *Public Schools* are under the charge of a board of education, consisting of 45 members. The *Packer Collegiate Institute*, for girls, occupies an elegant building, to which is attached an astronomical observatory. Besides the public schools, there are in the city more than 150 private schools and seminaries, several of which are large institutions with permanent investments. The *B. Institute* has a free library, and provides free lectures, and lessons in drawing and painting for apprentices. The *Mercantile Literary Association* has abt. 50,000 vols. and a handsome building, the *Law Library*, the *Naval Lyceum*, and the *King's Co. Lodge Library Association*, are also very valuable establishments. Among the societies for intellectual improvement are the *Hamilton Library Association*, the *Franklin Debating Association*, the *Philharmonic Society of B.*, the *B. Horticultural Society*, and the *Long Is. Historical Society*, having an extensive and valuable library.—The churches of *B.* are justly celebrated for their general elegance and beauty of architectural design. Large numbers of people doing business in New York reside in *B.*; and this has led to the erection of so great a number of churches that the city has been denominated the "city of churches." The church of the Pilgrims, represented in *Fig.* 427,

Fig. 427.— CHURCH OF THE PILGRIMS, (Brooklyn.)

is a commanding object to those approaching the city from the Bay. — The religious and charitable institutions and societies here are very numerous. The Freemasons, Odd Fellows, and Sons of Temperance all have lodges in the city; and there are, besides, numerous societies for mutual relief and protection. —*Greenwood Cemetery*, comprising an area of 550 acres, beautifully located upon the elevated ground E. of Gowanus Bay, is one of the oldest and most beautiful of the rural cemeteries connected with our great cities. — *History.* The first settlements were made under the Dutch government, in 1625, by several families of French Protestants from near the river Waal, in the Netherlands, who located near Wallabout Bay. They named their settlement "*Walloons*," and the bay "*Walloons Boght*," from which is derived its present name Wallabout. Little progress was made in the settlement for many years; and no governmental organization was effected under the Dutch. Up to the commencement of the present century the population was principally confined to several little hamlets scattered over the territory now embraced in the city. Since 1840 the increase of population and the growth of the city have been very rapid, scarcely paralleled even by the magical growth of the cities of the West. Although until 1897 it had a separate municipal government, in all its business and interests it formed an integral part of the city of New York. In the summer of 1776, New York and vicinity became the theatre of stirring military events. After the British had evacuated Boston, Gen. Washington marched immediately to New York, believing that the enemy would make this the next point of attack. Every effort was made to construct and strengthen the military defences of the place. Strong works were erected in *B.* and other points upon Long Island, and large bodies of troops were posted there to defend them. The British arrived, and landed their troops upon Staten Island, July 8: and on the 22d of Aug. they passed over to Long Island, to the number of 10,000 strong. They landed in New Utrecht, whence three roads led over the hills to where the Americans were encamped. One of these roads passed near the Narrows, the next led from Flatbush, and the third far to the right by the route of Flatlands. It was the design of Gen. Putnam, who commanded the American forces, to arrest the enemy upon the Heights; and the appearance of columns of troops early on the morning of the 27th on the middle road, led to the belief that the main attack was to be made at that point. While intent upon this movement, it was found that the main army of the enemy were approaching from the direction of Bedford, and that there was imminent danger of being surrounded by them. Attacked in front and rear, the Americans fought with bravery; but a part only succeeded in gaining their intrenchments. The loss of the Americans was more than 3,000 in killed, wounded, and prisoners; that of the enemy, less than 400. Gens. Sullivan, Stirling, and Woodhull were taken prisoners,—of whom the last-named died from wounds inflicted after his surrender. The Americans withdrew to New York early on the 30th, under the personal direction of Gen. Washington. The American prisoners taken at this battle, and those taken afterward during the war, were confined in the hulks of old ships anchored in Wallabout Bay, where they perished by hundreds and thousands from violence, cold, foul air, and stinted food. During the war of 1812 a considerable amount of voluntary labor was expended in erecting a line of fortifications around the city, and bodies of troops were stationed there to protect the people.—In 1890 *B.* had a population of 806,343, being the fourth city in size in the U. S. In 1897 its population had increased to 995,276. In 1896 a bill was passed by the New York legislature for the consolidation of *B.*, New York, and various neighboring municipalities, into one great city, provisionally known as Greater New York. A commission was created to prepare a charter for the enlarged city, a scheme for securing equality of taxation and valuation, and to provide for the election of a Mayor for the consolidated city at the general election of 1897. The consolidation took place on Jan. 1, 1898, *B.* retaining the name of BROOKLYN BOROUGH as a constituent part of the larger municipality.

BROOKLYN BRIDGE, connecting Brooklyn with New York and opened to travel in May, 1883. It is 85 ft. in width; length of river span, 1,595 ft.; height, 135 ft.; height of towers, 277 ft., and cost in all about $15,500,000. It was commenced in 1870. See BRIDGE, in SECTION II.

Brook'lyn, in *Ohio*, a p.-township of Cuyahoga co.
—In *Penn.*, a p.-t. of Susquehanna co.—In *Va.*, a p.-v. of Halifax co.—In *Wis.*, a v. of Grant co., on the Wisconsin River.—A p.-t. of Green co., on Sugar River, 18 m. S. of Madison.—A twp. of Sauk co.—A twp. of Green Lake co.

Brook'lyn, in Upper Canada, a flourishing post-village of York co., 34 m. N.W. of Toronto; *pop.* about 750.

Brook'lyn Centre, in *Ohio*, a village of Cuyahoga co., 4 m. S.W. of Cleveland.

Brook'mint, *n.* (*Bot.*) See MENTHA.

Brook'neal, in *Virginia*, a post-village of Campbell co., 120 m. W.S.W. of Richmond.

Brooks, CHARLES SHIRLEY, a popular English novelist and dramatic author, B. 1815. A barrister by profession, he early showed a predilection for literary labor, and is one of the oldest contributors to the London comic journal "Punch," and of the political articles in the "Illustrated London News." His best-known novels are *Aspen Court*, *The Gordian Knot*, the *Silver Cord*, and *Sooner and Later*, the last being published in 1866. Among his dramas, *The Creole*, *Honors and Tricks*, and *The New Governess*, have been highly successful. D. 1874.

Brooks, JOHN, an American officer and statesman, B. at Medford, Massachusetts, 1752. He was a medical practitioner at Reading, when, on the news of the expedition to Lexington, he marched with a company of minute men, in time to see the retreat of the British. He was made lieutenant-colonel in 1777, stormed the intrenchments of the German troops in the battle of Saratoga, and was a faithful adherent of Washington during the conspiracy at Newburg. In the war of 1812, he was adjutant-general of Massachusetts; and was governor of that State from 1816 to 1823. D. 1825.

Brooks, MARIA. See MARIA DEL OCCIDENTE.

Brooks, in *Georgia*, a S. county, touching Florida. *Area*, about 550 sq. m. It is watered by the Withlacoochee and Ocopilco rivers. *Surface*, level. *Soil*, poor. *Cap.* Quitman.

Brooks, in *Michigan*, a township of Newaygo county.

Brooks, in *Maine*, a post-township of Waldo co., 40 m. N.E. of Augusta.

Brooks'burg, in *W. Virginia*, a village of Jefferson co.

Brook's Grove, in *New York*, a P.O. of Livingston co.

Brook'side, in *New Jersey*, a post-office of Morris co.

Brooks'ton, in *Indiana*, a post-village of White co.

Brook's Vale, in *Conn.*, a p.-o. of New Haven co.

Brooks'ville, in *Alabama*, a p.-v. of Blount co.—A p.-v. of Coosa co.

Brooks'ville, in *Georgia*, a village of Randolph co., 140 m. S.W. of Milledgeville.

Brook'ville, in *Illinois*, a post-village and township of Ogle county, 20 miles north-west of the city of Oregon.

Brooks'ville, in *Maine*, a post-township of Hancock co., on the E. side of Penobscot Bay, 50 m. E. of the city of Augusta.

Brooks'ville, in *Vermont*, a post-office of Addison co.

Brook'ville, in *Indiana*, a post-township of Franklin co., 50 m. E.N.E. of Columbus.
—A prosperous post-village, cap. of above co., well situated at the junction of the forks of the Whitewater River, 41 m. N.W. of Cincinnati, and 70 E.S.E. of Indianapolis. It possesses an active trade.

Brook'ville, in *Iowa*, a post-village of Jefferson co., 9 m. W.N.W. of Fairfield.

Brook'ville, in *Iowa*, a village of Clayton co., on the Mississippi River.

Brooks'ville, in *Kentucky*, a twp. and post-vill., cap. of Bracken co., 65 m. N.E. of Frankfort.

Brook'ville, in *Maryland*, a post-village of Montgomery co., 25 m. N. of Washington.

Brook'ville, in *Mississippi*, a post-village of Noxubee co., 27 m. S.S.W. of Columbus.

Brook'ville, in *North Carolina*, a post-office of Granville co.

Brook'ville, in *Ohio*, a post-village of Montgomery co., 13 m. W.N.W. of Dayton.

Brook'ville, in *Pennsylvania*, a borough, cap. of Jefferson co., on the Redbank Creek, 170 m. W.N.W. of Harrisburg.

Brook'ville, in *Wisconsin*, a post-village of St. Croix co., on the Eau Galle River, 27 m. E. by S. of Hudson.

Brook'weed, *n.* (*Bot.*) See SAMOLUS.

Broom, *v.* [A.S. *brom.*] A common name for different shrubs belonging to the genera CYTISUS and SPARTIUM, *q. v.*
—A brush or besom; so named because frequently made of broom twigs.
—*v. a.* (*Naut.*) To clean the sides of a ship.—See BREAM.

Broom'-corn, BROOM-GRASS, *n.* (*Bot.*)—See SORGHUM.

Broome, in *New York*, a S. county, embracing an area of about 680 sq. m. Drained by the Chenango, Susquehanna, and Otsetic rivers, and by some minor creeks. *Surface*, hilly. *Soil*, generally fertile. *Cap.* Binghamton.
—A township of Schoharie co.

Broome Centre, in *New York*, a post-office of Schoharie co.

Broom'-rape, *n.* (*Bot.*) See OROBANCHE.

Broom'stick, BROOM-STAFF, *n.* The handle of a broom.

Broom'town, in *Alabama*, a post-office of Cherokee co.

Broom Town, in *Georgia*, a village of Chattooga co., 200 m. N.W. of Milledgeville.

Broom'y, *a.* Full of broom; containing broom.

Brose, *n.* A Scotch dish made by pouring boiling water on oatmeal.

Brose'ley, a town of England, co. Salop, on the Severn, 127 m. N.W. of London. This place is celebrated for its iron foundries, and its manufactures of tobacco-pipes and garden-pots. *Pop.* 5,196.

Bro'simum, *n.* [Gr. *brosimos*, eatable.] (*Bot.*) A genus of plants, order *Artocarpaceæ*. The species *B. utile*, sometimes called *Galactodendron utile*, is the celebrated palo de vaca, or cow-tree, of South America. It yields a milky juice, said to be almost as nutritious as milk from the cow. From the bark of *B. namagua* strong fibres are obtained, which are much used in Panama for making sail-cloth and ropes.

Brosses, CHARLES DE, B. at Dijon, 1709. He became president of the Parliament of Dijon, and in 1746 was nominated member of the Academy of Inscriptions. He was the first person to write a description of the ruins of Herculaneum, and was the first to use the names of Australia and Polynesia in his *Histoire des navigations aux terres Australes*. His other principal works are, *Essai sur la formation mécanique des langues*; and *Histoire du septième siècle de la République Romaine*. *Letters from Italy* have been published under his name, but the book is of doubtful authenticity. D. 1777.

Broth, *n.* [A. S. See BREW.] Literally, that which is brewed or boiled; specifically, an infusion or decoction of vegetable and animal substances in water. It is customary to use more or less meat, generally ox-flesh, with bone, and certain vegetables, as cabbage, greens, turnips, carrots, peas, beans, onions, &c. The whole are mixed together in cold water, heat slowly applied, and the materials allowed to simmer for some hours. The meat yields up certain ingredients, while others are retained in the residual flesh. The real nutritive material present in broth is less than is generally thought, though it aids in satisfying the cravings of the appetite. To invalids, however, the form of broth known as beef-tea (*q. v.*) is of great importance, as it affords the weak and sickly stomach a light palatable article of diet, at a time when stronger food would do the weakened system much harm.

Broth'el, *n.* [Fr. *bordel.*] A house of lewdness; a bawdy house.

Broth'eller, *n.* One who frequents a brothel.

Brother, *n.*; *pl.* BROTHERS, or BRETHREN. [A.S. *brothor*; Goth. *brôthar*; Sans. *b-hrâtrâ*; Zend. *brâthra*; Sclav. *bratr*; O. Ger. *brôdar.*] One who is born from the same father and mother with another, or from one of them only. Brothers are of the whole blood when they are born of the same father and mother; and of the half-

blood when they are the issue of one of them only. In the civil law, when they are the children of the same father and mother, they are called *brothers germain;* when they descend from the same father but not the same mother, they are *consanguine brothers;* when they are the issue of the same mother but not the same father, they are *uterine brothers.* A *half-brother* is one who is born of the same father or mother, but not of both; one born of the same parents before they were married, a *left-sided brother;* and a bastard born of the same father or mother is called a NATURAL BROTHER.

—Any one closely united with another or others.

"We few, we happy few, we band of *brothers;*
For he to-day that sheds his blood with me,
Shall be my *brother.*"—*Shaks.*

—One who resembles another in manners.

"He also that is slothful in his work, is *brother* to him that is a great waster."—*Proverbs.*

—An associate; one of the same society or denomination; a fellow-creature.—See BRETHREN.

Brother-german, *n.* See BROTHER.

Broth'erhood, *n.* The state or quality of being a brother.

"This deep disgrace of *brotherhood*
Teaches me deeper than you can imagine."—*Shaks.*

—An association of men for any purpose; a fraternity.

"There was a fraternity of men at arms, called the *brotherhood* of St. George."—*Davies.*

Brother-in-law, *n.* The brother of a wife, or the husband of a sister. See AFFINITY, and RELATIONSHIP.

Broth'erless, *a.* Without a brother.

Brother-like, *a.* Becoming a brother.

Brotherliness, *n.* State of being brotherly.

Brotherly, *a.* Like a brother; becoming brothers; kind; affectionate; pertaining to brothers.

—*adv.* After the manner of a brother; with kindness and affection.

Brothers, The, a group of islets at the entrance of the Red Sea, 10 m. W. from Perim Island, Lat. 12° 28′ N., Lon. 43° 22′ E.

Brother's Valley, in *Pennsylvania*, a township of Somerset co.

Broth'erton, in *Missouri*, a post-office of St. Louis co.

Broth'ertown, in *Wisconsin*, a post-township of Calumet co., on Winnebago Lake, 14 m. N.E. of Fond du Lac; *pop.* 1,605.

Brotz'manville, in *New Jersey*, a post-office of Warren county.

Brougham and Vaux, HENRY, LORD, F.R.S., &c., (*broom,*) a very eminent English advocate, jurist, philosopher, and statesman, B. (of an ancient English family) at Edinburgh, 1779. He studied at the University of that city, where he early made himself remarkable for his aptness for mathematical and physical science; his first published production being a paper on *The Refraction and Reflection of Light*, which was printed in the "Transactions of the Royal Society" for 1798. During the following year appeared from his pen, *General Theorems, being chiefly Porisms in the higher Geometry.* After an extended tour in Germany and Holland, he was admitted an advocate at the Scottish Bar, in 1800. Residing at Edinburgh, he was one of the chief writers in the *Edinburgh Review*, when it was first established, and contributed to it regularly till 1828. In 1803, when only 24 years of age, he published his *Inquiry into the Colonial Policy of the European Powers*, a work of vast research, and of great breadth and comprehensiveness of view for so young a man. In 1804, *B.* exchanged the Scottish for the English Bar, and took up his abode in London. In 1808, he was called to the Bar at Lincoln's Inn, and commenced practice as a barrister in the King's Bench, and on the Northern Circuit. The first occasion on which he came prominently before the public, was his advocacy of the cause of the merchants of London, Liverpool, and Manchester, who complained of the injury done to their commerce by the operation of the famous "Orders in Council," issued against Napoleon's Berlin and Milan decrees. Though unsuccessful of obtaining the repeal of the orders in question, he added considerably to his reputation as an advocate, and was returned to the British Parliament, where, in the House of Commons, he made his first speech, March 5, 1810, in the debate on Mr. Whitbread's motion of censure on the Earl of Chatham, for privately transmitting to the king his narrative of the expedition to the Scheldt. The speech was good, and even eloquent, but it gave little promise of those subsequent oratorical achievements which placed him in the foremost rank of the public men of his time. It would be impossible to give anything like a complete account of *B.*'s political career while he held a seat in the Lower House. It will be sufficient to say, that after the close of the war, in 1815, the attention of the government and of the people was turned to domestic affairs and matters of internal regulation; and that to the discussion of these subjects, *B.* brought a well-informed and versatile mind, an enlightened philanthropy, liberal opinions, and a burning zeal against tyranny, wrong, and oppression. His efforts for the abolition of flogging in the army, the repeal of Roman Catholic disabilities, reform in the govt. of India, the diffusion of education, the improvement of prison management, the abolition of slavery, law reform, and the independence of the newspaper press, will never be forgotten. In 1818, *B.* obtained a parliamentary committee for inquiry into abuses connected with the educational foundations of the kingdom; the commencement of the movement in favor of popular education. In 1820–1, he was professionally engaged in Westminster Hall as Attorney-General to Queen Caroline, whose cause he advocated with something more than the zeal of a common advocate, and his fearless and burning eloquence had a wonderful effect in securing on her behalf, whether as queen, wife, or woman, the enthusiastic sympathy of the public. In 1825, *B.* was elected Lord

Fig. 428.—LORD BROUGHAM.

Rector of Glasgow University, as a mark of appreciation of his untiring efforts in the cause of education, and the founding of mechanics' institutes. In 1827, he laid the foundation of the "Society for the Diffusion of Useful Knowledge," of which he was the first president. The first publication of this society was *B.*'s discourse *On the Objects, Pleasures, and Advantages of Science.* Soon afterward, he took the lead in establishing the *Penny Cyclopædia.* In 1830, the county of York returned *B.* as its representative in Parliament, where he became the acknowledged champion of the great cause of Parliamentary Reform. On a new and liberal administration being formed under Earl Grey, *B.* was appointed Lord Chancellor of England, and raised to the peerage as *Lord Brougham and Vaux.* From 1830 to 1834, Lord *B.* had the sole conduct of the Reform Bill in the House of Peers, and the series of measures identified with his name, and which were carried into effect during that period, may be summed up thus:—The abolition of slavery in the British colonies; the opening of the East India trade, and the destruction of the Company's monopoly; the amendment of the criminal law; vast improvements in the whole system of municipal jurisprudence, both as regards law and equity; the settlement of the charter of the Bank of England: the total reform of the Scottish municipal corporations; the entire alteration of the Poor Laws; and an ample commencement made in reforming the Irish Church, by the abolition of 10 bishoprics. In 1834, *B.* resigned office along with his colleagues. From that time forward, *B.* held an independent position in the House of Lords, criticising all parties alike, but principally devoting himself to the legal business before it. In 1848, *B.*, who had purchased an estate at Cannes, in the S. of France, proposed to the newly established French Republic to be naturalized as a citizen in that country; but he was informed that his wish could be carried out only on his ceasing to be an English peer. During the period which elapsed from his partial release from the duties of the senate and the forum, Lord *B.* contributed largely to modern literature. In 1838, he published the collected edition of his speeches, with notes and introductions, and a discourse on the eloquence of the ancients. He edited Paley's *Natural Theology*, and wrote *Dissertations on Subjects of Science connected with Natural Theology.* In 1839 appeared his *Historical Sketches of Statesmen who flourished in the Reign of George III.*, a work completed in 1843. He next edited the speech of *Demosthenes de Coronâ*, and published his own *Political Philosophy.* *B.*, now retired from official life, gave his whole energies to the amendment of the law; obtained the establishment of county courts, and labored for *Bankruptcy Reform* with a zeal approaching to enthusiasm. In 1850, he contributed to the Royal Society a paper of *Experiments and Observations on the Properties of Light*, followed up by further treatises, in which he showed the principle upon which Newton established his theory of light to be inconclusive. In 1855 appeared his *Analytical View of Newton's Principia;* which was succeeded by a treatise *On the Integral Calculus*, and many articles on "Light" contributed to the Transactions of the French Institute, of which body he was a member, and before whom he delivered an address in French, on this subject. *B.* in his latter years was elected Chancellor of the University of Edinburgh, President of the London University, and D.C.L. of Oxford; took little or no part in political affairs, and lived in retirement at his seat at Cannes, on the Mediterranean; devoting himself till almost the very last day of his life to philosophical and scientific pursuits. D. May 9, 1868.

Brougham, (*broom.*) *n.* A kind of small two- or four-wheeled carriage for general use.

Broughshane, (*broh'shain.*) a town of Ireland, co. Antrim, 4 m. E.N.E. of Ballymena; *pop.* 1,045.

Brought, *imp.* and *p.* of BRING, *q. v.*

Brough'ton, JOHN CAM HOBHOUSE, F.R.S., LORD, an English author and statesman, B. 1786. He was educated at Cambridge, and while there became acquainted with Lord Byron, whom he accompanied in his travels in Italy and Greece. On his return he entered parliament, (being then Sir J. C. Hobhouse,) owing to the strong radicalism of his political views, as evinced by the publication of his *Letters to an Englishman*, for which he had been committed to prison. He subsequently became a member of Lord Melbourne's ministry, and was created *Lord Broughton*, after which latter event he ceased to take part in public affairs. Lord *B.* was the author of *A Journey through Albania and other Provinces of Turkey with Lord Byron*, (1812;) *Last Reign of Napoleon*, (1816;) *Historical Illustrations of the Fourth Canto of Childe Harold*, &c. He D. July, 1869.

Brous'sa, in Natolia. See BRUSSA.

Brous'sais, FRANÇOIS JOSEPH VICTOR, a celebrated French physician, B. at St. Malo, 1772. Professor at the military hospital of Val de Grâce in 1820, he became professor of general pathology in the faculty of medicine in Paris, 1832, and afterwards was made a member of the Institute. The influence of *B.* in his generation was unbounded, and his so-called *Physiological Doctrine* rapidly acquired a great sway, the traces of which are visible even now, though a more exact knowledge of physiology has demonstrated that the views of *B.* were one-sided and exaggerated. He announced himself as the founder of a pathology which, for the first time in the history of pathologies, was based upon an enlarged and comprehensive acquaintance with anatomy. The basis of *B.*'s doctrine was the assumption that the animal tissues are endowed with a property called *irritability*, a property which is called into play by the action of stimuli of various kinds, and by the operation of which all vital phenomena are produced. D. 1838.

Broussone'tia, *n.* (*Bot.*) A gen. of plants, ord. *Moraceæ.* There is but one species, *B. papyrifera*, the paper mulberry, the bark of which is used in China and Japan as paper material, and in the South-Sea Islands for making a kind of cloth. The plant forms a small tree, with soft, brittle, woolly branches, and large, hairy, rough leaves, either heart-shaped and undivided, or cut into deep irregular lobes.

Brow, (*brou,*) *n.* [A.S. *bræw, bruwa;* O. Ger. *brâwa*, the eyebrow; Goth. *brahv;* Sans. *bhrû.*] The prominent ridge over the eye; the arch of hair on it.—The forehead.—The general air of the countenance.

"Then call them to our presence, face to face, and frowning *brow* to *brow.*"—*Shaks.*

—The edge of a precipice, hill, or any high place.

"And to the *brow* of heaven
Pursuing, drive them out from God and bliss."—*Milton.*

—*v. a.* To bound; to limit; to be at the edge of.—*Milton.*

Brow-antler, *n.* The first shoot on a deer's head. *Smart.*

Brow'beat, *v. a.* (*imp.* BROWBEAT; *pp.* BROWBEATEN.) To depress or bear down with a stern brow, or with haughty, stern looks, or with arrogant speech.

Brow'beating, *n.* The act of depressing by stern or haughty looks.

"What man will voluntarily expose himself to the imperious *browbeatings* and scorns of great men?"—*L'Estrange.*

Brow'bound, *a.* Crowned; having the head encircled as with a diadem.

"He was *brow-bound* with the oak."—*Shaks.*

Brow'er, in *Pennsylvania*, a post-office of Berks co.

Brow'er's Mills, in *N. Carolina*, a post-office of Randolph co.

Brow'less, *a.* Without a brow; without shame.

Brown, (*broun,*) *a.* [A.S. *brun;* O. Ger. *brûn;* Ger. *braun*, allied to *brennen*, to burn; Fr. *brun.*] Of a burned color: dusky; of a dark or dusky color, inclining to red or black.

—*n.* (*Painting.*) A dark dusky color inclining toward red, of various degrees of depth, of which there are many sorts. It belongs to the tertiary colors, known as *russets* or *olives*, in which the hue is modified by an admixture of dark or black pigment.

—*v. a.* To make brown or dusky; to give a bright brown color to.

—*v. n.* To become brown.

Brown, CHARLES BROCKDEN, an American novelist, B. at Philadelphia, 1771, was of a highly respectable family, of Quaker descent. He studied law with great ardor, but took a disgust to the practice of the profession, and abandoned it for literature. His first publication was *Alcuin, a Dialogue on the Rights of Women*, which appeared in 1797; followed in 1798 by *Wieland, or the Transformation*, a novel: and in 1799 by *Ormond, or the Secret Witness.* In 1798 he established himself in the city of New York; and when the yellow fever broke out there, *B.* refused to forsake his friends and neighbors; and after performing the last offices of affection for one of them, a young physician, was himself attacked by the pestilence. His conception of the disease he embodied in his next work, *Arthur Mervyn, or Memoirs of the Year* 1793. The publication of "Arthur Mervyn" was quickly succeeded by that of *Edgar Huntly, or the Adventures of a Sleep-Walker.* The second part of "Arthur Mervyn" appeared in 1800; and *Clara Howard* in 1801; and in 1804 the series of his romances was closed with *Jane Talbot*, first printed in England. In 1801 he returned to Philadelphia, and soon undertook the management of the *Literary Magazine and American Register.* In 1804 he married Elizabeth, daughter of Dr. William Linn, a Presbyterian divine of New York. He projected the plan of an *Annual Register*, the first work of the kind in the United States, and edited the first volume of it in 1806. Between 1803 and 1809 he published 3 political pamphlets, which excited general attention. His health gave way, and a voyage to Europe was recommended; but he could not make up his mind to leave his family for any length of time, and tried only

a short excursion into New Jersey and New York in the summer of 1809. Finding this was of no effect, he agreed to go abroad in the following spring, which he did not live to see; D. 1810. Brown's life was blameless: his manners were gentle and unaffected; and his conversational resources considerable, though he was somewhat silent in large or mixed companies. His reading, though desultory, was very extensive; and his facility in writing only too great, as it induced him to compose story after story, trusting apparently to luck for the disentanglement of his plots. He threw off 3 romances in one year, "with the printer's devil literally at his elbows." His style was often deficient in ease and simplicity; and he was apt to stop short in the midst of his most exciting narrations to philosophize upon them; but his romances were much admired in his time, and are still read with interest. He had a powerful but somewhat morbid imagination, considerable descriptive power, and much intensity of conception.

Brown, JACOB, an American general, B. in Bucks co., Pennsylvania, 1775. Descended from members of the Society of Friends, he was one of the pioneers of Jefferson co., N. Y. In 1812, he joined the militia service as a militia general. He was appointed major-general in the regular service in 1814, and distinguished himself in the battles of Chippewa and of Niagara Falls; also at the siege of Fort Erie. He received the thanks of Congress and a gold medal, *emblematic of his triumphs*. Gen. *B.* succeeded to the supreme command in 1821, and D. 1828.

Brown, JAMES, an eminent American publisher and bookseller—the "John Murray," as he was called, of the United States—died at his seat in Watertown, near Boston, March 10, 1855, aged fifty-five. The son of a farmer in very humble circumstances, in Acton, Mass., he raised himself by his shrewdness, sagacity, and enterprise to be the head of one of the largest and most successful firms in the book-trade in America. Their publications were standard works of a high character; and Mr. Brown's fine taste and patriotic pride were gratified by so far improving the mechanical execution of them—the paper, print, and binding—that they rivalled the handsomest productions of the English and Scotch press. Very rarely were his excellent judgment and instinctive anticipation of the public taste deceived in his gigantic speculations. He was himself well acquainted with bibliography: his shop was a favorite resort of all the literati of New England, and he never forgot the name of a book once inquired for, or the well-considered judgment of a competent person upon its merits. The fortune which he had fairly won was munificently used in numerous liberal benefactions.

Brown, JOHN, the founder of the *Brunonian* system, B. in Berwickshire, England, 1735. He divided, in his famous system, all diseases into sthenic and asthenic; in the first of these, the *excitability*, which he considered the source of life, was increased, while in the second, it was diminished. The treatment to be adopted for the cure of all, except the sthenic affections, was to stimulate. Accordingly he prescribed rich diet, wine, and spirits in large quantities; and, as the physicians of that day probably erred in the opposite direction, it is not strange that, for a while, *B.* obtained a high reputation. Towards the end of the last century, the Brunonian system had extended its influence over the whole continent of Europe, and in Germany its author was designated the *Medical Luther*. *B.* professed the greatest contempt for all systems of medicine which had preceded his own, yet it is obvious that he was less original than he assumed to be. His faculty of *excitability* is the Halterian *irritability*, but elevated into so distinct a form that, as is justly remarked by Bronssais, it takes the rank of an ontological creation: in fact, it was as purely the work of fancy as was the *Archæus* of Van Helmont. But there is a great merit which belongs to *B.*, and deserves to be remembered, namely, his appreciation of the fact that disease, in by far the greatest number of cases, implies a debilitated condition of the organism. D. 1788.

Brown, JOHN, an officer in the American army during the Revolution, was B. in Berkshire co., Mass., in 1744, graduated at Yale College in 1771, and commenced the practice of law at Canghnawaga, New York, where he was appointed king's attorney. But he soon returned to Pittsfield, in his native State, and took an active share in the patriotic movements at the opening of the Revolution. In May, 1775, he served under Allen and Arnold in their successful expedition against Ticonderoga and Crown Point, and was sent as special messenger to the Congress at Philadelphia with the news of their success. When Ethan Allen, in Sept. of the same year, made his attempt to surprise Montreal, *B.* co-operated with him, but was fortunate enough to escape, while his leader was captured. The next Dec., Major *B.* joined Arnold and Montgomery before Quebec. While leading a party of men up the Mohawk to the relief of Gen. Schuyler in 1780, he fell into an ambuscade of Indians and was slain.

Brown, John. See HARPER'S FERRY.

Brown, HENRY KIRK, an American sculptor, B. at Leyden, Massachusetts, 1814, received the education of a farmer's boy, working in summer, and studying in winter. At 18, he went to Boston, and studied portrait-painting. It was by chance that he became a sculptor; for, having modelled the head of a lady, it was so much commended that he resolved to pursue that branch of art. By the aid of friends, he was enabled to visit Italy, and after studying there for some time, he returned to the U. States, and settled at Brooklyn, where, having many commissions for monumental art, he perfected the casting of bronze, as a material better adapted to exposure than marble. Among his principal works in marble are the statue of *Hope*, the bas-reliefs of the *Hyades* and *Pleiades*, and *The Four Seasons*; besides busts of Bryant, Spenser, Nott, &c. In bronze he has executed a colossal statue of De Witt Clinton, the *Angel of Retribution*, &c. D. 1886.

Brown, ROBERT, B. 1550, D. 1630; he was the founder of the sect of the BROWNISTS, *q. v.*

Brown, ROBERT, a Scotch botanist, B. at Montrose, 1773. Having studied medicine, he became, in 1795, assistant-surgeon in a Scottish Fencible regiment. Devoting himself to the study of botany, he resigned his commission in 1800, and the following year was, on the recommendation of Sir Joseph Banks, engaged as naturalist in the expedition sent out under Captain Flinders for the survey of the Australian coasts. On his return in 1805, he brought home nearly 4,000 species of Australian plants, a large proportion of which were new to science. Soon after, he was appointed librarian to the Linnæan Society. To the *Transactions* of the Edinburgh Wernerian Society, and those of the Linnæan Society, he contributed memoirs on *Asclepiadræ and Proteaceæ*, and published *Prodromus Floræ Novæ Hollandiæ et Insulæ Van Diemen's*, vol. i. 1810; a supplement to this work appeared in 1830, relating to the *Proteaceæ* only. He also wrote the *General Remarks, Geographical and Systematical, on the Botany of Terra Australis*, attached to the narrative of Captain Flinders's expedition, 1814. His adoption of the natural system of Jussieu, the French botanist, led to its general substitution in place of the Linnæan method. *B.'s* numerous memoirs in Transactions of societies, and other contributions to botanical science, secured for universal approval the title conferred on him by Alexander von Humboldt of *Botanicorum facile Princeps*. In 1810, *B.* received the charge of the library and splendid scientific collections of Sir Joseph Banks, which, in 1827, were transferred to the British Museum, when he was appointed keeper of the botanical department in that establishment. In 1811, he was elected F.R.S.; in 1832, D.C.L., of Oxford; and in 1833 was elected one of the 18 foreign associates of the Academy of Sciences of the Institute of France. In 1839, the Royal Society awarded him their Copley medal for his *Discoveries during a Series of Years on the Subject of Vegetable Impregnation*. He was president of the Linnæan Society from 1849 to 1853. D. 1858.

Brown, SIR GEORGE, an English general, B. 1790, at Elgin, Scotland. He entered the army in 1806, was made a lieutenant in 1807, and took part in the bombardment of Copenhagen. He served throughout the whole of the Peninsular war from 1808 to 1814, during which he was wounded at Talavera, and led the forlorn hope at the storming of Badajoz. He was, in 1814, made a lieutenant-colonel, and served in the American war. He was made a lieutenant-general in 1851, and in 1854 commanded the light division at the battle of Alma, in the Crimea. On Nov. 5, 1854, he was severely wounded at Inkermann. He had the command-in-chief of the storming party which was unsuccessful in the first attack on the redan of Sebastopol. In 1856 he was gazetted general in the army "for distinguished services in the field." D. 1865.

Brown, HUGH STOWELL, an English divine, B. in the Isle of Man, 1823. At the age of 15 he came to England to learn the profession of engineer. This occupation he followed until he came of age, and he drove a locomotive engine on the London and North-Western Railroad for six months. It was his custom, after his day's work at Wolverton was done, to spend 4 or 5 hours in reading and in meditating on what he had read; and his first classical exercises were written with a piece of chalk inside the fire-box of a locomotive engine. Resolving to become a clergyman of the Church of England, he entered as a student at King's College, and studied there for three years. Doubts, however, came over his mind respecting the truth of the doctrines in the Liturgy and Catechism of the Church of England. These doubts ultimately produced in his mind the conviction that the baptismal doctrines of the Establishment were at variance with Holy Scripture, and he accordingly became a member of the Baptist denomination. In 1848, he was appointed minister of Myrtle Street Chapel at Liverpool, and soon became one of the recognized leaders of the Baptist body there. As a lecturer to the working classes, he is so successful that he collects an audience of between 2,000 to 3,000 artisans on Sunday afternoons, and from 15,000 to 25,000 copies of his lectures are sold.

Brown, THOMAS, a celebrated Scotch metaphysician, B. at Kirkmabreck, Kirkcudbrightshire, 1778. He studied at Edinburgh, and, in 1806, entered into co-partnership with Dr. Gregory. Dugald Stewart, professor of moral philosophy, being indisposed in the winter of 1808–9, engaged *B.* to read lectures for him in his class. In this capacity his success was so great, that in 1810 he was induced to resign his practice, and accept the appointment of colleague to Dugald Stewart in the chair of moral philosophy in the University of Edinburgh. His lectures on the *Philosophy of the Human Mind*, published after his death, have been pronounced masterpieces of their kind. His style is certainly the most captivating that has ever been employed to convey a knowledge of philosophy. D. 1820.

Brown, MAXIMILIAN ULYSSES, a field-marshal, of Irish origin, in the Austrian army, who rendered great services to the Empress Maria Theresa, gaining in 1746 the battle of Placentia, and taking Genoa. In 1746 he defeated the Prussians, who had invaded Bohemia, and won the battle of Losowitz. He was mortally wounded at the battle of Prague. B. at Bâle, 1705; D. 1757.

Brown, in *Illinois*, a W. county with an area of 320 sq. m. It has for its E. frontier the Illinois River, and is watered also by McKee's Creek. *Surface*, tolerably level; mixed timbered land and prairie. *Soil*, productive. County-town, Mount Sterling.

Brown, in *Indiana*, a county in the S. central part of the State, *area* 320 sq. m., watered by the Salt and Bean Blossom creeks. *Surface*, undulating. *Soil*, fertile. *Cap.* Nashville.

—A township of Hancock co.

—A township of Hendricks co.

—A township of Martin co.

—A township of Montgomery co., 12 m. S.S.W. of Crawfordsville.

—A township of Morgan co.

—A township of Ripley co.

—A township of Washington co.

Brown, in *Iowa*, a township of Linn co.

Brown, in *Kansas*, a N.E. county, on the confines of Nebraska, with an area of about 650 sq. m.; watered by the S. fork of the Nemaha, and the Grasshopper and Wolf rivers. *Surface*, varied. *Soil*, fertile. *Cap.* Hiawatha.

Brown, in *Michigan*, a township of Manistee county.

Brown, in *Minnesota*, a S. county; *area*, 450 sq. m.; watered by the Minnesota and Big Cottonwood rivers. *Surface*, diversified. *Soil*, excellent. County-town, New Ulm.

Brown, in *Ohio*, a S.S.W. county, near the Ohio River which divides it from Kentucky. It is drained by the East fork of Little Miami River, and also by the White Oak, Straight, and Eagle creeks. *Area*, about 500 sq. m. *Surface*, uneven. *Soil*, excellent, with a sub-stratum of limestone. *Cap.* Georgetown.

—A township of Athens co.

—A township of Carroll co.

—A township of Darke co.

—A township of Delaware co.

—A township of Franklin co.

—A township of Knox co.

—A township of Miami co.

—A township of Paulding co.

—A township of Vinton co.

Brown, in *Pennsylvania*, a township of Lycoming county.

—A township of Mifflin co.

Brown, in *Texas*, a central county, with an area of about 1,050 sq. miles. The Colorado River bounds it on the south, and it is also watered by the Pecan River.

Brown, in *Wisconsin*, a N.E. county at the head of Green Bay. *Area*, 525 sq. m. The Neenah or Fox, and East and Centre rivers flow through it. *Surface*, uneven. *Soil*, partly fertile. *Cap.* Green Bay.

Brow'bill, *n.* See HALBERT.

Brown Coal, *n.* (*Min.*) A variety of coal distinguished from stone coal by its streak when scratched, which is brown and different from the black streak coal. There are, however, two distinctions of greater importance than streak, affecting brown coal: one is, that they deteriorate by exposure to the air, tending to split and fall to powder; the other, that they contain water, which interferes with their value as economic fuel. As almost all the lignites belong to a more recent geological period than that called *carboniferous*, they have been often spoken of as *modern coal*. They are, however, confined to no age, many true lignites occurring in rocks much older than the tertiary period, while some tertiary rocks contain excellent stone coal.

Browne, SIR THOMAS, an English physician and author, B. in London, in 1605. Having taken his degrees in arts, he went to Leyden, where he became an M.D., and in 1642 published his famous book, the *Religio Medici*. In 1646 appeared his book on *Vulgar Errors*, in folio. Charles II. honored him with knighthood in 1671. D. 1682. His life has been written by Dr. Johnson.

Brown'field, in *Maine*, a post-township of Oxford co., 60 m. S.W. of Augusta.

Brown'helm, in *Ohio*, a post-township of Lorain co., on Lake Erie, 25 m. E. by S. of the city of Sandusky.

Brown Hill, in *Pennsylvania*, a P. O. of Crawford co.

Brownie, (*brou'ne.*) A kind of fairy, formerly believed in in the Hebrides and North of Scotland. He was an obliging sort of elf, that used to come into houses by night, and perform lustily any piece of work that might remain to be done. At one time every family of importance believed that they had a special brownie, and they gave him offerings of the various products of the place. Thus, some, when they churned their milk, or brewed, poured some of the milk or wort through the hole of a stone called the brownie's stone. The brownie of Scotland bore a very striking resemblance to the *Robin Goodfellow* of England.

Brown'ing, *n.* (*Chem.*) A process by which the barrels of muskets and rifles are partially oxidized and sulphurized, and so prevented from being easily rusted. The barrel being brightened and cleaned thoroughly from oil, a mixture of nitric acid, chloride of iron, salammoniac, and sulphate of copper, is laid on, and allowed to remain several hours. The process is repeated several times, and the barrel is cleaned ultimately with alkaline water, and polished.

Browning, ROBERT, a modern English poet, B. at Camberwell, 1812. His first acknowledged work, *Paracelsus*, was published in 1836, and found some eulogists, if but few readers. His *Pippa Passes*, a fantastic but graceful dramatic poem, obtained more favor with the public. In 1837 he published his tragedy of *Strafford*, which was a failure. *Sordello* and *The Blot on the Scutcheon*, were not more successful. In 1556 appeared his

Men and Women. In addition to the above-mentioned works, *B.* has published *King Victor and King Charles*, *Dramatic Lyrics*, *Return of the Druses*, *Colomb's Birthday*, *Dramatic Romance*, *The Soul's Errand*. A volume of poems (1864). *The Ring and the Book* (1869); *Fifine at the Fair* (1872); *The Red Cotton Night-Cap Country* (1873); *Fershtah's Fancies* (1884). *B.* has especially cultivated the arts of music and painting, with the history of both of which he is minutely and widely acquainted. D. at Venice, Italy, Dec. 12, 1889; buried in Westminster Abbey, London. He married Miss Elizabeth Barrett, a poetess, and author of *Aurora Leigh*, *The Drama of Exile*, *Isabel's Child*, *Casa Guidi Windows*, &c., who D. in 1861. Her genius was incontestable, taken as a whole, but few of her sex approach her in strength of imagination and knowledge. Her *Sonnets from the Portuguese*, are among the best love poems in any language. The Browning Society, started in London in 1881, promote the study of his works; has been followed by others in the U. S. *B's.* style is often obscure, he is besides being the most erudite of poets, full of intense humor and sympathy.

Brown Iron-ore, *n.* (*Min.*) A native hydrate peroxide of iron, composed of 85·6 per cent. of peroxide of iron and 14·4 water. There are several varieties of this ore, which generally occurs in stalactitic, botryoidal, and mammillated forms, with a fibrous structure, a silky lustre, and often a semi-metallic appearance. In color it is of various shades of brown, and is distinguished from other ores of iron by a brownish-yellow streak, free from any tint of red.

Brown'ish, *a.* Somewhat brown.

Brown'ism, *n.* The tenets of the BROWNISTS, *q. v.*

Brown'ists, *n. pl.* (*Eccl. Hist.*) A sect of Christians, which arose in England towards the end of the 16th century, and took their name from their founder, Robt. Brown, a man of some learning, but of an impetuous and fiery temper. He began to inveigh against the ceremonies of the Church of England in 1580, and zealously diffused his sentiments by preaching from place to place, principally in the county of Norfolk. Being greatly opposed, he left England with a congregation which he had collected, and settled at Middleburg, in Zealand; but, quarrelling with his flock, he, three years afterwards, left them, and returned to England. He again itinerated through the country, and preached with considerable success; but he afterwards conformed to the Established Church, obtained the rectory of Oundle, and D. 1630. His followers, however, continued to increase, so that Sir Walter Raleigh, in 1592, estimated their number at upwards of 20,000, exclusive of women and children. The *B.* underwent great persecutions under Elizabeth, and retired in considerable numbers to Holland. From them, however, have sprung the powerful sect of the Independents or CONGREGATIONALISTS, *q. v.*

Brown Marsh, in *N. Carolina*, a P. O. of Bladen co.

Brown'ness, *n.* The quality of being brown.

Brown Pigments, *n. pl.* (*Painting.*) A term applied to those substances in which the three primary colors unite in unequal proportions, red being in excess. *B. P.* are chiefly mineral, and are used sometimes in a raw but usually in a burned state. The most important are bistre, asphaltum, umber, terra di sienna, Mars brown, Cassel earth, and brown madder.

Brown'-rust, *n.* (*Agric.*) A disease of wheat, in which a brown powder is substituted for the farina of the grain.

Brown-Sequard, C. EDOUARD, a French-American physiologist, born at the Mauritius, 1818, became somewhat distinguished for his researches into the diseases of the nervous system. He published many professional works of considerable value; was appointed professor in the Paris School of Medicine in 1869. He was the originator of the *B.-S.* liquid for restoring the vital powers, which made quite a discussion in 1889 but is generally considered worthless. Died in April, 1894.

Browns'burg, in *Va.*, a p. v. of Rockbridge co.

Browns'burg, in *Indiana*, a post-village of Hendricks county, on White Lick Creek, 14 m. N.W. of Indianapolis.

Brown's Cove, in *Virginia*, a P. O. of Albemarle co.

Brown's Creek, in *North Carolina*, Anson co., joins the Yadkin from the S.W.

Brown's Creek, in *W. Virginia*, a post-office of Harrison co.

Browns'dale, in *Pennsylvania*, a P. O. of Butler co.

Browns'ford, in *Iowa*, a village of Madison co., on North River.

Brown's Mills, in *Illinois*, a post-office of Clark co.

Brown's Mills, in *Iowa*, a post-office of Davis co.

Brown's Mills, in *New Jersey*, a post-office of Burlington co.

Brown's Mills, in *Ohio*, a post-village of Washington co., 16 m. W.N.W. of Marietta.

Brown's Mills, in *Pennsylvania*, a village of Mercer co., on Sandy Creek.

—A village of Mifflin co.

—A post-office of Franklin co.

Brown's Mills, in *West Virginia*, a post-office of Harrison co.

Brown'son, ORESTES AUGUSTUS, B. in New Hampshire, 1802, is to some extent a self-educated man. Originally a Presbyterian, he became a Universalist preacher, then a Unitarian, and afterwards a Socialist, of the school of Robert Owen and Frances Wright, in support of whose tenets he delivered lectures. He contributed extensively to the periodical literature of the Socialist and Rationalistic party, wrote an autobiographical novel entitled *Charles Ellwood*, and several other works. About 1847, he commenced the publication of the *Boston Quarterly Review*, a title which was afterwards changed to that of *Brownson's Quarterly*, on his removal to New York, after his adoption of the Roman Catholic creed. This review continued for many years the leading Roman Catholic periodical in the U. S. Mr. *B.* also wrote *The Spirit-Rapper*, and a work entitled *The Convert*, a metaphysical account of the mental processes by which he arrived at his convictions. Died April 17, 1876.

Brown Spar, *n.* (*Min.*) A magnesian carbonate of lime, tinged by oxide of iron and manganese. The name is applied more especially to those varieties of brown crystallized Dolomite which contain carbonate of iron.

Brown's Point, in *New Jersey*, a village of Monmouth co., on Raritan Bay, 5 m. S.E. of Perth-Amboy.

Browns'port, in *Tennessee*, a village of Decatur co., on the Tennessee River, 110 m. W.S.W. of Nashville.

Brown Stout, *n.* A superior kind of porter.

Brown's'town, in *Arkansas*, a P.O. of Sevier co.

Browns'town, in *Indiana*, a post-township of Jackson co., 25 m. S.S.W. of Columbus

—A post-village, cap. of above co., 70 m. S. of Indianapolis.

Browns'town, in *Michigan*, a post-village and township of Wayne co., 14 m. N.E. of Monroe city.

Browns'town, a parish of Ireland, co. Meath.

Browns'town Creek, in *Michigan*, Wayne co., empties into Lake Michigan.

Brown-study, *n.* Gloomy study; dull thoughtfulness; absorption of the mind in listless meditation.

Brown's Valley, in *California*, a post-village of Yuba co., 12 m. N.E. of Marysville.

Brown's Valley, in *Indiana*, a post-office of Montgomery co.

Browns'ville, in *Alabama*, a P.O. of Talladega co.

Browns'ville, in *Arkansas*, a post-village, cap. of Prairie co., 27 m. E. of Little Rock.

Browns'ville, in *California*, a post-village of Yuba co., 30 m. N.N.E. of Marysville.

Browns'ville, in *Georgia*, a village of Monroe co., on Ocmulgee River, 35 m. W. by S. of Jackson.

Browns'ville, in *Illinois*, a village of Jackson co., on the Big Muddy River, 175 m. S. of Springfield.

Browns'ville, in *Indiana*, a village of Montgomery co., 40 m. W.N.W of Indianapolis.

—A post-township of Union county, 4 m. N.W. of Liberty.

—A post-village of the above co., on the E. fork of the White Water River, 13 m. S.W. of Richmond, and 50 N.W. of Cincinnati.

Browns'ville, in *Kentucky*, a village of Barren co.

—A post-village, cap. of Edmondson co., situate on Green River, 130 m. S.W. of Frankfort, and 10 m. W. of the Mammoth Cave.

Browns'ville, in *Maine*, a post-village and township of Piscataquis co., 100 m. N.N.E. of Augusta. Slate is largely produced here.

Browns'ville, in *Maryland*, a post-office of Washington co.

Browns'ville, in *Michigan*, a village of Kent co., on Thorn Apple River, 55 m. W. by N. of Lansing.

—A village of Lenawee co., on the Raisin River, 11 m. N.N.E. of Adrian.

Browns'ville, in *Michigan*, a post-village of Cass county.

Browns'ville, in *Minnesota*, a post-village and township of Houston co., on the Mississippi, 11 m. from La Crosse.

Browns'ville, in *Mississippi*, a village of Hinds co., 20 m. N.W. of Jackson.

Browns'ville, in *Missouri*, a post-village of Saline co., on Lammine River, 40 m. W. of Booneville.

Browns'ville, in *North Carolina*, a post-office of Granville co.

Browns'ville, in *Pennsylvania*, a prosperous post-borough of Brownsville township, Fayette co., on the Monongahela River, 35 m. S. of Pittsburgh, and 190 W. by S. of Harrisburg. Steamers ascend thus far from Pittsburg. A splendid bridge, 630 feet long, spans the river, and, taken generally, this is a busy town with manufactures of iron, glass, paper, &c.

Browns'ville, in *Ohio*, a village of Knox co., 54 m. N.E. of Columbus.

—A post-v. of Licking co., 40 m. E. of Columbus.

—A village of Washington co., 5 m. W. of the Ohio River.

—A village of Harrison co., 14 m. W.N.W. of Cadiz.

—A village of Monroe co., 27 m. N.E. of Marietta.

Browns'ville, in *Oregon*, a post-village of Linn co., on the Calapooya River, 22 miles south-east of Albany

Browns'ville, in *South Carolina*, a post-village of Marlborough co.

Brownsville, in *Tennessee*, a city, the cap. of Haywood co., on the Louisville & Nashville R. R., 57 m. N.E. of Memphis. An extensive trade is carried on, including the shipment of some 200,000 bales of cotton annually. *Pop.* (1897) about 2,900.

Brownsville, in *Texas* (formerly FORT BROWN), a flourishing city, cap. of Cameron co., on the Rio Grande, facing Matamoras, 40 m. from the embouchure of the river, and 300 S. of Austin. This is one of the most enterprising and busy places in the State, having an active trade with Mexico, carried on by steam navigation. *Pop.* (1897) about 7,000.

Brownsville, in *Utah*, a village of Ogden co., on the E. border of Great Salt Lake.

Brownsville, in *Vermont*, a post-vill. of Windsor co.

Brownsville, in *Washington*, a post-office of Kitsap co.

Brownsville, in *West Virginia*, a village of Cabell co., on the Ohio river, 24 m. from Ironton, O.

Brownsville, in *Wisconsin*, a post-village of Dodge co. on C., M. & St. P. R. R. *Pop.* (1895) 260.

Brownton, in *Minnesota*, a post-village of McLeod co., on C. M. & St. P. R. R. *Pop.* (1895) 480.

Browns Wells, in *Mississippi*, a P. O. of Copiah co.

Brown'town, in *New Jersey*, a P. O. of Middlesex co.

Browntown, in *Ohio*, a post-village of Brown co.

Browntown, in *Oregon*, a post-village of Josephine co. *Pop.* (1897) about 300.

Browntown, in *Pennsylvania*, a village of Bradford co., 150 miles N. of Harrisburg.

Browntown, in *Virginia*, a post-village of Warren co.

Browntown, in *Wisconsin*, a post-office of Green co., on C. M. and St. P. R. R.

Brown Valley, in *Minnesota*, a post-village, cap. of Traverse co., on G. N. R. R. *Pop.* (1895) 496.

Brown'ville, in *Indiana*, a village of Vigo co., 12 m. S.E. of Terre Haute.

Brownville, in *Iowa*, a post-village of Mitchell co.

Brownville, in *Maine*, a post-town of Piscataquis co., on B. & A. R. R. *Pop.* (1897) 1,160.

Brownville, in *Michigan*, a village of Lenawee co.

Brownville, in *Nebraska*, a thriving post-town of Nehama co., on the Missouri river.

Brown'ville, in *New York*, a post-village and township of Jefferson co., on Black river, 4 m. from Watertown, near Lake Ontario.

Brown'wood, in *Missouri*, a post-office of Stoddard co., on B. & N. W. R. R.

Brownwood, in *Texas*, a city of Brown co.

Brown'wort, *n.* (*Bot.*) See SCROFULARIA.

Brow'-post, *n.* (*Carp.*) A cross beam.

Browse, *v. a.* [O. Ger. *prosa*, a shoot; Fr. *brouter*.] To eat or feed *upon* leaves, twigs, buds, or sprouts; to feed upon branches or shrubs.

> "And being down, is trod in the dust
> Of cattle, and *browsed*, and sorely hurt."— *Spenser.*

—*v. n.* To feed *on* leaves, sprouts, or buds, or on the tender branches or shoots of shrubs and trees.

> "Savages *browsing* on herbage, like cattle."— *Arbuthnot.*

—*n.* Buds, sprouts, or leaves, or the tender branches or twigs of trees and shrubs, fit for the food of goats, &c.

> "The greedy lioness the wolf pursues,
> The wolf the kid, the wanton kid the *browse*."— *Dryden.*

Brows'er, *n.* One that browses.

Browse'-wood, *n.* Bushwood or twigs on which animals feed.

Brows'ing, *n.* The same as BROWSE.

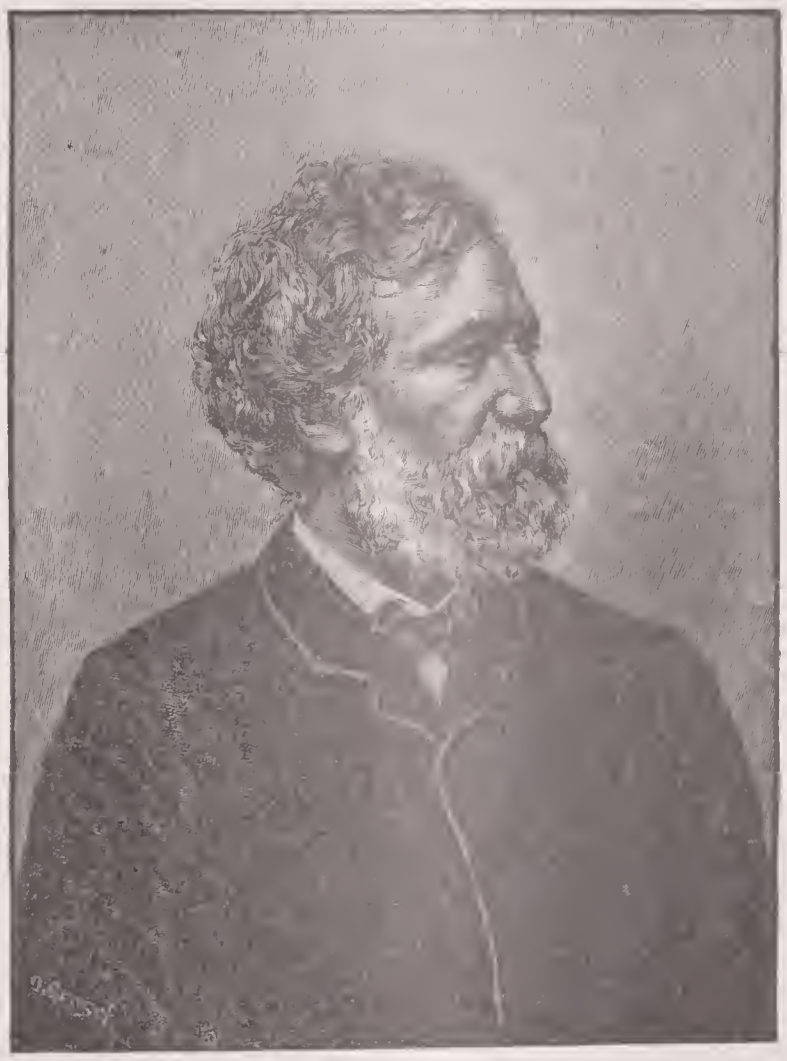
Brox'ton's Bridge, in *South Carolina*, a post-office of Colleton district.

Broyles'ville, in *Texas*, a post-office of Washington co.

Bru'at, ARMAND JOSEPH, a French admiral, B. at Colmar, 1796. Commander-in-chief of the Ocean squadron in 1852, he served in 1854 in the fleet in the Black Sea, as vice-admiral, under Admiral Hamelin, and took a prominent part in the first bombardment of Sebastopol. The same year, he succeeded Admiral Hamelin. D. of the cholera at Messina, Nov. 25, 1855.

Bruce, the name of a Scottish family of Norman origin. Robert de Brus, or Bruys, came over to England with William the Conqueror, and was rewarded for his services by a grant of land in Yorkshire. Robert, his son, was the companion in arms of David I. of Scotland, at the court of Henry I. of England; and when the Scottish prince succeeded to the throne of his ancestors, he bestowed the lordship of Annandale upon his early friend, Robert de Brus. The eldest son of the second Robert carried on the English line of the family, while his younger son became the proper founder of the Scottish branch. His great-grandson married Isabel, second daughter of David, Earl of Huntingdon, brother of William the Lion; and their eldest son was *Robert de Bruce*, the competitor with Baliol for the Scottish throne. (See BALIOL, JOHN.) His son, also called Robert, married under singular and romantic circumstances, a young and beautiful widow, only child of Nigel, Earl of Carrick, and Margaret, a daughter of Walter, the High-Steward of Scotland, and thus added largely to the estate and feudal influence of the family of this union.

BRUCE, ROBERT, the restorer of Scottish Independence, was the first fruit of the above marriage. He was B. the year (1274) in which Edward I. of England was crowned. In 1296, as Earl of Carrick, he swore fealty to Edward I. at Berwick. Shortly after, he abandoned the cause of Edward, and with his Carrick vassals joined the Scottish leaders in arms for the independence of their country. On the defeat of the Scots a few months afterwards, at Irvine, *B.* made his peace with the English monarch. After Wallace's defeat at Falkirk, *B.* burned the castle of Ayr to the ground, to prevent its falling into the hands of the English, and retired into the recesses of Carrick. In 1299, the year after Wallace had resigned the regency, *B.*, then in his 25th year, was admitted one of the four regents, who ruled the kingdom in the name of Baliol. In the three campaigns which subsequently took place, *B.* continued faithful to Edward. With John Comyn, called the "Red Comyn," the nephew of Baliol, he appears to have entered into some agreement as to their rival claims to the throne. In an interview between them, in the church of the Minorite Friars, Dumfries, Feb. 4, 1305-6, a quarrel took place, and *B.*, in a paroxysm of passion, stabbed Comyn with his dagger. *B.* hastened to Lochmaben Castle, assembled his vassals, and asserted his right to the throne. Two months after (March 27), he was crowned king, at Scone. An English army under the Earl of Pembroke, nominated by Edward governor of Scotland, took possession of Perth, and on the night of June 18, attacked *B.* in the wood of Methven, compelling him to retreat into the wilds of Athole. Sending his queen and her ladies to Kildrummie Castle, under the charge of Nigel Bruce and the Earl of Athole, he, with 200 followers, crossed Loch Lomond, and had recourse for subsistence to the chase. *B.* next took refuge in the little island of Rathlin, on the north coast of Ireland, where he remained all winter, and was supposed to be dead. In his absence, the English took the



Robert Browning

1812–1889

castle of Kildrummie, hung Nigel Bruce and other chiefs who had defended it, and tore the queen, and princess Marjory, from the sanctuary of St. Duthac, Ross-shire. All *B.*'s estates were confiscated, and himself and adherents excommunicated by the Pope's legate at Carlisle. In the spring of 1307, with about 300 men, *B.* landed in Carrick, and at midnight surprised the English garrison in his own castle of Turnberry; but before a superior force, he retired into the mountainous districts of Ayrshire. At Loudoun Hill, May 10, 1307, he defeated the English under the Earl of Pembroke. In less than two years he wrested from the English nearly the whole of Scotland. His authority being now established, in 1309 *B.* advanced to Durham, laying waste the country. The same year Edward II. of England invaded Scotland, but was compelled to retreat from Edinburgh to Berwick-upon-Tweed. During the harvest of 1312, the Scots again invaded England, but unsuccessfully. *B.* now reduced the Isle of Man also. On his return, in the autumn of 1313, he found his brother, Edward Bruce, engaged in the siege of Stirling Castle, held by Sir Philip Mowbray for the English. A treaty was entered into, by which Mowbray bound himself to surrender it, if not relieved before 24th June following. This led to the memorable battle of Bannockburn, *q. v.*, at which *B.* commanded in person (June 24, 1314). In 1317, *B.* passed over to Ireland, to assist his brother Edward, *q. v.*, and defeated the Anglo-Irish under the Baron of Clare; and in the spring of 1318 the Scots army invaded England by Northumberland. Another invasion of Scotland by the English king, who was compelled to retreat, was followed by *B.* again marching into England. After besieging Norham Castle, he defeated Edward once more at Bowland Abbey, Yorkshire. A truce was, in consequence, ratified between the two kingdoms at Berwick, June 7, 1323, to last for 13 years. On the accession of Edward III., in 1327, hostilities recommenced; and the Scots being again victorious, a final treaty was ratified in a parliament at Northampton, March 4, 1328, recognizing the independence of Scotland, and *B.*'s right to the throne. His object was now accomplished, and suffering under the disease of leprosy, he spent the last two years of his life at Cardross Castle, on the N. shore of the Frith of Clyde. D. June 7, 1329. He was twice married, first to Isabella, daughter of Donald, tenth earl of Mar — issue, a daughter, Marjory, wife of Walter the High-Steward, whose son ascended the throne as Robert II.; and second to Elizabeth, daughter of Aymer de Burgh, Earl of Ulster — issue, one son, who succeeded him as David II., and two daughters.

Bruce, Edward, brother of the above, was distinguished for his indomitable courage, which, however, degenerated into recklessness. In 1315, the chieftains of Ulster tendered to him the crown of Ireland, on condition of assisting them to expel the English from the island. His rapid victories soon made him master of the province of Ulster, and he was crowned, but was slain at the battle of Dundalk, Oct. 5, 1318.

Bruce, David, only son of king Robert Bruce, ascended the throne, 1329, when only about five years old. The celebrated Randolph, Earl of Moray, the regent, died in 1332, and immediately afterwards the kingdom was invaded by Edward Baliol. The total overthrow of the Scottish army at Dupplin, the coronation of Baliol at Scone, the invasion of Scotland by Edward III., and the defeat of the Scots with great slaughter at Halidon Hill, compelled *B.* to escape to France, where he resided till 1341, when, the nobles Murray, Douglas, and Stuart having expelled Baliol from the throne, he ventured to return. In 1346 he invaded England, but his troops were totally defeated, and he was made a prisoner. He was detained in the Tower of London till 1357, when he was liberated, on the condition of paying the then enormous sum of $1,500,000, the last instalment of which was not paid till the 7th year of Richard II. David d. 22d February, 1371.

Bruce, James, an English traveller, b. in Stirlingshire, Scotland, 1730. Till the time of this intrepid explorer of Africa, our knowledge of the interior kingdoms and resources of that vast continent was of the most imperfect kind; but Bruce's journey to Abyssinia and the source of the Nile forms an epoch in the annals of discovery. By his travels and researches great accessions were made both in the science of geography and that of natural history; and though the marvels he revealed were long and derisively treated as fabrications, a more extensive and perfect knowledge of E. Africa has generally confirmed the truth of his assertions. D. 1794.

Bruce, in *Illinois*, a thriving township of La Salle county.

—A post-office of Moultrie co.

Bruce, in *Iowa*, a township of Benton co.

Bruce, in *Michigan*, a post-township of Macomb co., 35 m. N. of Detroit.

Bruce, in prov. Ontario, a N.W. county, bordering on Lake Huron; *area*, 922 sq. m.

Bru'cea, *n.* (*Bot.*) A genus of plants, order *Simarubaceæ*. The species *B. antidysenterica* possesses properties similar to those of *quassia*. q. v.

Bruce'port, in the State of *Wash.*, a post-village of Pacific co., on Shoalwater Bay, 50 m. W.S.W. of Olympia.

Bru'cerville, in *Alabama*, a post-office of Pike co.

Bruce's Lake, in *Indiana*, a post-office of Fuller co.

Bruceton Mills, in *W. Virginia*, a post-office of Preston co.

Bruce'town, in *Virginia*, a post-village of Frederick county.

Bruce'ville, in *Alabama*, a post-office of Bullock co.

Bruceville, in *Illinois*, a post-office of La Salle co.

Bruceville, in *Indiana*, a post-village of Knox co., 8 m. N.E. of Vincennes.

Bruce'ville, in *Maryland*, a post-office of Carroll co.

Bruce'ville, in *Washington*, the former capital of Chekalis co., 35 m. N.N.E. of Pacific City.

Bruchus, (*broo'kus,*) *n.* (*Zoöl.*) A gen. of insects, fam. *Curculionidæ*. The female deposits an egg in the young and tender germ of various leguminous or cereal plants, &c., upon which the larva feeds, and within which it undergoes its transformations; the perfect insect, in order to make its escape, detaches a portion of the epidermis, like a small cup; hence the small holes often observed in peas, dates, &c. The family is very extensive. *B. pisi*, which is two lines long, black, with gray spots on the elytra, in some years does great mischief to peas, particularly in our country. *B. scripes* (*Fig.* 429), with the head and posterior limb, is a fine example of this family. By some authors it is placed in a separate genus.

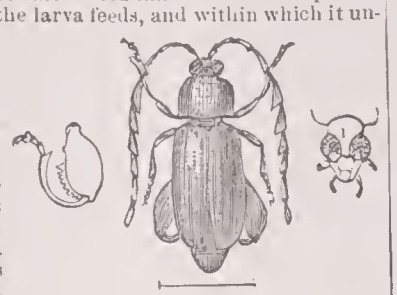


Fig. 429. — BRUCHUS SCRIPES.

Brucia, Brucine, (*bru'se-ă,*) *n.* (*Chem.*) An alkaloid occurring in large quantities in conjunction with strychnia in the *strychnos nux vomica*. It is less marked in its properties than strychnia, which it closely resembles. It crystallizes in colorless transparent rhombic prisms, which are insoluble in ether. Its poisonous properties are less active than those of strychnia. By the action of nitric acid on *B.*, compounds are obtained which render it probable that methyl enters into the composition of this alkaloid. *Form.* $C_{46}H_{26}N_2O_8$.

Bru'cite, *n.* (*Min.*) A fibrous hydrate of magnesia occurring in silky grayish or bluish-white masses. This name was given to chondrodite in honor of Pr. Bruce of New York, by whom the mineral was first described.

Bruck, Karl Ludwig, Baron von, an eminent Austrian statesman and financier, b. 1798. After achieving great honor by his successful foundation of the "Austrian Lloyds," he received, in 1848, from the imperial government the appointment of minister-plenipotentiary to the National Assembly convoked at Frankfort. After the revolution in Oct. of the same year, *B.* was named Minister of Trade, a position in which his talents were exercised to the inestimable advantage of the commerce of the empire. In 1851, he resigned his portfolio, but in the following year was recalled to the imperial service, and in 1855 appointed to the dignified and momentous post of internuncio at Constantinople. In this position he exerted himself strenuously to avert the rupture between Russia and the Ottoman Porte. In 1855, he became Minister of Finance. After the Italian war, an unsuccessful lottery loan, and the scandal of the celebrated Cynattan process (relating to robberies committed in Italy), in which *B.* was indirectly involved, rendered it incumbent upon him to tender his resignation of office, which was contemptuously accepted by the emperor (1861). In his chagrin, *B.* committed suicide, being found dead in his bed, with his veins opened by his own hand, on 23d April of the same year. From what was elicited at the searching inquest held after his death, it would appear that *B.* was innocent of the accusations that brought about his untimely end; and it must be said, that even if he had been unsuccessful in relieving his country from a financial crisis, he inaugurated the future prosperity of Austria by the many reforms he introduced into the old fiscal and industrial systems of the empire.

Bruck'enau, a town of Bavaria, on the Sinn, 36 m. N. of Würtzburg, in the middle of beech forests and beautiful scenery. At 2 m. from the town, in the valley of the Sinn, are the chalybeate springs and baths of *B.*, frequented in the summer season by the Bavarian court. *Pop.* 1,628.

Bruges, (*broozh,*) a city of Belgium, cap. of W. Flanders, at the junction of the canals from Ghent, Ostend, and L'Ecluse, 7 m. from the N. Sea, and 60 m. N.W. of Brussels; Lat. 51° 12′ 30″ N., Lon. 3° 13′ 44″ E. The city has a circumference of nearly 4½ m., and is entered by 6 gates. Many large and noble ancient mansions and spacious public edifices present their pointed gables to the streets, and afford interesting specimens of the ornamental Gothic architecture of the Middle Ages. Among the most remarkable public edifices are, the Cathedral of Notre Dame (Onser Vrouw), the old Gothic Hospital of St. John, and the elegant church of St. Saviour. In the great square is a lofty Gothic tower or belfry (*Fig.* 430), the most beautiful in Europe, and its chimes or *carillons* are esteemed the most complete and harmonious in the Netherlands, where only superior qualities are approved in this species of musical instrument, or rather, machine. In this tower there are 48 bells, some weighing 6 tons; they are played upon every quarter of an hour by means of an immense copper cylinder communicating with the clock, and weighing about 9 tons. Its surface is pierced by 30,500 square holes, so that an infinite variety of airs may be set upon it, by merely shifting the iron pegs that lift the hammers. — The Ostend canal presents an expanse of surface that resembles a stately river, and is sufficiently wide to admit the passage of ships of 500 tons from the sea. There are 54 bridges across the numerous canals, by which the streets are intersected; hence the Flemish name of the place — Brügge, that is, *bridges*; in French, *Bruges*. — *Manf.* Woollens, linens, cottons, lace, dye-works, sugar-refineries, and ship-building yards. The lace manufacture is the most important: it employs 7,400 persons. — *Hist.* From the 7th century, *B.* was rapidly acquiring importance. During the government of the rich and powerful Counts of Flanders, who resided there from the

Fig. 430. — THE BELFRY OF BRUGES.

9th to the 15th centuries, its woollen manufactures grew and flourished to an amazing extent. The wealth and splendid attire of the citizens of *B.* had long been subjects of wonder; for when the queen of Philip le Bel, of France, visited this city in 1300, she is said to have exclaimed with astonishment, "I here see hundreds who have more the appearance of queens than myself." The wealth of the citizens was enormous; a single merchant gave security for the ransom of Jean sans Peur, the last Count of Flanders, to the amount of 400,000 crowns of gold. Under the Austrian dynasty, at the close of the 15th century, the rebellious conduct of the inhabitants of *B.* called upon it such destructive vengeance that henceforth its greatness died away, its trade was transferred to Antwerp, and the religious persecution and ferocity of the Spanish under Philip II. and the Duke of Alva completed the process of its ruin. Its subsequent history is comparatively unimportant. *Pop.*, 1897, about 50,000.

Bru'in, *n.* [O. Ger. *brûn;* Fr. *brun*, brown.] A familiar name given to the bear.

Bru'in, in *Kentucky*, a post-office of Elliott co.

Bru'in, in *Pennsylvania*, a post-office of Butler co.

Bru'ington, in *Virginia*, a P. O. of King and Queen co.

Bru'insburg, in *Mississippi*, a village of Claiborne co., on the Mississippi River.

Bru'in's Cross Roads, in *Indiana*, a post-office of Park co.

Bruise, (*brōz,*) *v. a.* [A. S. *brysan;* Fr. *briser*; Gael. *bris*, break, fracture.] To crush; to press or dash together so as to break or reduce to small fragments; to bray; to make a contusion upon the flesh.

> "Fellows in arms, and my most loving friends,
> *Bruis'd* underneath the yoke of tyranny." — *Shaks.*

—*n.* A contusion; a hurt or injury from a blow with something blunt or heavy, without breaking the skin.

Bruised, *p. a.* Crushed; hurt or broken by a blunt or heavy instrument.

Bruis'er, *n.* He who, or that which, bruises.—A boxer. (Low.)—A tool for grinding the specula of telescopes.

Bruise'wort, *n.* A popular name for any plant supposed to be efficacious in healing bruises, as comfrey, soapwort, &c.

Bruis'ing, *n.* The act of crushing or contusing by a blow.

Bruit, (*brōt,*) *n.* [Fr., from *bruire;* Gr. *bruchō*, to roar.] A noise spread abroad; report; rumor; fame.

> "A *bruit* ran from one to the other, that the king was slain."
> *Sidney.*

—*v. a.* To report; to noise abroad.

Brul'yement, or **Brul'ziement**, *n.* (In Scot. and N. Eng.) A brawl; a quarrel; an embroilment.

Bruly Landing, in *Louisiana*, a post-office of West Baton-Rouge parish.

Brumaire', *n.* [Fr., from *brume*, fog.] (*Chronol.*) The second month of the year in the French revolutionary calendar. It commenced on the 23d of October, and ended on the 21st of November, thus comprising 30 days. It received its name from the fogs that usually prevail about this time. — The 18th of *B.*, VIII. year (9th of Nov. 1799), is celebrated for the overthrow of the Directory, and the establishment of the sway of Napoleon.

Bru'mal, *a.* [Fr., from Lat. *bruma;* probably formed from *brevissimus, brevimus, brevima*, the superl. of *brevis*, short.] Pertaining to the season of the shortest days; belonging to the winter.

Brume, *n.* [Fr.] Mist; fog; vapor. (R.)

Brumfield Station, in *Kentucky*, a post-office of Boyle co.

Brum'fieldville, in *Pennsylvania*, a post-village of Berks co., 62 m. E.N.E. of Harrisburg.

Brum'ley, in *Missouri*, a post-office of Miller co.

Brum'mel, GEORGE BRYAN, (the sometime famous *Beau Brummel,*) was B. in London, 1778. He was educated at Eton, and there formed intimacies with the younger nobility of the day. On his father's death, inheriting a fortune of about $150,000, he commenced his career as a man of fashion, and became the intimate associate of the Prince of Wales (afterwards George IV). He it was who inaugurated the reign of dandyism, and for a period of twenty years exercised almost despotic sway over English society in the matter of dress. His taste was decidedly superior, and he did much to mitigate, if not extinguish, the bizarre foppery in costume then prevailing. His fortune being soon swallowed up, he maintained his position in society by his success at play, and the indescribable charm of his manner and conversation. His abilities were good, though little exercised; he possessed wit, a cultivated taste in music and letters, and a supreme knowledge of the arts of dress and manner. After a rupture with the Prince, his influence gradually declined; and oppressed by debt and the falling off of former friends, he retired to Calais, and afterwards to Caen, where he was appointed British consul, and finally D. in a lunatic hospital, 1840.

Brum'mel's, in *N. Carolina*, a P. O. of Davidson co.

Brun, BURN, BRAN, BOURN, *n.* [A. S. *burn.*] A river or brook.

Brun, in *Kentucky*, a post-office of Carter co.

Brunai', a Malay State of Borneo, extending from the mouth of Batang-Lupar River, in Lon. 108° 38′ E., along the N.W. coast to the Bay of Sandakan. The coast-line is abt. 900 m.; area 28,000 sq. m. The territory of *B.* is mostly covered with a dense tropical forest, accessible only to the Dyaks and orang-outangs. Along the water-courses, which are numerous, Europeans are engaged in the mining and exportation of the fossil coal and antimony, the latter being found in this territory more abundantly than in any other part of the world. The country is inhabited by a tribe of the *Dyaks*, q. v. In consequence of a treaty made with the Sultan of *B.*, in 1850, which secures to Americans the right of acquiring and holding property in *B.* territory, the Congress of the United States established a consulate at the port of *B.*; but the trade between the two countries has not, till now, been of great extent. Estimated *pop.* 300,000.

BRUNAI, the capital, is a maritime city, like Palembang and Acheen in Sumatra. It is situated on a river of the same name; Lat. 4° 55′ N., Lon. 114° 55′ E. *Pop.* abt. 22,000.

Brundu'sium, BRUNDISIUM, (*Anc. Geog.*,) a city of Calabria, now *Brindisi*, q. v., on the shores of the Adriatic. It was taken by the Romans, B. C. 267, and became a colony of the Republic B. C. 244. During the Illyrian war, B. C. 229, it was the naval and military station for the Roman fleet and army, and its fine harbor rendered it on many subsequent occasions the centre of warlike operations. Virgil D. here. B. C. 19.

Brune, GUILLAUME MARIE ANNE, a marshal of France, B. at Brives-la-Gaillarde, 1763. He was brought up to the law, but when the Revolution broke out, he took up arms and served under Dumourier. He rose rapidly, and in 1795 became a general of brigade under Napoleon I. He was appointed commander-in-chief of the army which invaded Switzerland, after the peace of Campo Formio; and also of that of Italy after the fall of Berne. In 1805 he was made a marshal of the French empire, and in 1807 became governor of the Hanseatic towns, but fell into disgrace for omitting the titles of Napoleon in the text of the convention which procured for France from Sweden the surrender of the island of Rügen. He now went into retirement till the first abdication of Napoleon, when he submitted to Louis XVIII., who gave him the cross of St. Louis. In the "Hundred Days," he joined Napo'eon, but after the battle of Waterloo, proclaimed the king. Leaving his corps and proceeding to Paris, he entered an inn at Avignon, where he was attacked by an infuriated mob, who accused him of having been a terrorist, and taken part in the massacres of 1792. At that time, however, he said he was fighting on the frontiers of his country against the enemy. Nevertheless, they immediately shot him, dragged his body through the streets, and threw it into the Rhone, 1815.

Brune Island, off the S. part of the E. coast of Tasmania, from which it is separated by D'Entrecastaux Bay. Length 32 m., breadth 1 to 6 m. Adventure Bay is on its E. coast.

Brunehaut, or BRUNEHILDE, a famous queen of Austrasia, daughter of Athanagildus, king of the Spanish Visigoths, B. 534, and espoused Sigebert, king of Austrasia, in 568. About the same time, Chilperic, king of Neustria, married her young sister, Galswintha. This prince having put his wife to death and invaded Austrasia while Sigebert was engaged in repelling an invasion of the Huns, *B.* urged her husband to retaliate by a war in Neustria, in the course of which Siegbert was assassinated and *B* herself taken prisoner. On her escape from Rouen, after her marriage with Meroveus, son of the king of Neustria, she returned to Metz, and combating successfully the opposition of the nobles, wielded the royal authority during the minority of her son Childebert. After the death of that prince, and the accession of her grandsons, Thierry and Theodebert, the nobles of Austrasia compelled her to flee into Burgundy. These two princes having quarrelled, she took part with Thierry, who put his brother to death in 612. Thierry dying the following year, she again assumed the authority of regent; but being attacked by her ancient enemy, Fredegonde, 2d wife of Chilperic I., she was betrayed by her nobles into the hands of the Neustrians, and, as some historians report, delivered during 3 days into the hands of a brutal soldiery, drawn at the tail of a wild horse, and finally burned piecemeal. Her character and government have been the source of endless controversy. The best authorities, nevertheless, are in favor of her blameless character and excellent government. Killed A. D. 614.

Brunel, (Sir,) MARC ISAMBARD, (*broo'nel.*) a French civil engineer, B. at Hacqueville, near Rouen, 1769. He entered the mercantile marine, made several voyages to the W. Indies; and when the French revolution of 1793 drove him from his country, he landed in New York, with the resolution of endeavoring to turn his engineering skill to some account. Accordingly, he conjointly with another, surveyed the ground for the canal which now connects the river Hudson at Albany with Lake Champlain. Desirous, however, of returning to Europe, he came to England, where he produced several inventions, and submitted to the government a plan for making block pulleys for ships, by machinery. This was carried into execution in the dockyard at Portsmouth, and proved a wonderful success. Brunel was now a made man; he continued to exercise his talents in constructive works, and in 1825 commenced excavating for the Thames Tunnel. This extraordinary work was opened to the public in 1843; but, previously, in 1841, the honor of knighthood had been conferred upon him. D. 1849.

BRUNEL, *Isambard Kingdom*, son of the above, B. 1806, was educated at the College of Henri IV., at Caen, France, and commenced the study of civil engineering under his father. He was the resident engineer of the Thames Tunnel, and the designer and civil engineer of the *Great Western*, which was the first steamship built to cross the Atlantic. He was also the constructor of the magnificent, but till now unsuccessful, iron steamship the *Great Eastern*, which was built at Millwall. In 1833 he was appointed engineer to the Great Western Railway, and all the tunnels and works connected with that line and its branches were constructed under his direction. He also superintended the erection of many bridges; among which may be mentioned the Hungerford suspension-bridge across the Thames, since removed to give place to a railway-bridge, and the bridge of the Cornwall Railway, crossing the Tamar at Saltash. This latter is supported by a central pier from a depth of 80 feet of water, which is the deepest yet achieved in civil engineering. It was opened in May, 1859, by Prince Albert, after whom it was named, and is one of the greatest undertakings of its kind in the world. D. 1859.

Brun'ersburg, in *Ohio*, a post-village of Defiance county.

Bruu'erstown, in *Indiana*, a post-village of Putuam co., 50 m. W. by S. from Indianapolis.

Bruuette', *n.* [Fr., dimin. of *brun*, *brune*, brown.] A woman with a brownish or dark complexion.

Bruuiaceæ, (*bru-ne-as'se-e,*) *n. pl.* (*Bot.*) An order of plants, alliance *Umbellales*. They are small heath-like shrubs, found at the Cape of Good Hope, and in Madagascar. Their properties and uses are unknown.

Brun'ion, *n.* [Fr. *brugnon.*] See NECTARINE.

Brunn, a town of Austria, cap. of Moravia, at the confluence of the Schwarza and Zwittawa, 70 m. N.N.E. of Vienna. The town is built on the declivity of a hill, having the cathedral on its summit, and the suburbs at its foot; it is encircled by walls, and was formerly defended by the citadel of *Spielberg*, on the hill of that name to the W. of the town; but the defences of the latter having been destroyed by the French, it was subsequently used as a State prison, and has more recently been converted into barracks. Silvio Pellico was shut up in the Spielberg for over 8 years. *B.* is the seat of a bishopric, of a Protestant consistory, a court of appeal, the *landrecht*, or court of nobles for the prov., &c., and has numerous scientific and charitable institutions. Its manufactures are of great importance; those of woollen goods, which are the most extensive in the empire, occupy about 18,000 hands.

Bruuelleschi, FILIPPO DI SER LAPPI, (*broo-nel-les'ke,*) a very distinguished Italian architect, B. at Florence, 1377. After receiving a good education, he learnt the goldsmith's art, practised sculpture for a short time, and finally adopted architecture as his sole pursuit. His enthusiasm for art was intensified by a visit to Rome with his friend Donatello. About 1407 he was chosen to undertake the great task of completing the Duomo of his native city; its noble cupola is his principal title to fame. He built also the Pitti Palace and the church of St. Lorenzo at Florence. He was competitor with Ghiberti for the execution of the gates of the Baptistery. He was long a member of the supreme council of Florence. D. 1444.

Brunnen, (*broon'nen,*) a village of Switzerland, near the mouth of the Muotta, on Lake Lucerne. Here the basis of the Helvetic republic was laid by the three original cantons, Uri, Schwytz, and Unterwalden, in 1315.

Brun'nerville, in *Pennsylvania*, a post-office of Lancaster co.

Brun'now, ERNEST PHILIP, BARON DE, a Russian diplomatist, B. at Dresden, 1797. Having completed his education at the University of Leipzig, he was received into the diplomatic service of Russia at the Congress of Aix-la-Chapelle, in 1818. After the signature of the treaty of Adrianople, in 1829, he accompanied Count Orloff to Constantinople, and on his return to St. Petersburg, in 1830, he was promoted to the rank of senior councillor to the Foreign office. In 1839 he was appointed ambassador at Stuttgart and Darmstadt. In the course of the same year he was sent on a special mission to Loudon, and (after a brief visit to Germany) accredited as ambassador to England in July, 1840, taking part during the following 15 years in many memorable negotiations. Leaving England, Feb. 8, 1854, on occasion of the outbreak of the war with Russia, he was appointed ambassador at the German Diet in Oct., 1855, attended in the following year the peace conference of Paris, as 2d representative of Russia, was nominated ambassador at Berlin, Feb. 19, 1857, and resumed his post at the court of St. James', in March 1858. In 1862 he received the insignia of the order of St. Andrew of Russia, together with a most flattering autograph letter from the Emperor himself, as a testimony of his long and valuable services. He represented Russia at the Conference in London, on the Danish question, in 1864. D. 1873.

Bru'no, GIORDANO, an Italian philosopher, one of the boldest and most original thinkers of his age, B. at Nola, about 1550. He became a Dominican monk, but his religious doubts, and his censures of the monastic orders, compelled him to quit his monastery and Italy. He embraced the doctrines of Calvin at Geneva, but doubt and free discussion not being in favor there, he went after two years' stay to Paris. He gave lectures on philosophy there, and by his avowed opposition to the scholastic system, made himself many bitter enemies. He next spent two years in England, and became the friend of Sir Philip Sidney. In 1585, he went again to Paris, and renewed his public lectures. After visiting and teaching in various towns in Germany, he returned in 1592 to Padua, and went afterwards to Venice, where he was, in 1598, arrested by the Inquisition and sent to Rome. He lay in prison two years, and on the 17th Feb., 1600, was burned as a heretic. *B.* was a man of powerful understanding, vigorous and fertile imagination, and rich and diversified learning. His theory of the world was pantheistic. He was well versed in astronomy, and adopted the views of Copernicus. But he was also a believer in astrology. His works in Latin and Italian are numerous, and abound in bold and noble thought and rich eloquence. Spinoza was indebted to *B.* for some of his theories. Among the works of *B.* are the following: *Della Causa, Principio ed Uno, Dell' Infinito Universo e Mondi, La Cena delle Ceneri, Specchia della Bestia Trionfante*, &c.

Bruno, (St)., the apostle of the Prussians, B. at Querfurt, 970. He was of a noble Saxon family, converted the emperor Henry II., and was assassinated by the pagans of Lithuania, in 1008.

Bruno, (St)., the founder of the Carthusian order of monks, B. at Cologne about 1040; D. in Calabria, 1101. See CARTHUSIANS.

Bruno'nian System, *n.* See BROWN, JOHN.

Bruns'wick, DUCHY OF, in Germany, consists of 5 detached portions of territory on the rivers Weser, Seine, Ocker, and Aller, between Lat. 51° 38′ and 52° 59′ N., and Lon. 9° 10′ and 11° 22′ E. It occupies part of the vast plain which stretches from the foot of the Hartz Mountains and their continuations (the Solling) to the German Ocean and the Baltic, with a portion of the rise of those chains on the N. side. The largest portion contains the districts of Wolfenbüttel and Schöningen, in which the cities of Brunswick and Wolfenbüttel, and the towns of Königsbutter and Helmstadt, are situated. Two small detached portions of territory, viz., the circ. of Thedinghausen on the Weser, and that of Badenburg, are enclosed by the Hanoverian territory, and form part, the former of the Weser district, the latter of the Seine district. Finally, the detached circ. of Kalvorde, enclosed within the Prussian prov. of Saxony, belongs to the district of Schöningen. The duchy has an *area* of 1,526 sq. m. The inhabitants are mostly engaged in agricultural and mining pursuits. Iron is the chief produce of the mines worked in the three districts of the Hartz, Weser, and Blankenburg. — *Army.* The military organization of *B.* is on the Prussian system of general liability to the service of arms. Practically, however, no more men are raised by conscription than are required as contribution to the army of the Confederation. — *Rel.* Nearly the whole of the inhabitants are members of the Lutheran church, with the exception of some Calvinists, Roman Catholics, and members of other Christian sects, and Jews. *Pop.* 1890, 375,000. — *Hist.* The late Duke of *B.*, Wilhelm I., is the lineal descendant of Henry the Lion, the last of the house of Welf, who held the duchies of Bavaria and Saxony. Henry the Lion was deprived of both duchies by the emperor Frederic Barbarossa, 1180, and left only the possession of his allodial domains of *B.*, and Lüneburg, which were subsequently split into numerous branches, but merged finally in the till recently reigning line of Lüneburg (or Hanover), and that of Brunswick, which is the elder branch. The intimate family connection which in the last century subsisted between the Houses of *B.* and the reigning families of Great Britain and Prussia, engaged the princes of *B.* in political alliances with these two powers, in opposition to France. The Prussian army, at the outset of the disastrous campaign of 1806, was commanded by the Duke Charles William Ferdinand of *B.*, who fell in the battle of Jena. His duchy was incorporated in the kingdom of Westphalia. His son and successor, Frederick William, fell at the head of his troops while maintaining the position of Quatre Bras, two days before the battle of Waterloo. His successor, Charles, was driven away in 1830, and the throne made over to his brother William, the late duke, who D. Oct., 1885, the last of the line. He being without legitimate heirs, the duchy would fall to the Duke of Cumberland, son of the ex-king of Hanover, in conformity with ancient treaties, but Germany resolved not to admit the claim.

BRUNSWICK, the cap. of the above duchy, on the Ocker, 8 m. S.E. of Hanover. Although bearing rather an antiquated appearance, *B.* has some good streets, and

abounds in interesting remains of the Middle Ages. A splendid new ducal palace, built at an enormous expense, to replace the residence of Duke Charles, destroyed by the mob in 1830, was burnt down in 1865. The Museum has some paintings of the Flemish and Dutch schools. *Manf.* Wool, yarn, linen, porcelain, paste-board, paper-hangings, and chemicals. *Pop.* (1895) 104,000.

Brunswick (*q. v.*) House of, an ancient princely family of Germany, descended from the princess of Este. Ernest of *B., the Confessor* (see Zell, Ernest of), was a zealous Protestant, and in him were re-united the two principalities of Brunswick and Lüneburg, descended from Henry the Lion (see Brunswick and Ghibellines), who had been deprived of the Duchies of Bavaria and Saxony by the Emperor Frederick Barbarossa in 1180, retaining only his allodial domains of Brunswick and Lüneberg, his grandson, Otho, was invested in 1235 with these domains, as a fief of the Empire, and thus became the first duke of *B.* Ernest of Zell, *the Confessor*, was the founder of the houses of *B.* Lüneberg-Zell, or Hanover, and *B.* Wolfenbüttel, or Brunswick. He died 1546. His descendant, Ernest Augustus, Duke of *B.* Lüneberg-Zell, became Elector of Hanover.

Bruns'wick, in *Ga.*, a port of entry, cap. of Glynn co., on Turtle River, 80 m. S.S.W. of Savannah. It has a spacious harbor, and carries on a prosperous trade.

Brunswick, in *Maine*, a town of Cumberland co., on the Androscoggin, 26 m. S.W. of Augusta. The falls of the river afford a convenient supply of water-power. *Bowdoin College*, founded in 1794, stands on a plateau near the town. It possesses a philosophical and chemical apparatus and laboratory, a cabinet of minerals, gallery of paintings, and a splendid library. A medical school, connected with the college, was established in 1820.

Brunswick, in *Minn.*, a p.-v. of Kanabec co.

Brunswick, in *Missouri*, a p.-v. and twp. of Clariton co., near the Missouri River.

Brunswick, in *N. Y.*, a twp. of Rensselaer co.

—a village in the S. part of Ulster co.

Brunswick, in *N. C.*, a S. E. co., washed by the Atlantic, and drained by Cape Fear and Waccamaw rivers; *area*, 950 sq. m. *Surface*, level and swampy; *soil*, poor. *Product*, Rice and cotton.

Brunswick, in *Ohio*, a p.-twp. of Medina co.

Brunswick, in *Vermont*, a post-township of Essex co., on the Connecticut River, 50 miles N.E. of Montpelier.

Brunswick, in *Virginia*, a S.S.E. county, bordering on N. Carolina. *Area*, 600 sq. m. It is drained by the Nottaway, Roanoke, and Meherrin rivers. Its great product is tobacco. Organized in 1820. *Cap.* Lawrenceville.

Brunswick, in *Wisconsin*, a township of Eau Claire co., on the Chippewa River.

Bruns'wick Green, *n.* (*Chem.*) A pigment obtained by exposing metallic copper to the action of muriate of ammonia. It is a compound of chloride and oxide of copper. It is also generated by the action of sea-water upon copper, as is the green matter which incrusts the copper sheathing of ships.

Brunswick Landing, in *Mississippi*, a post-office of Issaquena co.

Brunswick, (New.) See New Brunswick.

Brunt, *n.* [O. Ger. *brand*, a burning, from *brennen*, to burn.] The heat of battle; the onset when it burns or rages most fiercely; violence.

"Erona chose rather to bide the *brunt* of war, than venture him." —*Sidney.*

—Shock; force of a blow; as, "the heavy *brunt* of cannon-ball." —*Hudibras.*

Bru'ree, a parish of Ireland, in Munster, co. Limerick, 4 m. N.W. of Kilmallock.

Brush, *n.* [Fr. *brosse*, a bush: from Celt. *brouss*, a thicket: Ger. *borste*, a bristle.] An instrument used for painting, or for removing dirt by light rubbing, from floors, furniture, &c. They are generally made of hair, bristles, or whalebone, and are divided into two classes —*simple* and *compound*. Simple *B.* are composed of a single tuft, and compound *B.* consist of several tufts inserted in a handle. Painters' *B.* are examples of the former, and ordinary hair-*B.* of the latter. The smaller kinds of simple *B.* are known by the name of *pencil*, and are made of camel- or sable-hair, inserted in quills of different sizes. When coarser and stronger material is used, they are generally mounted in tin tubes, and known by the name of *tools*, the larger kinds being bound around sticks with string or copper wire. After these come *Whitewash B.*, which consist of two or more large tufts fixed side by side on a flat handle, and secured firmly with string or wire. Compound *B.* are so made that a number of tufts are inserted into holes perforated at regular distances in the back, or stock, of the handle.

—A rude assault; a skirmish.

"Let grow thy sinews till their knots be strong,
And tempt not yet the *brushes* of the war." —*Shaks.*

—A thicket. —The tail of a fox.

Electrical brush. The brush-shaped or luminous rays diverging from painted bodies that are highly charged with positive electricity.

—*v. a.* To sweep or rub with a brush. —To paint with a brush.

"You have commissioned me to paint your shop, and I have done my best to *brush* you up like your neighbors." —*Pope.*

—To strike, rub over, or touch lightly in passing.

"Has Somnus *brushed* thy eyelids with his rod?" —*Dryden.*

—To remove by brushing; as, "the water *brushed* off by the winds." —*Bentley.*

—*v. n.* To move nimbly as in haste. To move lightly.

"A thousand nights have *brushed* their balmy wings over these eyes." —*Dryden.*

—To move or skim over.

"Love . . . awakes the sleeping vigor of the soul,
And *brushing* o'er, adds motion to the pool." —*Dryden.*

Brush Creek, in *Alabama*, a post-office of Perry co.

Brush Creek, in *Arkansas*, a township of Washington co.

Brush Creek, in *California*, a post-village of Butte co., 23 m. N.E. of Oroville.

Brush Creek, in *Illinois*, a village of Knox co., 80 m. N.N.W. of Springfield.

Brush Creek, in *Indiana*, a post-office of Ripley co.

Brush Creek, in *Iowa*, a post-office of Fayette co.

Brush Creek, in *Michigan*, a village of Van Buren co., on the Paw Paw River, 27 m. W. by S. of Kalamazoo.

Brush Creek, in *Minnesota*, a township of Faribault co.

Brush Creek, in *Missouri*, a post-office of Laclede co.

Brush Creek, in *N. Carolina*, a P. O. of Randolph co.

Brush Creek, in *Ohio*, joins the Ohio River in Adams county.

—Another, in Scioto co., joins the Scioto River, about 10 m. N. of Portsmouth.

—A township of Highland co. See Bush Creek.

—A township of Jefferson co.

—A township of Muskingum co.

—A township of Scioto co.

Brush Creek, in *Pennsylvania*, a township of Fulton co.

—A post-office of Beaver co.

Brush Creek, in *Tennessee*, a post-office of Polk co.

Brush'er, *n.* One who brushes.

Brush'et, *n.* See Busket.

Brush Hill, in *Illinois*, a post-village of Du Page co., about 16 m. W. of Chicago.

Brush'iness, *n.* Quality of being brushy; roughness.

Brush'ing, *n.* The act of brushing or sweeping.

Brush'-like, *a.* Resembling a brush.

Brush'-maker, *n.* One who makes brushes.

Brush Mountain, in *Pennsylvania*, a short ridge, S.W. of Bald Eagle Mountain, in the N. part of Blair co.

Brush Point, in *Illinois*, a post-office of De Kalb co.

Brush Prairie, in *Minnesota*, a P. O. of McLeod co.

Brush Run, in *Pennsylvania*, a P. O. of Washington co.

Brush's Mills, in *New York*, a post-village of Franklin co.

Brush Turkey, *n.* (*Zoöl.*) See Megapodiidæ.

Brush Valley, in *Pennsylvania*, a post-township of Indiana co., 55 m. E. by N. of Pittsburg; *pop.* abt. 1,850.

Brush'ville, in *New York*, a post-office of Queen's co.

—A post-village of Livingston co.

Brush'ville, in *Wisconsin*, a post-office of Waushara co.

Brush'-wheel, *n.* (*Mech.*) One of the wheels used in light machinery, to turn each other by means of bristles or brushes fixed to their circumference.

Brush'y, *a.* Resembling a brush; rough; shaggy.

Brush'y, in *Arkansas*, a P. O. of the Choctaw nation.

Brushy Creek, in *S. Carolina*, a P. O. of Anderson co.

Brushy Creek, in *Texas*, rises in Lavacca co., and falls into Lavacca River.

—Another, rises in Williamson co., and falls into Little River.

—A post-office of Williamson co.

Brushy Fork, in *Illinois*. See Bushy Fork.

Brushy Fork, in *Ohio*, a post-office of Scioto co.

Brushy Prai'rie, in *Indiana*, a P. O. of La Grange co.

Brushy Run, in *W. Virginia*, a P. O. of Pendleton co.

Brusk, Brusque, (*brösk.*) *a.* [Fr. *brusque*. See Brisk.] Sharp; rude; rough.

Brussa, Brusa, Prusa, or Broussa, a city of Turkey in Asia, Natolia, 60 m. S.S.W. of Constantinople, at the foot of Mount Olympus; Lat. 27° N., Lon. 40° E. — *B.* is most pleasantly situated, facing a beautiful and luxuriant plain, covered for many miles with plantations of mulberry-trees. The city and suburbs are about six miles in circumference. The town is divided from the eastern suburb by a deep channel or vale, over which there are several bridges, one of them — with shops on each side — being 90 paces long and 16 broad. The streets are remarkably clean, and the bazaars very good, being supplied with European goods from Constantinople. — Prusa is said to have been built by Prusias, king of Bithynia, *q. v.* It is one of the most flourishing commercial emporiums of the Turkish dominions, and in all ages has been celebrated for its thermal springs. *Pop.* 102,907.

Brus'sels. [Fr. *Bruxelles* (*brooxel'*); Flem. *Brussel*; Lat. *Bruxellæ.*] Capital of the kingdom of Belgium, and of the prov. of Brabant, 20 m. S. of Antwerp and about 50 m. E. by S. from the sea, on the Senne, a small river which falls into the Scheldt, through the Rupel. Lat. 50° 51′ 11″ N., Lon. 4° 21′ 10″ E. Its circumference is said to be 7 English miles, and its ramparts are planted with trees, and form most beautiful walks. It has extensive suburbs, consisting of various villages joined to the city by a continuity of streets. It has, besides, several public squares of great beauty and elegance. Its chief ornaments, however, are its public promenades, no city in Europe possessing one superior to that which is called the *Allée Verte*, or Green Alley, or to the great interior square called the Park, in which the chief struggle in the revolution of 1830 took place. In the great market-place stood the *Hotel-de-ville*, an old but handsome Gothic edifice (Fig. 431), its turret 364 feet high, surmounted by a figure of St. Michael, in copper, 17 feet high. The new Courts of Justice is one of the handsomest buildings in Europe, erected at a cost of nearly $15,000,000. The church of St. Gudule is a magnificent structure, and celebrated for its finely carved pulpit. The chapel of Nôtre Dame is likewise an elegant building. There are, besides, within the walls, several elegant mansions, belonging to noblemen. The Opera-house is a stately edifice, in the Italian style, built in the year 1700. The public fountains are numerous, and are all embellished with sculptures. A statue to Godfrey de Bouillon was inaugurated in 1848.

Fig. 431.—Old Hotel de Ville, or City Hall. (Brussels.) Destroyed by fire in 1884.

Brussels has many charitable foundations, and establishments for public instruction. There are, besides a library (containing nearly 100,000 volumes, mostly saved from suppressed convents), an extensive and valuable collection of paintings, a cabinet of natural history, a polytechnic institute, an academy of painting, sculpture, and engraving, and numerous primary and industrial schools. There are several literary and scientific establishments, an academy of belles-lettres, and a botanical garden.—*Manf.* Lace, camlets, carpets, carriages, ticking, various kinds of cotton and woollen stuffs, silk stockings, galloons, earthenware, &c. It carries on a considerable trade by means of the canals which bring it into communication with the Scheldt. — *Hist.* This city is supposed to have been founded at the commencement of the 7th century. Otho II. held his court here in the 10th century, and it was fortified in the 11th century. In its palace, which was built in 1300, and had been the residence of the dukes of Brabant since the time of John II., Charles V. of Spain abdicated his crown in favor of his son, Philip II., on October 25, 1555; and, twelve years after, the tyranny of the Duke of Alva, Philip's bloodthirsty governor, drove 10,000 of its citizens to seek refuge and to settle in England. Under the French empire, it was the capital of the department of the Dyle, and previous to 1830 it was one of the capitals of the kingdom of the Netherlands. In 1848 the first peace congress was held in it, and in 1853 a general European statistical congress also assembled here. *Pop.*, including surrounding parishes, in 1895, 488,000, or of the city only, 182,205.

Brus'sels, in *Wisconsin*, a post-township of Door co., 24 m. N.E. of Green Bay.

Brussels Sprouts, *n. pl.* (*Hort.*) A variety of *Brassica oleracea*, or common cabbage, distinguished by producing in the axils of the leaves, little clusters of leaves which close together and form miniature cabbages. These are used, like other greens of this species, for the table, and are very delicate. The plant is cultivated much in the same way as cabbage or kale, requiring, however, less space than the other varieties. It may be planted in shady situations, or between the rows of crops, such as peas, beans, scarlet-runners, &c., which are to be removed from the ground in autumn. The sprouts are fit for use in winter and spring. The stem sometimes attains a height of 4 feet, and the head resembles a small imperfectly boiled savoy: but there is a sub-variety with shorter stems, preferable for many situations. In some places, it is customary to remove the head early in winter, in order to promote the development of the lateral shoots in spring, but if the head is allowed to remain, the plant becomes taller, and new shoots are formed as the lower ones are removed. The seed is sown in Feb. or March. None of the many varieties of the species to which it belongs is better deserving of cultivation, but

as the seed frequently degenerates, it is better to import it from Belgium. — *Ch. Encycl.* — See BRASSICA, CABBAGE.

Fig. 432. — BRUSSELS SPROUTS.

Bru'ta, BRUTE, *n.* [Lat. *brutus*, heavy, stupid.] (*Zoöl.*) The term by which Linnæus designated an order of mammals, including the elephant, manati, and walrus, with the quadrupeds now forming the order *Edentata* of Cuvier.

Bru'tal, *a.* Pertaining to a brute; unfeeling; like a brute; as, "*brutal* force."

—Inhuman; savage; cruel; ferocious.

"The *brutal* bus'ness of the war
Is manag'd by thy dreadful servants' care." — *Dryden.*

Brutal'ity, Bru'talism, *n.* Quality of being brutal; inhumanity; savageness; cruelty; insensibility to pity or shame.

Brutaliza'tion, *n.* The act of brutalizing or making brutal. (R.)

Bru'talize, *v. a.* To make brutal.

—*v. n.* To become brutal.

Bru'tally, *adv.* In a brutal manner.

Brute, (*bröt.*) *a.* [Fr. *brut*; Lat. *brutas*, from Gr. *barutēs*, heaviness, senselessness.] Senseless; stupid; unconscious; irrational; bestial.

"Not yet are we the sons of *brute* earth." — *Bentley.*

—Rough; uncivilized; insensible.

"The brute philosopher, who ne'er has prov'd
The joy of loving, or of being lov'd." — *Pope.*

—*n.* A beast; any animal destitute of reason; a brutal person; a savage; a low-bred, unfeeling man.

Brut'ify, *v. a.* To make brutish or brutal.

"O thou fallacious woman! am I then *brutified*?
Ay; I feel it here; I sprout; I bud; I am ripe horn mad."
Congreve.

Brut'ish, *a.* Like a brute: beastly; ignorant; stupid; unfeeling; savage; cruel; brutal; inhuman; ferocious; grossly sensual.

Brut'ishly, *adv.* In a brutish manner.

Brut'ishness, *n.* Quality of being brutish; brutality.

Brut'ism, *n.* The quality of a brute; extreme stupidity. (R.)

Bru'ton, a town of England, in Somersetshire. *Manf.* Silks, woollens, hosiery. *Pop.* 4,364.

Bru'tus, LUCIUS JUNIUS, one of the most celebrated characters of early Roman history, but whose story is half mythical, and full of contradictions and improbabilities, was the son of Marcus Junius, a wealthy patrician of Rome. The father and brother of Lucius Junius were assassinated by order of their relative, Tarquinius the Proud: and Lucius Junius owed the preservation of his life to an assumed idiotism. It was Sextus Tarquinius who, by his criminal outrage on Lucretia, the wife of Collatinus, afforded him an opportunity to arouse the people against the king and his sons. Throwing off his pretended stupidity, he joined with Collatinus, assembled the senate, and caused a decree to be made for banishing the king and establishing a republic. This change took place, and *B.* and Collatinus were appointed chief magistrates, with the title of consuls. The change in the form of government gave offence to many of the patricians; and the two sons of *B.* and three nephews of Collatinus conspired, with others, to murder the consuls, and restore the monarchy. The plot was disclosed by a slave, and the conspirators were brought before the consuls for judgment. *B.*, disregarding the entreaties of the multitude and his own feelings as a parent, sentenced his sons to death. Collatinus endeavored in vain to save his nephews, and retired from the consulship. The cause of the Tarquinii was espoused, according to the legend, by some of the neighboring cities, and *B.* fell in combat with Aruns, one of the sons of the deposed king. The conflict ending in the victory of the Romans, the body of *B* was interred with great solemnity, and a statue was erected to his memory, B. C. 507.

Bru'tus, MARCUS JUNIUS, an illustrious Roman, one of the murderers of Julius Cæsar. His mother was the sister of Cato. He at first sided with Pompey, but, being treated with great lenity after the battle of Pharsalia, he attached himself to Cæsar, by whom he was greatly caressed and trusted. But the stern republican spirit of *B.* rendered it impossible for all Cæsar's kindness to him to reconcile him to Cæsar's ambition: and he at length conspired with Cassius and others, and slew him on the Ides of March, B. C. 44. Antony succeeded in exciting the popular indignation against the murderers, who fled from Rome, and raised an army, of which *B.* and Cassius took the command: but being totally defeated at the battle of Philippi, where they encountered the army of Antony and Octavianus, *B.* escaped with only a few friends, passed the night in a cave, and, as he saw his cause irretrievably ruined, requested Strato, one of his confidants, to kill him. For a long time his friend refused; but at last presenting the sword as he turned away his face, the noble Roman fell on it and expired, B. C. 36, in the 43d year of his age.

Bru'tus, in *Michigan*, a p.-v. of Emmett co.

Bru'tus, in *New York*, a township of Cayuga co.

Bru'yere, JEAN DE LA. See LA BRUYÈRE.

Bruyns'wick, in *New York*, a post-office of Ulster co.

Brya'ceæ, *n. pl.* [Gr. *bruo*, I sprout.] (*Bot.*) An order of plants, alliance *Muscales*. — DIAG. Spore-cases valveless, with an operculum, without elaters. — They are erect or creeping, terrestrial or aquatic, cellular plants, having a distinct axis of growth, destitute of a vascular system, and covered with minute imbricated, entire or serrated leaves. The *B.* are chiefly distinguished from other mosses by the sporangium dehiscing transversely, either from the separation of the operculum or in an irregular manner.

Bry'an, in *Georgia*, an E. county, bordering on the Atlantic; *area* 472 sq. m. It is watered by the Ogeechee and the Cannouchee rivers. *Surface.* Generally level. *Soil*, sandy, most of which is covered by pine forests. *Cap.* Eden.

Bry'an, in *Missouri*, a post-village in Saline co., 70 m. N.W. of Jefferson city.

Bry'au, in *Ohio*, a post-village, cap. of Williams co., 54 m. W.S.W. of Toledo.

Bry'au, in *Texas*, a city, cap. of Brazos co. *Pop.*, 3,200.

Bry'an Court-House, in *Georgia*, a village of Bryan co., about 20 m. W. by S. of Savannah.

Bry'ansburg, in *Indiana*, a post-village of Jefferson co., 76 m. S.S.E. of Indianapolis.

Bryan's Store, in *North Carolina*, a post-office of Moore co.

Bryansville, in *Pennsylvania*, a P. O. of York co.

Bry'ant, WILLIAM CULLEN, an eminent American poet and man of letters, B. at Cummington, Massachusetts, 1794. When he was but 13 years old, he wrote *The Embargo, or Sketches of the Times, a satire*; and the *Spanish Revolution, and other Poems*, Boston, 1808. The youthful poet was admitted to the bar in 1815, and was engaged in the legal practice for ten years, mostly at Great Barrington, Mass. In 1825 he finally quitted the profession, and went to reside in New York, where he has since exclusively devoted himself to literary pursuits. *Thanatopsis*, the unrivalled production of a youth only 18 years old, was published by him in the *North American Review*, in 1816. In 1821, *B.* published at Cambridge a volume containing *The Ages*, *Thanatopsis*, and a few others of his finest productions. The book established his reputation as a popular poet. All the pieces in it are polished to the last degree of nicety: the forms of expression, the imagery, and the general turn of thought, are perfectly simple and natural. The first outbreak of *B.*'s genius was the most rich and abundant. After the appearance of *The Ages* he published only short poems and at considerable intervals. The whole of his published poetry, the production of a full half century, is contained in a single volume of very moderate size. Several of *B.*'s poems appeared first in the *New York Review*, which he edited in 1825-27. In 1826 he became the editor of the *Evening Post*, one of the oldest and most influential newspapers in New York, with which he was connected until his death. *B.* was always a generous and uncompromising advocate of free soil and free institutions. He also labored effectually to diffuse a taste for the fine arts in America, became president of several associations for this purpose, and always showed himself a kind and judicious friend to young artists. As a prose-writer, his style was pure, easy and idiomatic. Few who have been compelled by circumstances to write so much, have written so uniformly well. An edition of his works, illustrated with 71 engravings, came out in London, 1858, and in 1869, his masterly translation of the *Iliad*, was followed, in 1870, by its companion vol. the *Odyssey*. His *Popular History of the U.S.* appeared in 1874. Upon his 80th birthday he was presented with a handsome silver vase; in 1876, elected a member of the Russian Academy. D. in New York, June 12th, 1878.

Bryant's Creek, in *Indiana*, a P. O. of Monroe co.

Bryant's Pond, in *Maine*, a post-office of Oxford co.

Bry'antsville, in *Ind.*, a pt. vil. of Lawrence co.

Bry'antsville, in *Ky.*, a post-village of Garrard co.

Bryg'mus, *n.* [Gr. *brucho*, I grind my teeth.] (*Med.*) The grinding of the teeth, or the gnashing and chattering of the teeth which takes place in epilepsy and other convulsive disorders.

Brynhil'da. (*Scand. Myth.*) The name given in the Scandinavian legends to a mystic personage, probably connected with Attila, Sigurd, Gurnar, or Gunther; playing the principal part in the series of extraordinary adventures attributed to those persons.

Bryo'nia, *n.* [Gr. *bryo*, I sprout.] (*Bot.*) A genus of plants, order *Cucurbitaceæ*. The most interesting species is *B. dioica*, the red-berried bryony, or wild vine, an indigenous perennial, growing in hedges and thickets, and blossoming during the month of May. The flowers are yellowish-white, with green streaks, and are dioecious; that is, the male and female flowers are borne by distinct plants. The stems are put forth annually, and climb by means of tendrils. The root is large, white, and is sold by herbalists under the names of white bryony and mandrake-root. (For the true mandrake, see MANDRAGORA.) The root contains a peculiar bitter principle, termed *Bryonine*. It is a violent emetic and purgative, and is highly poisonous, giving rise to symptoms much resembling those of cholera. A remedy often resorted to in homœopathic practice. *B.* is also employed as a topical application to bruises. *B. Alba*, *Americana*, and *Africana* have similar properties.

Bry'onine, *n.* (*Chem.*) See BRYONIA.

Bry'ony, *n.* The English name for BRYONIA, *q. v.*

Bryophyl'lum, *n.* [Gr. *bryo*, to grow, *phyllon*, a leaf; *i. e.* germinating from a leaf.] A genus of plants, order *Crassulaceæ*.

Bryozo'a, POLYZOA, *n.* [Gr. *brion*, moss, *zōon*, an animal.] An order of animals of the class *Acalepha*. They are very small or minute mollusks growing in clusters upon rocks, shells, and sea-weeds, which they ornament with their delicate ramifications. Some kinds, however, inhabit only fresh waters. All are polyp-like in general appearance, but molluscan in structure. The aggregated cells of some genera are coral or coral-like.

Bry'sou, in *Nebraska*, a post-office of Johnson co.

Bry'um, *n.* [Gr. *bryon*, moss.] (*Bot.*) A genus of moss, order *Bryaceæ*.

Brzese Litewski, or BREST LITOWSKY, a fortified town of Russia, gov. of Grodno, on the river Bug, about 110 m. S. of Grodno. In 1794, Suwaroff gained here a victory over the Poles. *Pop.* 18,500.

Brze'zan, or BRZEZANY, a town of Austrian Galicia, on the Zlota-Lipa, about 54 m. S.E. of Lemberg; *pop* 8,765.

Buache. See GARDEN ISLAND.

Buaze, (*bu'aize.*) (*Bot.*) A South-African plant found growing in the Maravi country by Dr. Livingstone. It affords a remarkably strong fibre, which is used by the natives for stringing beads upon. The botanical characters and relations of the plant have not yet been ascertained.

Bub'ble, *n.* [Du. *bobbel.*] That which rises in boils or bulbs; a small bladder or vesicle of water or other fluid, inflated with air; — that which will burst easily and suddenly.

—A vain project; a delusion; a fraud.

—*v. n.* To rise in bubbles; to run with a gurgling noise.

—*v. a.* To cheat; to deceive or impose upon.

Bub'bler, *n.* A cheat. (R.)

(*Zoöl.*) A fish found principally in the Ohio River, and so designated from a peculiar grunting noise it makes.

Bub'bly, *a.* Abounding in bubbles; bubbling.

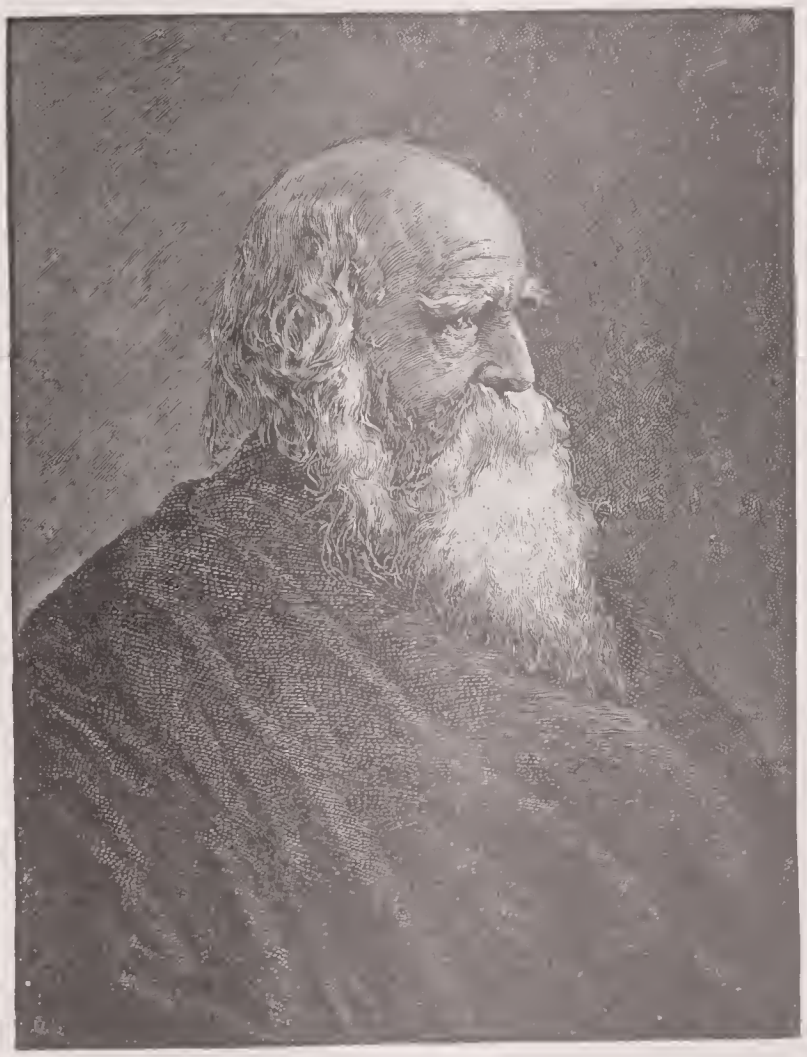
Bub'by, *n.* [O. Fr. *poupe*, a teat, a woman's breast.] A cant term for a woman's breast.

Bub'by, *n.* [From BROTHER.] A brother. (A term colloquially used among small boys.)

Bubo, (*bū'bo,*) *n.*; *pl.* BUBOES. [Lat. *bubo*; Gr. *boubōn*, the groin.] (*Anat.*) The GROIN, *q. v.*

(*Med.*) A tumor in the groin, or a swelling of the glands situated in the armpit (*axilla*), or among those in groin (*inguen*), and generally caused from the absorption of irritating matter, such as venereal or other specific poisons. — *B.* are either constitutional or local. In the first instance they may occur in any part of the body, and in any number, — as in the disease known as the plague, when the *B.* becomes a symptom of the disease; or they occur locally, from irritation applied to some part in the neighborhood, — as in the armpit from a prick in the finger or hand during dissection, and in the groin from a cause already hinted at. *B.* are, again, sympathetic, and arise entirely from over-exertion, or an injury applied to the glands in some remote part, but in connection with the one that forms the swelling. Thus, long standing, or a fatiguing journey, will cause a *B.* in the groin to rise in a few hours. In consequence of their hardness and slow suppuration, *B.* are generally extremely painful, and cause considerable inconveuience. See BUBONIC PLAGUE, in SEC. II.

(*Zoöl.*) The Great-horned, Cat, or Eagle owls, a genus of the *Strigidæ* or Owl family, characterized by large size, robust and powerful form, conspicuous ear-tufts, and very large eyes. There are 15 species of this genus. The Great-horned Owl, *B. Virginianus*, is but little inferior in size to the golden eagle; and is very destructive to young fawns, hares, rabbits, rats, moles, reptiles, partridges, grouse, and other game. It is found in almost every quarter of the United States; frequenting deep forest glens, and making its nest in the fissures of rocks, ruins of buildings, &c. "Along the mountainous shores of the Ohio, and amidst the deep forests of Indiana," says Wilson, "this ghostly watchman has frequently warned me of the approach of morning, and amused me with his singular exclamations, sometimes sweeping down and around my fire, uttering a loud and sudden *Waugh O! Waugh O!* sufficient to have alarmed a whole garrison. He has other nocturnal solos, no less melodious, one of which very strikingly resembles the half suppressed screams of a person suffocating, or throttled, and cannot fail of being exceedingly entertaining to a lonely benighted traveller, in the midst of an Indian wilderness." "There is something in the character of the owl so recluse, solitary, and mysterious, something so discordant in the tones of its voice, heard only amid the silence and gloom of night, and in the most lonely and sequestered situations, as to have strongly impressed the



William Cullen Bryant

1794–1878

minds of mankind in general with sensations of awe, and abhorrence of the whole tribe. The poets have indulged freely in this general prejudice; and in their descriptions and delineations of midnight storms and gloomy scenes of nature, the owl is generally introduced to heighten the horror of the picture. Ignorance and superstition, in all ages and in all countries, listen to the voice of the owl, and even contemplate its physiognomy with feelings of disgust and a kind of fearful awe." "Nothing is a more effectual cure for superstition than a knowledge of the general laws and productions of nature; nor more forcibly leads our reflections to the first, great, self-existent CAUSE of all, to whom our reverential awe is then humbly devoted, and not to any of his dependent creatures. With all the gloomy habits and ungracious tones of the owl, there is nothing in this bird supernatural or mysterious, or more than that of a simple bird of prey, formed for feeding by night, like many other animals, and

Fig. 433. — GREAT-HORNED OWL, (*Bubo Virginianus.*)

of reposing by day. The harshness of its voice, occasioned by the width and capacity of its throat, may be intended by Heaven as an alarm and warning to the birds and animals on which it preys to secure themselves from danger. The voices of all carnivorous birds and animals are also observed to be harsh and hideous, probably for this very purpose." Its general color is ferruginous, varied with larger and smaller spots and markings of brown, black, and gray; together with innumerable minute specks. The larger wing- and tail-feathers are obscurely varied by dusky transverse bars; the bill is black; the eyes very large, and of a golden-orange color; the legs are short and strong, thickly clothed down to the very claws with fine downy plumes; and the claws are extremely large, strong, and black. It rarely lays more than two eggs, which are larger and rounder than those of a hen, and of a reddish-brown color, with darker blotches and variegations.

Bubon'occle, *n.* (*Med.*) An old medical term for a rupture at the bottom of the belly. — See HERNIA.

Bucatun'na, in *Mississippi*, a post-office of Wayne co.

Buc'cal, *a.* [From Lat. *bucca*, cheek.] Belonging, or relating, to the cheek.

B. Glands. (*Anat.*) Mucous follicles, seated in the buccal membrane, opposite the molar teeth. They secrete a viscid humor, which mixes with the saliva, and lubricates the mouth. — *B. Artery*, arises from the internal maxillary, and distributes its branches to the cheek, and especially to the buccinator muscle. — *B. Membrane*, the mucous membrane which lines the interior of the mouth.

Buc'can, *n.* A hurdle composed of sticks.

Buc'can, *v. a.* To prepare beef by cutting it into long pieces, and salting, and smoking over a *buccan* or *boucan*. See BUCCANEER.

Buccaneer, Bucanier, (*buk-a-nēr'*,) *n.* [Fr. *boucanier*, from *boucan*, or *buccan*, a word of the Carib Indians signifying a place or apparatus made for cooking and feasting on meat prepared in a peculiar manner (see BUCCAN); hence those who established themselves on the West India Islands for the purpose of smoking meat were called "Buccaneers." — Wedgewood, *Dict. of Eng. Etym.*] The pirates who infested the coasts of the West Indies and Spanish America during the 17th and 18th centuries were so called. The association of these pirates is said to have commenced as early as the middle of the 16th century; but in 1625 they obtained possession of St. Kitt's, and afterwards of Tobago, which thenceforward became for a long time the head-quarters of the *B.*, who formed a sort of seafaring republic, composed chiefly of English and French adventurers. Their chief object was war against the Spaniards, and plunder of their ships and settlements. After the peace of Ryswick, in 1697, they gradually disappeared from the seas. By French writers these rovers are commonly called *Flibustiers*, apparently a corruption of the English word *freebooters*. *The History of the Buccaneers of America*, by James Burney, is a well-known and entertaining work.

Buccaneer', *v. i.* To act as a buccaneer; to commit piracy.

Buccella'tion, *n.* [From Lat. *buccella*, a mouthful.] The act of dividing into large pieces.

Bucci'na, *n.* [Lat.] (*Antiq.*) A kind of horn-trumpet, anciently made out of a shell (*buccinum*), the form of which is exhibited in the two specimens annexed. In the former it is curved for the convenience of the performer, with a very wide mouth, to diffuse and increase the sound. In the next, it still retains the original form of the shell. The *buccina* was distinct from the *cornu*; but it is often confounded with it. The *buccina* seems

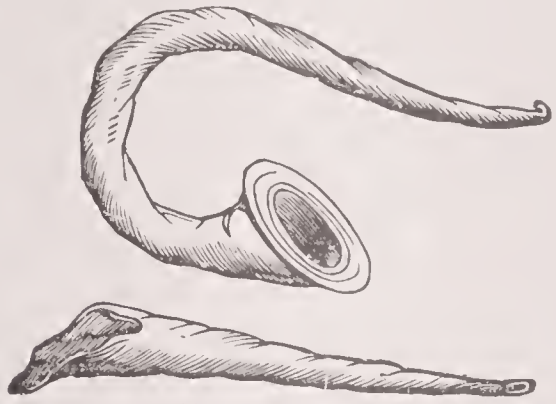


Fig. 434. — BUCCINÆ, (trumpets.)

to have been chiefly distinguished by the twisted form of the shell, from which it was originally made. In later times it was carved from horn, and perhaps from wood or metal, so as to imitate the shell. The *buccina* was chiefly used to proclaim the watches of the day and of the night, hence called *buccina prima, secunda*, &c. It was also blown at funerals, and at festive entertainments, both before sitting down to table and after. — In modern times, the name is sometimes applied to a herdsman's horn.

Buc'cinal, *a.* [Lat. *buccina*.] Shaped like a trumpet.

Buccina'tor, *n.* [From Lat. *buccina*, a trumpet, because it is chiefly used by the trumpeter in sounding his instrument.] (*Anat.*) The name of the principal muscle of each cheek. It assists in mastication, by pushing the food back towards the teeth; and if the cheeks be distended by air, its contraction forces it out.

Buc'cinum, *n.* (*Zoöl.*) See WHELK.

Buc'co, *n.* (*Zoöl.*) A gen. of birds. See BARBET.

Bucen'taur, *n.* [Gr. *boûs*, an ox; *kentauros*, a centaur.] (*Myth.*) A mythological monster, half man and half ox. — See CENTAUR.

(*Hist.*) The name of the state galley of the Venetian doges, in which they annually sailed over a portion of the Adriatic on Ascension Day, and dropping a ring into the sea, espoused it in the name of the republic, with these words, "*Desponsamus te, mare, in signum veri perpetuique Domini.*" The date of the original *B.* is not very clearly ascertained, but its use on the feast of Ascension is traced to a victory obtained in the year 1177 by the Doge Sebastiano Ziani over the Emperor Frederic Barbarossa. The Venetians had espoused the cause of Pope Alexander III., who had taken refuge in the Lagune. The doge with a fleet not mustering

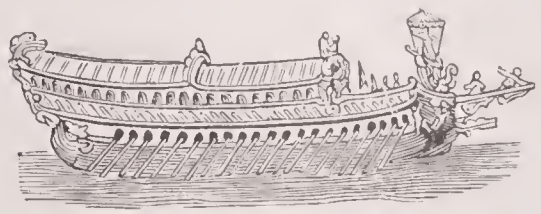


Fig. 435. — BUCENTAUR.

half the number of vessels which Pisa, Genoa, and Ancona had placed under the command of the emperor's son Otho, encountered them off the coast of Istria. After a battle which lasted more than six hours, Otho, with 48 out of his 65 galleys, was taken prisoner, two of his ships having been destroyed. The Pope received the conquerors on the Lido, and presenting Ziani with a golden ring, addressed him in these words: "Take this ring, and with it take, on my authority, the sea as your subject. Every year, on the return of this happy day, you and your successors shall make known to all posterity that the right of conquest has subjugated the Adriatic to Venice as a spouse to her husband." After the fall of the Venetian republic the ceremony was discontinued.

Buceph'alus, [Gr. *bous*, bull, *kephalos*, head.] (*Hist.*) The celebrated horse of Alexander the Great, whose head resembled that of a bull, whence his name. Alexander was the only one who could mount him. In an engagement in Asia, where he received a heavy wound, he immediately hastened out of the battle, and dropped dead as soon as he had set down the king in a safe place. Alexander built on the river Hydaspes, in India, a city which he called after his name.

Bu'cer, MARTIN, one of the Protestant reformers, who first united with Luther, but afterwards inclined to Zuinglius, though he labored much to bring the two parties into a union. He came to England in 1549, and was made divinity professor at Cambridge. B. in Alsace, 1491; D. 1551. In the reign of Mary, his body was taken up and burnt. His writings are very numerous.

Bucer'idæ, *n. pl.* (*Zoöl.*) The Hornbill fam. of birds, ord. *Insessores*. The species are remarkable for the very large size of the beak, and for an extraordinary protuberance with which this is surmounted. They are both carnivorous and frugivorous, feeding not only on various berries, fruits, and other vegetable matter, but also on the smaller kinds of animals, as mice and small birds, as well as on insects and any putrid animal substance. Their large bills are of much less real than apparent strength, and they vary considerably in appearance during the different periods of their age, the upper process, or excrescence, not exhibiting its genuine form till the full growth of the bird. When cut across, it is found to consist of a very loose bony substance; its interior being traversed in every direction by osseous fibres, the interspaces being quite hollow: all the bones, indeed, of this remarkable bird being more permeated by air than in any other species. They inhabit the warm parts of Asia and Africa; and in their general habits they seem to bear a considerable resemblance to the Crows. The larger species are very difficult of approach; and they perch on the branches of high trees, where their vision can command an extensive range. They may be said to hold the same rank in the old continent that the Toucans do in America; not only from the enormous size of the bill, but also from their habit of swallowing their food whole, throwing it up into the air, and catching it as it falls. There are many species; but one will suffice for our description. — The Rhinoceros hornbill, *B. rhinoceros*, is about the size of, though rather more slender than, a hen turkey: its color black, except the lower part of the belly and tip of the tail, which are white; the bill is about ten inches in length, slightly curved, sharp-pointed, irregularly serrated on the edges, and furnished at the base of the upper mandible with an immense appendage in the form of a reverted horn; a longitudinal black line divides this process, the part above it being of a bright red, the part below yellow, and the base of it black: the bill itself is black at the base, tinged with bright red, and the remainder is yellow; the legs are short, strong, and of a pale yellow color.

Fig. 436. — RHINOCEROS HORNBILL, (*Buceros rhinoceros.*)

Bu'ceros, *n.* [Gr. *boukerōs*, from *bous*, an ox, and *keras*, a horn.] (*Zoöl.*) A genus of birds, fam. BUCERIDÆ, *q. v.*

Buch, LEOPOLD VON, a distinguished German geologist, B. 1774. He is chiefly remembered by his explorations in, and investigations of, the volcanic mountain-system of Auvergne, by means of which he succeeded in laying the sure foundations of the rational dynamics of geology. D. 1853.

Buchan, (*bōōk'an,*) JOHN STEWART, EARL OF, the second son of Robert, Duke of Albany, Regent of Scotland, and grandson of King Robert II., B. 1380. In 1420, *B.* passed over to France at the head of 6,000 Scottish troops, to the assistance of the Dauphin, afterwards Charles VII., then hard pressed by the English; and on March 22d, 1421, gained a signal victory at Beaugé in Anjou, over the English commanded by the Duke of Clarence, brother of Henry V., who was slain in a personal encounter with the Earl. For this service the Dauphin rewarded *B.* with the office of Constable of France. He was killed at the battle of Verneuil, Aug. 17, 1424.

Buchan'an, GEORGE, an eminent Scottish divine and historian, B. 1506. After being educated at the universities of St. Andrew's and Paris, he returned to Scotland, where he soon turned his attention to literature, producing the famous satires *Franciscanus* and the *Somnium*, in which he lashed with caustic severity the mode of life of the monastic orders of that day. For this he was persecuted, and taking refuge in France, became professor of Latin in the College of Guienne at Bordeaux: while here, he wrote his remarkable Latin tragedies, the *Baptistes* and the *Jephthes*, and enjoyed the friendship of Montaigne and the elder Scaliger. He next successively resided at Paris, and in Lisbon, and in 1554 published his celebrated translation of the *Psalms*, commenced

during his incarceration in a Portuguese dungeon. Returning to Scotland, he became classical tutor to Mary Queen of Scots, and received high ecclesiastical preferment. In 1571, *B.* became preceptor to the young King James VI. (afterwards James I. of England.) In 1579 appeared his great work the *De Jure Regni apud Scotos*, an eloquent appeal on behalf of civil liberty; but which was afterwards condemned by the parliament, and suppressed. His last work was the *History of Scotland*, written in Latin, and remarkable for the richness, force, and perspicuity of its style. *B.* has been much censured for the harsh manner in which he has treated the character of the unfortunate Mary; a censure from which, however, he must be exonerated, if we are to trust the revelations which lately discovered documents have thrown on that sad and eventful history. *B.* D. 1582.

Buchan'an, JAMES, a distinguished American statesman, and 15th President of the U. States, was B. in Franklin co., Pa., April 13, 1791. After completing his education at Dickinson College, he studied law, and was a successful practitioner during the short portions of his life which were not devoted to politics. He began his political career as a Federalist, and as such was a member of the Pennsylvania legislature in 1814–15. In 1821, he was chosen to the House of Representatives, of which he continued a member for 10 years. Upon the Democratic party being formed upon its new basis by the adherents of Gen. Jackson, *B.* became a prominent and active member of it, and shared its honors and fortunes for over 30 years. In May, 1831, he was appointed minister-plenipotentiary to Russia, as successor to the celebrated John Randolph, which post he held for three years. On his return he was elected a senator of the U. States, and continued so for 8 years. On the formation of the Polk administration, begun in 1845, *B.* was appointed Secretary of State, and retained that office until the Whigs came into power under Gen. Taylor, four years afterwards. In 1853, *B.* was appointed American minister to Great Britain, and, in 1856, was chosen President of the U. States by 174 electoral votes, against 114 which were cast for Colonel Fremont, and 8 for Mr. Fillmore. During his term of presidency, *B.* found himself placed in a difficult position, owing to the acting of the Fugitive-Slave Law, the Kansas business, and the growing hostility of the Southern people; he did his best, however, to avert for as long as possible the impending contest. His MSS. and papers left at his death to edit, finally came into the hands of Mr. Curtis, who pub. his biography in 1883. D. June, 1868.

Fig. 437.
BUCHANAN.

Buchanan, ROBERT, an eminent English poet, B. 1841, and educated at Glasgow University. His principal works are, *Understones*, (1860;) *Idyls and Legends of Invorburn*, (1865:) *London Poems; Wayside Posies*, and the *Danish Ballads*, (1866); *Forylove Manor*, (1884); *Sophia*, (1886); *The City of Dreams*, (1886).

Buchan'an, in *Georgia*, a post-village, cap. of Haralson co., 50 m. W. by N. of Atlanta.

Buchanan, in *Iowa*, a N.E. co., with an area of 576 sq. m. Watered by Wapsipinicon River, and by Buffalo Creek. *Soil*, fertile. *Surface*, well timbered. *Cap.* Independence.

—A township of Jefferson co.

—A township of Page co.

Buchanan, in *Kentucky*, a P. O. of Lawrence co.

Buchanan, in *Michigan*, a flourishing post-village and township of Berrien co., on St. Joseph's River, 197 miles W. by S. of Detroit, and 6 miles W. of Niles. *Manf.* Chiefly flour, furniture, and lumber.

Buchanan, in *Minnesota*, a village of Dodge co., 20 m. N.W. of Rochester River.

—A village of Lake co., on the N.W. bank of Lake Superior, 25 m. N.E. of Superior city.

Buchanan, in *Missouri*, a W.NW. co., divided from Kansas by the Missouri River. *Area*, 415 sq. m. It is drained by Little Platte River, and Castite and Livingston creeks. *Cap.* St. Joseph.

—A post-office of Bollinger co.

Buchanan, in *Nebraska*, a village of Platte co., near the Platte River, 62 m. W. by N. of Omaha city.

Buchanan, in *N. Carolina*, a post-office of Granville co.

Buchanan, in *Ohio*, a post-office of Pike co.

Buchanan, in *Pennsylvania*, a post-office of Alleghany county.

Buchanan, in *Texas*, former name of a central county, watered by the Clear Fork of the Brazos river. In 1862 its name was changed to STEPHENS.

—A post-village of Bowie co., 50 m. S.W. of Dallas.

Buchanan, in *Virginia*, a village of Botetourt co., 181 m. W. of Richmond, on James River.

Buchanan, in *Virginia*, a county on the confines of Kentucky. *Area*, 500 sq. m. Drained by the Louisa fork, and the Russell fork of the Sandy River. *Surface*, mountainous. *Cap.* Grundy.

Buchanan, in *Wisconsin*, a village of Iowa co., on the Wisconsin River, 22 m. N. of Mineral Point.

Buchanan, in *Wisconsin*, a township of La Crosse co.; now called WASHINGTON.

—A township of Outagamie co., on Fox River, 4 m. E. of Appleton.

—A township of Manitowoc co., now called LIBERTY.

Buchanan River, in *W. Virginia*, rising in Randolph co., and flowing E.N.E., empties into Tygart's Valley River. (Generally spelled *Buckhannon.*)

Bu'charest, or **Bu'korest,** a city of Europe, cap. of the kingdom of Roumania, on the Damboritza, 37 m. from its confluence, with the Danube, and 280 W. N.W. of Constantinople; Lat. 44° 26′ 35″ N., Lon. 46° 47′ E. It is situated in a vast swampy plain, and presents a curious conglomeration of civilization and barbarism, it being built on no regular plan, but affording to the view mud cabins, shingle-roofed brick-houses, and spacious modern hotels in heterogeneous medley. *B.* also presents a curious mixture of European and Oriental habits and costumes, half the inhabitants wearing hats and coats, and the other half *calpacs and pelisses.* The Cathedral is a fine edifice, completed in 1884, and the streets are now well lighted and paved. An elaborate system of fortification was undertaken in the year 1885 and the royal palace rebuilt. *B.* contains the palace of the *hospodar* or prince, a vast number of churches and monasteries, several hospitals, and a large number of *Khans* or Oriental inns. Since 1834, the college of St. Sauvain has been organized, and a lyceum, a society of belles-lettres, a public library, and an agricultural society. *B.* is principally distinguished for the profligacy of manners that prevail. Gambling-houses are abundant, and prostitution obtains to a greater extent than in any other European city of the same size. The trade of this place is very considerable — the exports chiefly consisting of horned cattle and hogs, wool, butter, wheat, hides, tallow, and wax. Watchmaking and jewelry work is also extensively carried on. *B.* was visited in 1847 by a tremendous fire which made great ravages; it has, however, been partially rebuilt on an improved plan. In 1698 the seat of government was transferred to *B.* (then a miserable village), from Tergovest, the ancient cap.

Buch'olzite, *n.* (*Min.*) A variety of sillimanite, of a whitish-grayish, or pale brown color, with a lustre approaching to adamantine. It is a sesquisilicate of alumina, and is found in fibrous masses at Chester on the Delaware, and at other places in the Northern States.

Bu'chu Leaves, *n. pl.* See BAROSMA.

Buck, (*buk,*) *n.* [Swed. and Goth. *byka*, to steep clothes in lye, and rub them with the hands; O. Fr. *buquer*, to strike, to thump, because clothes so steeped were also thumped.] An alkaline lye in which clothes are steeped or soaked in order to their being cleansed or whitened.

"*Buck!* I would I could wash myself of the *buck*." — *Shaks.*

—The clothes so steeped; a wash of clothes.

"Of late, not able to travel with her furred pack, she washes *bucks* here at home." — *Shaks.*

—*v. a.* To steep or wash clothes in lye.

"Here is a basket; he may creep in here, and throw foul linen upon him; as if it were going to *bucking*." — *Shaks.*

(*Mining.*) To bruise small copper by hand, in order to separate the pure ore from the useless waste.

Buck, *n.* [A.S. *buc, bucca*, a he-goat; O. Ger. *boch*; Ger. *bock*; Norse, *buck, bukki*, a he-goat; Sansk. *châga*, a she-goat. Root *bug;* Sansk. *bhaj*, to bend.] Literally, an animal with bent horns; specifically, the male of the fallow deer. A *B.* is called a *fawn* in his first year; a *pricket* in his second; a *sorel* in his third; a *sore* in his fourth; a *B. of the first head* in his fifth, and a *great B.* in his sixth. The female of the *B.* is termed a *doe.* The term *B.* is also applied to the male of the goat, sheep, rabbit, and hare. The male of the red deer is termed a *stag*, or *hart*, and never called a *B.*—See ANTLER, DEER, STAG.

—A cant term for a gay, smart, dashing young fellow; a fop.

Buck, *v. i.* To copulate as bucks and does.

Buck, in *Illinois*, a township of Edgar co.

Buck, in *Ohio*, a township of Hardin co.

Buck, in *Pennsylvania*, a post-office of Lancaster co.

—A township of Luzerne co.

Buckataw'ing River, in *Mississippi*, flows into the Chickasawha River from the N.

Buck'-basket, *n.* The basket in which clothes are carried to the wash.

Buck'bean, *n.* (*Bot.*) See MENYANTHES.

Buck'board, Buck'wagon, *n.* A kind of clumsy four-wheeled vehicle, formed of a long board resting its either end on each axle-tree, and having a seat placed upon it.

Buck Branch, in *Georgia*, a district in Clark county.

Buck Branch, in *Illinois*, a post-office of De Kalb co.

Buck Bridge, in *New York*, a post-office of St. Lawrence co., 18 m. E. of Ogdensburg, on Grass River.

Buck Bridge, in *Illinois*, a village of De Kalb co., 150 m. N.N.E. of Springfield.

Buck Creek, in *Indiana*, empties into Sugar Creek in Shelby co.

—A stream of Harrison co., falling into the Ohio at Manksport.

—A stream of Henry co., emptying into the W. fork of White River at Yorktown.

—A township of Greene co.

—A township of Hancock co.

Buck Creek, in *Iowa*, a post-office of Bremer co.

Buck Creek, in *Ohio.* See LAGONDA CREEK.

Buck Creek, in *S. Carolina*, a village of Spartanburg district.

Buck'er, *n.* (*Mining.*) A bruiser of the ore.

Buck'et, *n.* [A. S. *buc*, with Dan. postpositive article *—et.* The Dan. is *buk*, whence Scot. *bucket.*] A small tub, pail, or vessel in which water is drawn or carried.

"The old oaken *bucket*, the iron-bound *bucket*,
The moss-covered *bucket*, which hung in the well." *Woodworth.*

(*Mech.*) A species of cavities placed on the circumference of a water-wheel, and into which the water is delivered to set the wheel in motion. By the revolution of the wheel the *B.* are alternately placed so as to receive the water, and inverted so as to discharge it, the loaded side always descending.

(*Marine Eng.*) The float of a paddle-wheel.

Fire-bucket. A bucket in which water is carried to put out a fire.

Buck'ety, *n.* A pasty substance obtained from buckwheat, with which weavers dress their webs.

Buck'eye, *n.* (*Bot.*) See ÆSCULUS.

—A citizen of the State of Ohio; a cant word probably used in allusion to the abundance of buckeyes in that State. — The State is sometimes called the *Buckeye State.*

Buck'eye, in *California*, a village of Shasta co., 6 m. N.E. of Shasta.

—A post-village of Yolo co.

Buck'eye, in *Georgia*, a village of Laurens co., 12 m. N. of Dublin.

Buck'eye, in *Illinois*, a township of Stephenson county.

Buck'eye, in *Kentucky*, a post-office of Garrard co.

Buck'eye, in *Minnesota*, a post-office of Freeborn co.

Buck'eye Cottage, in *Ohio*, a P. O. of Perry co.

Buck'eye Cove, in *W. Virginia*, a post-office of Pocahontas co.

Buck'eyed, *n.* Having bad eyes; a term used among horse-dealers.

Buck'eystown, in *Maryland*, a post-village of Frederick co., abt. 40 m. N.W. of Washington.

Buck'field, in *Maine*, a post-village and township of Oxford co., 40 m. N. by W. of Portland, 13 m. from Mechanic Falls.

Buckhan'non, in *W. Virginia*, a twp. and post-vill., cap. of Upshur co., 95 m. S.S.E. of Wheeling.

Buck'hart, in *Illinois*, a township of Fulton county.

—A township of Christian co.

Buck'head Creek, in *Georgia*, flowing into the Ogeechee River, in Burke co.

—A post-village of Morgan co., 96 m. W. of Augusta.

Buck Hollow, in *Vermont*, a post-office of Franklin co.

Buck Horn, in *Arkansas*, a post-office of Independence co.

Buck Horn, in *Ill.*, a twp. of Brown co.

Buck Horn, in *Iowa*, a post-office of Mahaska co.

Buck Horn, in *Kentucky*, a post-office of Ohio co.

Buck'horn, in *Louisiana*, a P. O. of Bienville parish.

Buck'horn, in *Mississippi*, a P. O. of Pontotoc co.

Buck'horn, in *Pennsylvania*, a P. O. of Columbia co

Buck Horn, in *W. Virginia*, a P. O. of Preston co.

Buck'ie, *n.* A Scotticism for the *Fusus antiquus*, and other marine shells, which, when applied to the ear, emit a sound like the roaring of the waves.

Devil's (*or Deil's*) *Buckie.* A madcap young fellow; a mischievous youth; a froward youngster. (Scot.)

Buck'ing, *n.* Act or operation of steeping linen in lye for bleaching. — The lye so used. — A washing of clothes. — A punishment used in the U. S. Army.

(*Mining.*) A term applied in England to a method of breaking the poor foul copper-ore smaller by hand, with small flat-irons, called *bucking-irons*, in order to wash and separate the pure ore from the waste dross; the same term is used in the lead-mines; but Pettus, in his *Plata Minor*, gives it the signification of washing or wet-stamping ores.

Buck'ingham, a title borne by many heads of great houses conspicuous in English history. Of the early holders of this title we may mention THOMAS PLANTAGENET, youngest son of King Edward III.; his heir, HUMPHREY, EARL OF STAFFORD, was created DUKE OF *B.* in 1401; and *his* grandson, HENRY STAFFORD, "the deep-revolving, witty Buckingham" of Shakspeare, after assisting Richard III. to mount the throne, was put to death

Fig. 438. — GEORGE VILLIERS, DUKE OF BUCKINGHAM.
(From a print after Michael Mierevelt.)

by him in 1483. His son EDWARD, DUKE OF *B.*, offended Wolsey, became suspected by Henry VIII., and was attainted and beheaded in 1521. He was the last noble

who held the office of Lord High Constable of England. The title of *B.* was not revived till 1617, in the person of *B.*, GEORGE VILLIERS, DUKE OF, who occupies a curious place in history, being in many respects the lord and master of two English monarchs, and the reputed favorite lover of a French queen. He was B. in 1592, in Leicestershire, of good family, and was educated in all the fashionable accomplishments of the day. As a youth he was preëminently graceful in dress, in manner, in riding, in dancing, in speech; and from his earliest years he had the position of one of those arrogant favorites who win easy pardon for every caprice. He was sent to France for two or three years, during which he devoted himself to the arts and charms of high society, and returned to England at the age of 21. Presenting himself at court, he attracted the notice of James I. A few days after his appearance, young Villiers was made cup-bearer, and in a few weeks succeeded the Earl of Somerset as chief favorite. Offices and honors were showered upon him in profusion. He was knighted and made gentleman of the chamber, and Knight of the Garter, and he became by rapid strides a baron, a viscount, an earl, a marquis, Lord High Admiral of England, Master of the Horse, and entire disposer of the favors of the king. He had learned that in dealing with a weak monarch, arrogance is victory. Called to guide the grave affairs of a kingdom, through his influence with James, Villiers treated events which determined the destinies of nations as though they were intrigues to gratify personal pride and passion. The famous journey of Prince Charles to Spain, for the purpose of seeing his intended bride, the Infanta, was planned by Villiers. In Spain, *B.*'s gay and independent familiarity of manner astonished the formal courtiers. The preliminaries of the marriage were arranged, but afterwards broken off by James under *B.*'s influence, guided as much probably by hatred of the Spanish minister, Olivarez, as by motives of state policy. On the death of James and the accession of Charles I., the Duke's position at court was unchanged; as heretofore, the patronage alike in church and state was at his disposal, but his general popularity was on the wane. He resented his increasing disfavor with the public with a proud and indignant scorn, and to save him from impeachment by the Commons, Parliament was hastily dissolved and *B.* dispatched to Paris to conduct the Princess Henrietta to England as Charles's bride; and, while there, it is said that he ventured to address the French Queen Anne of Austria, not as an ambassador, but as a lover. Threatened with assassination if he dared to repeat such insolence, he swore that he "would see and speak with that lady, in spite of the strength and power of France," and rumor went that he did not break his wild vaunt, and more, that the Queen herself secretly favored his addresses. Be this as it may, he was obliged to leave the French court; and being unable to obtain permission to return, he openly espoused the cause of the Huguenots. The Duke himself went as admiral and general of the expedition against France, which terminated in his defeat at the Isle of Rhé; and subsequently made preparations for a new expedition to relieve Larochelle, then hotly pressed by the royal forces. *B.*'s unpopularity now reached its acmé. The Commons impeached him as the cause of the national misfortunes, and the people sang ribald ballads anticipating his downfall. *B.*, willing to stake all upon the expedition to assist Larochelle, spent £60,000 of his own money upon the fleet, and declared that he would be the first man who should set his foot on the dyke before Larochelle, "to die or do the work." Proceeding to Portsmouth to embark with the fleet, he was there assassinated by one John Felton, a lieutenant whose claims he had slighted, Aug. 23, 1628.

B., GEORGE VILLIERS, second DUKE OF, son of the preceding, B. 1627. He early shared in the troubles of the civil war, as a devoted adherent of the royal cause, and became the attendant of Charles II. in his exile in France and Holland. At the Restoration, *B.* became, like his father, first favorite to the reigning king, and distinguished himself by his wit, profligacy, magnificence of life, and political versatility. He succeeded in overthrowing Lord Clarendon, and forming the famous Cabal (*q. v.*) government, when he became virtual prime minister of England. He eventually lost to a great extent the royal favor, and impoverished by his lavish expenditure, retired to one of his estates, where he D. in 1688. *B.* was a man of brilliant but prostituted talents, and the author of several comedies and satires much esteemed in their day, but of which *The Rehearsal* alone is now considered noteworthy.

Buck'ingham, JOHN SHEFFIELD, EARL OF MULGRAVE, and DUKE OF, an English poet and statesman, and the reputed lover of Queen Anne of England, B. 1649. He served with gallantry in the navy during his youth, maintained a politic and dignified attitude during the Revolution of 1688, and was, on the accession of Anne, created *Duke of Buckinghamshire.* He was an active ally of the Tory party, and D. 1721. Dryden is said to have revised *B.*'s *Essay on Satire*, while his *Essay on Poetry* was applauded both by Dryden and Pope.

Buck'ingham, or BUCKS, an inland co. of England, having N. Northamptonshire, E. the counties of Bedford, Hertford, and Middlesex, S. Berks, and W. Oxford. Shape very irregular. *Area*, 466,932 acres, of which about 440,000 are arable, meadow, and pasture lands. The vale of Aylesbury, one of the richest tracts in the kingdom, occupies the centre of the county, and is noted for its fine dairy produce and poultry. Agriculture and the rearing of farm stock form the principal industry. Straw plat is also manufactured on a pretty extensive scale. *Prin. towns.* Aylesbury, Marlow, Buckingham, and Wycombe.

Buck'ingham, a borough of the above co., on the Ouse, 56 m. N.W. of London, lying in the centre of a fine agricultural country. *Manf.* Paper. *Pop.* 8,388.

Buck'ingham, in *Connecticut*, a post-office of Hartford co.

Buck'ingham, in *Iowa*, a post-township of Tama county.

Buck'ingham, in *Pennsylvania*, a post-township of Bucks co., 27 m. N. by E. of Philadelphia, watered by Neshaminy Creek.

—A township of Wayne co.

Buck'ingham, in *Virginia*, a S.E. central county, with an area of 680 sq. m. It is bounded on the N. and N.W. by the James River, and on the S. by the Appomattox River. *Surface*, undulating. *Soil*, tolerably fertile. *Cap.*, Buckingham C. H.

Buckingham Court-House, in *Virginia*, a town, the capital of Buckingham co.

Buck'ingham Mine, in *Virginia*, a post-village of Buckingham co.

Buck'ing-iron, *n.* (*Mining.*) The tool with which the ore is pulverized.

Bucking-kier, (*buck'ing-keer,*) *n.* A large boiler of peculiar construction, used in the process of bleaching clothes.

Buck'ing-plate, *n.* (*Mining.*) An iron plate to receive the ore for the process of bucking.

Buck'ing-stool, *n.* A wooden bench or block on which a bucking-utensil is set.

Buck'ish, *a.* Pertaining to a buck; foppish in manner; as, a *buckish* fellow.

Buck'ism, *n.* Quality or condition of being a buck or dandy; foppery. (R.)

Buck'land, in *Connecticut*, a post-vill. of Hartford co.

Buck'land, in *Massachusetts*, a post-township of Franklin co., on Deerfield River, about 100 m. W. by N. of Boston.

Buck'land, in *Virginia*, a post-vill. of Prince William co., 116 m. N. of Richmond.

Buck'land, WILLIAM, D.D., F.R.S., an eminent English geologist, B. 1784. He was reader in geology to the university, and president of the Royal Geological Society. His greatest works are *Vindiciæ Geologicæ* (1820), the *Reliquiæ Diluvianæ* (1823), and the *Bridgewater Treatise* (1836). In 1845 he was appointed Dean of Westminster, and D. in 1856, having for some years previous suffered from a darkening of his fine intellect.

BUCKLAND, FRANCIS TREVELYAN, a distinguished English naturalist and writer on pisciculture, is the son of the above, and was B. in 1826. *B.*'s best-known works are his popular *Curiosities of Natural History*, and *Fish-hatching.* D. 1880.

Buck'landite, *n.* (*Min.*) A variety of epidote, consisting of silica, alumina, oxide of iron, and lime.

Buckle, (*buck'l,*) *n.* [Fr. *boucle*, from L. Lat. *buccula*, the part of the shield through which the arm passed; Ger. *buckel*, a knob, a stud, a boss.] An instrument (perhaps originally round and protuberant) to fasten dress, harness, &c.; a link of metal with a tongue or catch, made to fasten one thing to another.

—A curl of hair, or the state of the hair crisped and curled.

"The greatest beau was drest in a flaxen periwig, . . . and lets it lie in *buckle* for a whole half year."—*Spectator.*

—A grimace; a peculiar wry expression of the face.

—*v. a.* To fasten with a buckle or buckles.

"Thus ever when I *buckle* on my helmet,
Thy fears afflict thee." — *Philips.*

—To prepare for action (reciprocal); to enter vigorously upon work.

"And catching up in haste his three square shield
And shining helmet, soon him *buckled* to the field."—*Spenser.*

—To join in battle.

"Until the front of the avant-guard were *buckled* with them in front." — *Hayward.*

—*v. i.* To bow or bend, as with heat or other motive power.

"The wretch, whose fever-weaken'd joints,
Like strengthless hinges, *buckle* under life." — *Shaks.*

—To engage with; to encounter; to enter upon some close contest. (Generally followed by *with.*)

"For single combat, thou shalt *buckle with* me." — *Shaks.*

To buckle to. To apply to in earnest; to enter upon with energy; to prosecute with vigor.

"Endeavouring to make them *buckle* to the law." — *Locke.*

Buck'le, HENRY THOMAS, an English author, B. in Kent, 1822. He early devoted himself to study, relieved by the relaxation of chess, at which he became one of the first players in the world. In 1857 appeared the first parts of his *History of Civilization in England*, a work which caused a sensation in the world of letters, and of which many editions have been published both in England and the U. States. This work may be termed a brilliant fragment, inasmuch as its completion was cut short by the premature death of the author, 29th May, 1862.

Buck'ler, *n.* [Fr. *bouclier*, from L. Lat. *buccularium*, or *bocalarium*, from *bucula*, the handle of a shield.] Literally, that which is buckled or fastened to the arm; specifically, a kind of shield or defensive armor, formerly used in warfare. Among the ancient Greeks and Romans (Fig. 194) the *B.* was about 4 feet long, by 2½ wide, made of boards, covered on the inside with linen and sheep-skin, and on the outside with iron plate. In the Middle Ages (Fig. 192), the *B.* was round, oval, or square in shape, and was frequently made of wicker-work or of hide, strengthened by metal plates.—Hence, metaphorically, anything that defends or shields from harm.

"This medal compliments the emperor as the Romans did dictator Fabius, when they called him the *buckler* of Rome."
Addison.

(*Pal.*) The anterior segment of the carapax or shell in trilobites.

(*Naut.*) A block of wood made to fit in the hawse-hole of a vessel to prevent water from entering when lurching in a heavy sea.

—*v. a.* To support; to defend.

"Fear not, sweet wench, they shall not touch thee, Kate:
I'll *buckle* thee against a million." — *Shaks.*

Buck'ler-headed, *a.* Armed with a head like a buckler.

Buck'ler-mustard, *n.* (*Bot.*) The common name of the genus *Biscutella*, order *Brassicaceæ*, so named in allusion to their seed-vessels when bursting. They are generally unimportant small annual or perennial plants, with small bright-yellow flowers.

Buck'ler-thorn, CHRIST'S-THORN, *n.* (*Bot.*) See PALIURUS.

Buck'lin, in *Illinois*, a village of Winnebago co., 11 m. N.W. of Rockford.

Buck'lin, in *Missouri*, a post-village of Linn co., 94 m. W. of Hannibal.

Buck'ley, in *Illinois*, a post-vill. of Iroquois co.

Buck'ley, in *Ohio*, a post-vill. of Highland co.

Buck'manville, in *Pennsylvania*, a post-village of Bucks co.

Buck'-mast, *n.* [Scot. *buck*, beech, and *mast.*] The fruit or mast of the beech-tree.

Buck Mountain, in *Pennsylvania*, a post-village of Schuylkill co.

Buck'ner, in *California*, a village of Sacramento co., 10 m. S.E. of Sacramento city.

Buck'ner's Creek, in *Texas*, emptying into the Colorado River.

Buckner's Station, in *Kentucky*, a post-village of Oldham co.

Buck'port, in *Maine*, a township of Oxford co., 30 m. W. by S. of Augusta.

Buck Prairie, in *Missouri*, a village of Lawrence co., 150 m. S.W. of Jefferson city.

Buck'ra, *n.* A white man; used generally by the negro race.

Buck'ra, *a.* White; in contradistinction to black. (Used by the black people.)

Buckram, (*buk'ram,*) *n.* [Fr. *bougran*; It. *bucherame*, from *buco*, a hole.] A coarse linen cloth stiffened with glue, and originally having open holes or interstices.

"Four rogues in *buckram* let drive at one." — *Shaks.*

—*pl.* A name given to the wild garlic.

—*a.* Made of *buckram.*

"I have peppered two of them, . . . two rogues in *buckram* suits."
Shaks.

—Stiff; precise; haughty in manner; as, a *buckram* spinster.

—*v. a.* To make stiff; to fortify as with buckram.

Buck Ranch, in *California*, a village of Plumas co., 16 m. W. of Quincy.

Bucks, in England. See BUCKINGHAM.

Bucks, in *Ohio*, a post-village of Columbiana co.

—A township of Tuscarawas co.

Bucks, in *Pennsylvania*, an E.S.E. county, with an area of about 600 sq. m. It is bounded on the N.E. and on the S.E. by the Delaware River, which separates it from New Jersey. — *Area*, 600 sq. m. — *Surface*, hilly and diversified. — *Soil*, highly fertile, containing valuable deposits of limestone, sandstone, plumbago, &c. — *Cap.* Doylestown. It is one of the three counties founded by W. Penn, in 1682. The inhabitants are generally farmers, who supply Philadelphia with grain, hay, and dairy produce.

Buck's Bridge, in *New York*, a village of Madrid township, St. Lawrence co., 6 m. N. of Canton.

Buck's Creek, in *Georgia*, a stream of Macon co., flowing into Flint River.

Buck's'-horn, *n.* (*Bot.*) See LOBELIA.

Buckshu'tem, in *New Jersey*, a village of Cumberland co., 15 m. S.E. of Bridgeton.

Buck'skin, *n.* The skin of a buck; whence a kind of leather so called.

—A person clothed in buckskin, particularly an American soldier of the Revolutionary war.

—*pl.* Breeches made of buckskin, as worn by English fox-hunters, huntsmen, jockeys, &c.; as, he appeared in scarlet, with *buckskins* and tops (*i. e.* top-boots).

Buck'skin, in *Colorado*, a village of Park county.

Buck'skin, in *Indiana*, a post- vill. of Gibson co.

Buck'skin, in *Ohio*, a thriving township of Ross county.

Bucks'port, in *Maine*, a flourishing post village and township of Hancock co., on the Penobscot, 18 m. S. of Bangor. This place possesses a flourishing shipping business, and is also extensively engaged in the fisheries.

Bucks'port, in *Texas*, a village of Falls co.

Bucks'port Centre, in *Maine*, a post-vill. of Hancock co.

Buck's Ranch, in *California*, a vill. of Plumas co.

Buck'stall, *n.* A contrivance to ensnare deer.

Buck'stone, JOHN BALDWIN, a popular English dramatic author and comedian, born 1812. He was one of the veterans of the English stage, and was favorably known in the U. S. as the author of the *Green Bushes*, *The Flowers of the Forest*, the *Wreck Ashore*, *Our Mary Ann*, *Good for Nothing*, and many other comedies, dramas, and farces of the most genuine stamp. He was for many years the lessee and manager of the Haymarket Theatre, London. D. 1879.

Bucks'town, in *Pennsylvania*, a vill. of Somerset co.

Bucks'ville, in *Pennsylvania*, a vill. of Bucks co.

Buck'thorn, *n.* (*Bot.*) See RHAMNUS.

Buck'town, in *Maryland*, a P. O. of Dorchester co.
Buck Valley, in *Pennsylvania*, a P. O. of Fulton co.
Buck'wheat, *n.* [A corruption of *beechwheat.*] (*Agric.*) A kind of grain produced by the *Fagopyrum esculentum.* It has a triangular form, not unlike that of beech-mast, but smaller. In some countries it is cultivated as food for man, particularly so in the U. States, where its flour enters into the composition of the thin cakes known as *Buckwheat Cakes*, but which in England are called *Crumpets.* In the latter country it is extensively used as food for pheasants, who are so fond of it that they may be decoyed from their covers by its employment. It is a good healthy grain, and may be grown on poor light soils. — See FAGOPYRUM.

Bucolic, Bucolical, (*bū-kol'ik,*) *a.* [Gr. *boukolikos*, relating to *boukolos*, a herdsman — *bous*, an ox or cow, and *koleo* = Lat. *colo*, to take care of.] Pertaining to the care of cattle; pastoral; as, a *bucolic* youth.

—*n.* (*Lit.*) The Greek term for a pastoral poem, meaning, literally, the song of a herdsman. To this class belong the poems of Theocritus, Bion, and Moschus, and the Eclogues of Virgil. The metre universally employed is the hexameter, or heroic; but in pastoral poetry an easier flow of the lines was more studied than in the epic, and this was generally accomplished by introducing a larger proportion of the metrical feet called *dactyls* in the former than in the latter. This species of poetry has been cultivated also by most modern nations, as in England, France, and especially in Germany, where it has been attended with great success.

Bucra'nia, *n. pl.* [Lat.] (*Arch.*) A term to denote the heads of oxen, flayed and lacerated and decked with wreaths; sometimes represented on friezes.

Bucy'rus, in *Ohio*, a city, the cap. of Crawford co.; an important R. R. and manuf. place, center of rich farming section. *Pop.* (1890), 5,974; (1897), abt. 7,000.

Bud, *n.* [A. S. *boda*; O. Ger. *boto*, a herald, a messenger; Fr. *boutou*; O. Fr. *bouter*, to push, put, or thrust.] (*Physiol. Vegetable.*) The organized rudiment of a branch (*leaf-bud*), or a flower (*flower-bud*). Whatever becomes a branch is, when first organized, a bud; but it does not therefore follow that all buds become branches; on the contrary, owing to many disturbing causes, to which reference will presently be made, buds are subject to transformations and deformities which mask their real nature. A *leaf-bud* is constructed thus: — In its centre it consists of a minute conical portion of soft succulent cellular tissue, and over the surface of this are arranged rudimentary leaves, in the form of scales. These scales are closely applied to each other; those on the outside are the largest and thickest, and the most interior ones are the smallest and most delicate. In cold countries the external scales are often covered with hair, or a resinous varnish, or some other contrivance, which enables them to prevent the access of frost to the young and tender centre which they protect; but in warm countries, where such a provision is not required, they are green and smooth, and much less numerous. The cellular centre of a bud is the seat of its vitality; the scales that cover it are the parts towards the development of which its vital energies are first directed. A leaf-bud usually originates in the axil of a leaf; indeed there are no leaves in the axil of which one or more buds are not found either in a rudimentary or a perfect state. Its cellular centre communicates with that of the woody centre of the stem, and its scales are in connection with the bark of the latter. When stems have the structure of Exogens, the bud terminates one of the medullary processes; in Endogens it is simply in communication with the cellular matter that lies between the bundles of woody tissue in such stems. It is moreover important to observe that this is true not only of what are called normal buds, that is to say, of buds which originate in the axil of the leafy organs, but also of *adventitious* buds, or such as are occasionally developed in unusual situations. It would seem as if, under favorable circumstances, buds may be formed wherever the cellular tissue is present; for they occur not only at the end of the medullary processes of the root and stem of exogens, but on the margins of leaves, as in Bryophyllum, Malaxis paleida, and many others. A leaf-bud has three special properties, those of *growth*, *attraction*, and *propagation.* In warm damp weather, under the influence of light, it has the power of increasing in size, of developing new parts, and so of *growing* into whatever

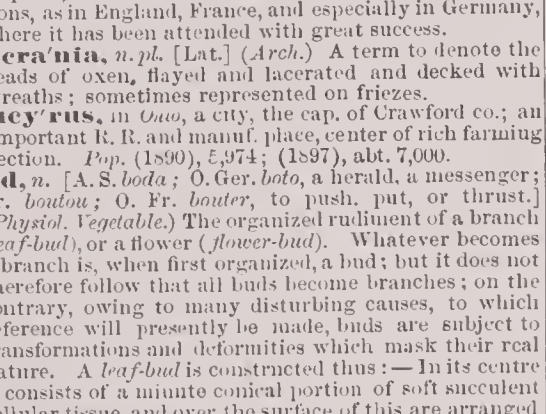


Fig. 439.

1. Leaf-buds.
2. The scaly bulb of the lily, showing its analogy to the bud.

body it may be eventually destined for. As soon as growth commences, the sap which a bud contains is either expended in forming new tissue, or is lost by evaporation; in order to provide for such loss, the bud *attracts* the sap from that part of the stem with which it is in communication; that part so acted upon attracts sap in its turn from the tissue next it, and so a general movement towards the buds is established as far as the roots, by which fresh sap is absorbed from the soil. Thus is caused the phenomenon of the flow of the sap. Every leaf-bud is in itself a complete body, consisting of a vital centre, covered by nutritive organs or hair. Although it is ordinarily called into life while attached to its parent plant, yet it is capable of growing as a separate portion, and of producing a new individual in all respects the same as that from which it was divided; hence it is a *propagating* organ as much as a seed, although not of the same kind; and advantage has been taken from this for horticultural purposes. (See BUDDING.) In general, a bud is developed into a branch; but that power is interfered with or destroyed by several causes. This must be evident from the following considerations independently of all others. Every one knows that leaves are arranged with great symmetry upon young branches; as buds are axillary to leaves, the branches they produce ought therefore to be as symmetrically arranged as leaves; and this we see does not happen. We may account for this in two or three ways: accidental injuries will doubtless destroy some; from want of light others will never be called into action; and of those which are originally excited to growth a part is always destroyed by the superior vigor of neighboring buds, which attract away their food and starve them. There is moreover in many plants a special tendency to produce their leaf-buds in a stunted or altered state. In Fir-trees the side-buds push forth only two, or a small number of leaves, and never lengthen at all; in the Cedar of Lebanon they lengthen a little, bear a cluster of leaves at their points, and resemble short spurs; in the Sloe, the Whitethorn, and many other plants, they lengthen more, produce no leaves except at their very base, and grow into hard sharp-pointed spines. Bulbs are nothing but leaf-buds (*Fig.* 439), with unusually fleshy scales, and with the power of separating spontaneously from the mother plant; and flower-buds are theoretically little more than leaf-buds without the power of lengthening, but with the organs that cover them in a special state. Hence flowers are modified branches. — See FLOWER.

(*Zoöl.*) A protuberance on polypi, &c., growing into an animal as a bud blows into a flower.

—*v. i.* To put forth or produce young shoots, buds, or germs.

"The *budding* rose above the rose full-blown." — *Wordsworth.*

—To germinate; to begin to grow or shoot forth.

"Tho' lab'ring yokes on their own necks they fear'd,
And felt four *budding* horns on their smooth foreheads rear'd."
Dryden.

—To be in bloom, or growing into maturity, as a plant.

"Young *budding* virgin, fair and fresh and sweet." — *Shaks.*

—*v. a.* To graft or inoculate by inserting a bud.

"Of apricocks, the largest is much improved by *budding* upon a peach stock." — *Temple.*

Bu'da, [Slav. *Budin*; Ger. *Ofen.*] A royal city of the Austrian empire in Hungary, of which, in conjunction with Pesth, it is the cap., and seat of govt., on the right bank of the Danube, immediately opposite to Pesth, 116 m. W. of Debreczin, and 135 E.S.E. of Vienna. *B.* is built on and around the last hill of a range which decreases in height as it approaches the Danube, and is divided into 6 quarters. It has a fine observatory, and is celebrated for its hot and Turkish baths, which procured for the city its German name of *Ofen* (oven). There are, in addition, some fine libraries, and scientific and charitable institutions, including 4 hospitals. A magnificent suspension bridge, ¾ of a mile in length, with a clear water-way of 1,250 ft., spans the Danube, connecting the city with Pesth. This was the first permanent bridge erected over the Danube, below Vienna, since the time of Trajan. *B.* is the usual residence of the governor-general, the seat of the vice-regal council, and of the highest administrative authority. It has much less of a bustling and commercial character than Pesth. There are a few manufactures of linens, woollens, silks, velvets, leather, gunpowder, earthenware, and a cannon-foundry; but its principal trade is in its fine wines, of which about 3,450,000 gallons are produced annually from the vineyards around the heights in its neighborhood. *B.*, the ancient *Curta Aquincum*, was held by the Romans till nearly the end of the 4th century. Arpad, the Magyar chief, made it his head-quarters in 900, and it then became the cradle of the Hungarian monarchy. It was enlarged and improved by succeeding Hungarian monarchs, and made a free city by Bela IV., in 1245. It was taken by Solyman in 1529, and was held by the Turks till 1686, when it was recovered by the Imperialists, after a desperate resistance. Joseph II. removed the seat of the Hungarian govt. thither in 1783. The city suffered much during the revolutionary war of 1849.—Since the year 1873, the cities of Pesth and Ofen (Buda), form one municipality under the name of Budapest, which is the capital of Hungary. Total pop., 1897, ab. 550,000.

Bu'da, in *Ill.*, a p.-v. of Bureau co., 12 m. from Princeton.

Bud'dha, *n.* Title given to the founder of BUDDHISM, *q. v.*

Buddh'ism, *n.* One of the most remarkable religions systems of the East, partly from the peculiar character of its doctrine, and partly on account of the vast number of its followers. From Hindostan, or India proper, the country which gave it birth, nearly every trace of *B.* has now disappeared; but under several modifications it has become the religion of the great majority of the inhabitants of the high table-lands to the N. of the Himalayas, as far as the boundary of Siberia, and it is the prevailing creed of the peninsula of India beyond the Ganges, of Ceylon, of the empire of Japan, and of China, where it will be examined under the name of Fo. The votaries of this religion number about 300,000,000, or, in other words, more than one-third of the entire population of the earth,—*B.* has not been studied for much more than 40 years, yet its original principles are better known than those of other religions, without excepting our own; all the details of the life of its founder have been recorded in the archives of history, and we are in possession of all those canonical writings wherein are deposited the doctrines declared and defined by 3 successive councils. These books, at first written in Sanskrit, or in some dialect of this language, have been translated into the idioms of other nations among which the Buddhic faith was propagated, as the Cingalese, Thibetians, Tartars, Mongols, Chinese, Japanese, and Burmans. We are in possession of these translations, which secure to us a truthful and infallible knowledge of the original works. The most successful investigator in these important matters of research was Mr. B. H. Hodgson, appointed in 1821 British Political Resident at Nepaul, for the East India Company. He was informed that in Buddhic monasteries were religiously kept manuscripts said to contain the canonical doctrine of Buddha, which works were written in the Sanskrit tongue. Mr. Hodgson had a list of these writings, remitted to an old Buddhist priest of Patan, and by his instrumentality he secured the works themselves. The Thibetian translations were even more easily procured, for in that country books were almost as numerous as in Europe, being reproduced by wood-engraving, which art had been imported into that country from China. Mr. Hodgson achieved this important result in 1824–5, and at the same time he offered to the Royal Asiatic Societies of London and Paris, 60 Buddhic volumes, and 250 in the language of Thibet. The same offer he had previously made to the Asiatic Society of Bengal. Almost about the same time a young Hungarian physician, Mr. Csoma, from Körös, in Transylvania, was equally successful in making discoveries. Starting from Hungary, full of enthusiasm, but with scanty means, he penetrated into Thibet, acquired the language of that country, and read the great works named the *Kahggoor* and the *Bstanggoor.* These two encyclopædias, the first in 100 vols., the second in 225 vols., printed in 1731 in the monastery of Snãarthang, in Thibet, were a full translation of the books brought from India, and everything pertaining to Buddhic literature. Mr. Csoma gave, under the auspices of Mr. Wilson, the illustrious Orientalist, and member of the Calcutta Asiatic Society, an analysis of the two works, and in that edition were found almost all the Sanskrit books discovered by Mr. Wilson at Nepaul. Mr. Csoma died young, exhausted by his great labors, but consoled with the idea that he had left something behind him, in a work which is a treasure of Asiatic research, and which consecrates his memory. In 1829, Mr. L. J. Schmidt, a member of the St. Petersburg Academy, demonstrated that nearly all the Buddhic works translated in Thibetian were translated also into the Mongolian tongue, and under the same conditions; thus happily confirming the assertions of Mr. Hodgson, while other confirmations were still to come from different countries. In the S. of the island of Ceylon, where *B.* was known to have penetrated three centuries before our era, Mr. George Turnour found, almost in the same shape, the canonical books. He discovered that the Cingalese priests were in possession of a complete collection of the Buddhist writings, brought to Ceylon by a certain Indian king, a protector of *B.*, 316 B. C. These books were written in the Pali language, a Sanskrit dialect. These Pali writings, 17 in number, are almost identical copies of the books of Magadha and Nepaul; they also contain the life and doctrinal system of Buddha. So that in the North, the Sanskrit version of Magadha was the text from which the Thibetian translation was made; while in the South, the Pali version, from Ceylon, was used for the Siamese and Burmanic translations, the island of Ceylon (the *Taprobana* of the Ancient Books, from the Hindoo *Tamrapanna*) having always been in religious accord and relationship with Siam and Burmah. But Ceylon had still something more. Besides the sacred volumes, the priests had written chronicles in which were recorded, year by year, the most important facts touching their religion and history. Mr. Turnour obtained the Cingalese annals, and published the leading parts of that valuable work, the *Mahavansa*, and the analyses of many others. These historical works, the only ones produced by the Hindoo genius, go back to the conversion of the island to Buddhism, and contain the life of Buddha and his religious traditions. The portion of the *Mahavansa* published by Mr. Turnour was composed in the 5th century of the Christian æra, from older materials which the author had collected. The sacred books of Ceylon in the Pali language must therefore be considered as the most authentic documents relating to *B.* After the various countries already mentioned, and which bear testimony to the authenticity of the Buddhist volumes, comes China. The annals of that empire, compiled and preserved with a care never equalled by any government even among the most civilized nations, show that *B.* was introduced into China 217 years B. C., by some Indian apostles. In 61 B. C. it was adopted, in the reign of the emperor Ming-Ti, as the public worship of the empire, and at the end of the first century was commenced the translation of the Sanskrit books into the Chinese language. One of the most renowned of these works, the *Lalitavistara*, a kind of biography of Buddha, was four times translated into Chinese; numerous books were thus published, and Mr. Stanislaus Julien gives the titles of 1,000 vols., from the catalogue of books gotten up by the govt. of the

Celestial empire, and now the Buddhic literature in China forms libraries of countless volumes. We have, besides, the testimony of the pilgrims who went from China to India to visit the places sanctified by Buddha, and especially those of *Fo-hien* and *Hiover-Thsang*, published by MM. Abel Remusat and Stanislaus Julien. Finally, we may consult the inscriptions engraved on the stones, rocks, and columns in India. Mr. James Prinsep, one of the secretaries of the Bengal Society, deciphered these hieroglyphics with a sagacious accuracy that made him celebrated. These inscriptions were in the Magadha dialect, and contained the edicts of a king named *Piyadasi*, recommending to his people morality, advising tolerance, and favoring new religious creeds. A short time after Mr. Prinsep's elucidations, Mr. Turnour, well acquainted with the monumental antiquities of Ceylon, showed that the Piyadasi of these Magadha inscriptions was the same as Acoka, the king of Magadha, one of the pillars of *B.* during its first period. Another Cingalese work, *Le Diparansa*, quoted by Mr. Turnour, states that Acoka reigned 218 years after Cākyamouni, that is, 325 before our era, or in that of Alexander the Great; and although Mr. Wilson dissents, we think it probable that he is the identical Acoka, or at least a Buddhist promulgating the doctrines of Cākyamouni at the end of the 4th century. Among the Greek writers we find something in relation to the Buddhists. Nearchus and Aristobulus, who followed Alexander, mention only the Brahmans; but Megosthenes, who, 30 years after, penetrated to Patalipootra (the *Palibothra* of the Greeks), at the court of king Tchandragoopta, represents the Buddhists in naming the *Sarmanai* and *Germana*, who, he says, are philosophers living in celibacy, begging their daily bread, and are accompanied by women following the same tenor of life. The name of Buddha is found in the writings of St. Clement of Alexandria. All these authorities peremptorily prove that *B.* was established in India before the reign of Alexander. Of the sacred books which contain the Buddhic predictions, two have been translated into French, the first under the title of "The Lotus of the Good Law" (*Saddharmapourdarika*), by M. Eugene Burnouf, who extracted from this mine his golden book "*Introduction à l'Histoire du Buddhisme*;" the other, "Soutra," is a book called the *Lalitavistara*, translated from the Thibetian by M. Philippe de Fourcaux. Following in the footsteps of the above authorities, our venerated master, M. Barthelemy de St. Hilaire, one of the most profound Orientalists of the day, has published his two admirable works, *Du Buddhisme* (1855), and *Le Bouddha et sa Religion* (1866), from which is taken the following resumé of the life and tenets of the founder of this Oriental creed. — Buddha was born about the end of the 7th century, B. C., in the city of Kapilavastou, the capital of a realm bearing the same name, in Central India, at the foot of the mountains of Nepaul. His father, Couddhodana, belonging to the Çakyas family, and descended from the great Solar race the Gotamides, was the king of that country. His mother, Maya Devi, was the daughter of king Somprabuddha, and of such beauty that she was called *Maya*, or the "Illusion," because her body, according to the "*Lalitavistara*," was a bewitching illusion. But her virtue and piety even excelled her beauty. Couddhodana was worthy of such a wife, and "King of the law, he ruled according to the law." Such was the family from which the liberator sprang. He belonged to the caste of the Kahattriyas, or "warriors," and when he gave himself up to religion, he was called *Cakyamouni*, that is, the "monk of the Cākyas," or *Cramana Gaoutama*, "the ascetic of the Gotamides." His personal name at his father's court was *Siddhârta*, or *Sarvârthasiddha*, which he held until he acquired that of "Buddha." His mother, who retired to a garden, awaiting her hour, was surprised under a tree by the pains of labor, and gave birth to Siddhârta on the 3d of the month of Outaracadha, but debilitated by fasting, she died seven days after his birth. The orphan was entrusted to his maternal aunt *Pradyâpati-gaoutami*, who was also one of his father's wives. The child was as handsome as his mother, and when still a boy showed extraordinary talents. When admitted to the schools of writing, he soon excelled his own master, and avoiding the amusements incidental to his age, he seemed absorbed in his own meditations. When he arrived at a marrying age, his elders, fearing that he, according to the prediction of the Brahmans, had abandoned his right to the crown by giving himself up to religion, asked the king's consent to cause him to marry forthwith; the king refus to interfere, but granted the elders the privilege of bringing a bride for his son. This was done, and the virgin selected was the virtuous and beautiful Gopa, but in order to obtain her, he was obliged by her father, Dandapâni, to show talents of the first order. He had, accordingly, to engage in a contest against 500 young men in all the games and exercises esteemed in India. Siddhârta came off victorious not only in scholastic exercises, knowledge of the Vedas, morals, and philosophy, but also in calisthenics and games of bodily skill. Among his competitors were his cousin Ananda, who afterwards became one of his most faithful disciples, and Devadatta, who, ashamed of his defeat, became thenceforward his implacable enemy. The beautiful Gopa then became his prize, and once his wife, she refused to veil her face, saying that "the supreme and magnanimous Richi, and the other gods, knew her thoughts, qualities, and actions, and that she had nothing to conceal. Siddhârta, though happy, aspired to some life better and more perfect, and, after long meditation, he left his father's palace, gave his rich dress to a hunter, whose mean garments he took in return, and sought some eminent Brahmans; but, dissenting from their views, he retired to the wilderness of Ourovilva, where he spent his time in the practices of austerity, fasting, meditation, and prayer. He would remain for weeks plunged in deep abstraction, attempting to solve the mysteries of life, death, sin, goodness, wisdom, and the like. At length, after six years of meditation, being then 36 years old, he was enlightened, he felt that he was the BUDDHA, *i. e.* the *perfect sage*. The place where he had this revelation is most celebrated, and called *Bodhimanda*, *i. e.* the "*seat of intellect*." The tree under which he was seated when he received that gift was a fig-tree, which was visited in 632, A. D., by the famous Chinese pilgrim Hiover-Thsang, who saw many monuments erected around it, and spent seven days in worshipping them. From Bodhimanda Buddha started to preach his doctrine in small places, and then in the great capital, Benares, the "holy city." For upwards of 40 years he continued to preach his system, traversing a great part of Northern India, combating the Brahmans, and making numerous converts. He died in the 80th year of his age, B. C. 543, after having lived to see his doctrine spread all over India. For several centuries *B.* seems to have been tolerated by the Brahmins. At length, it seems to have endured a long-continued persecution, which ultimately had the effect of entirely expelling it from the country where it had originated. What was the cause or the nature of these persecutions is unknown, but the last traces of the system disappeared about the 11th or 12th century. By this time it had taken firm root in other parts, where it still continues to flourish. Numerous remains of Buddhist temples are scattered over India: and, during the period of persecution, when they were driven from the cities, they retired among the hills of the west, and there constructed those cave-temples, which, from their number, vastness, and elaborate structure, still excite the wonder of all who see them. — *B.* differs from Brahmanism in the extreme simplicity of its religious doctrine, and the almost complete absence of dogmas or ritual. It is, or rather was — for it has been much corrupted by other creeds — an essentially moral system. Its object was to teach man how to attain to a pure and holy life. Hence, it did not so much destroy other religions with which it came in contact, as engraft itself upon them. It did not abolish castes where they already existed, but it did not introduce them where they were unknown. The Buddha is not a god, he is the ideal of what any man may become; and the great object of Buddhist worship is to keep this ideal vividly in the minds of the believers. This veneration of the memory of Buddha is, perhaps, hardly distinguishable, among the ignorant, from worship of him as a god; but in theory, the ritual is strictly commemorative, and does not necessarily involve idolatry, any more than the garlands laid on the tomb of a parent by a pious child. The ritual or worship is extremely simple, consisting in offering flowers and perfume, the repeating of sacred formulas, and the singing of hymns. The temples contain only an image of Buddha and a *Dagoba*, or shrine containing his relics. There are no priests or clergy, properly so called, but only an order of monks, the *Sramanas* or *Bikshus* (mendicants), who have given themselves up to a life of sanctity, and who are generally very numerous. They are obliged to live in celibacy; but they may retire from their order if they desire it, and are permitted to marry. The four sublime verities, or axioms, upon which the system of *B.* is built, are: — 1. That there exists pain: 2. that the cause of pain is desire, or the attachment of the soul towards certain objects; 3. that pain can be ended by *Nirvana*; and 4. that, by the practice of six transcendent perfections — alms, morals, science, energy, patience, charity — a man might hope to arrive at the state of Nirvana — repose or annihilation. Existence is viewed as a curse rather than a blessing; and the endless transmigrations through other beings that have to be endured, are causes of suffering; and hence the highest object of desire is to be delivered from the necessity of being born again. There are five moral precepts of universal obligations, viz., not to kill, not to steal, not to commit adultery, not to lie, and not to be drunken; but there are others more strict for those entering upon a religious life. — There is not in the whole doctrine of *B.* the least appearance of a belief in God, and when it is supposed that it admits the absorption of the human soul into the divine essence, it is a gratuitous admission, entirely contrary to the ideas of Buddha.

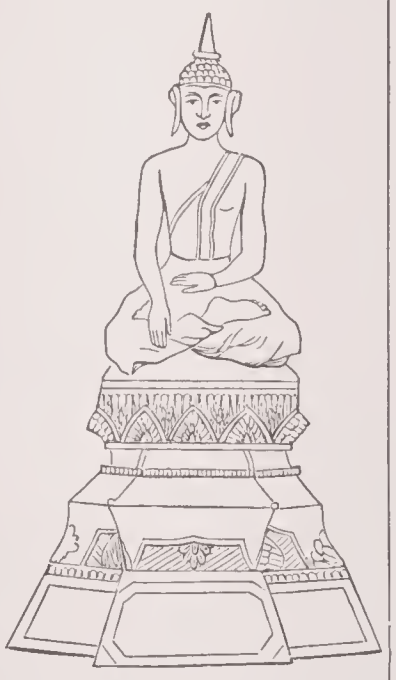


Fig. 440. — BUDDHA.

He *ignores* God so utterly that he not once thinks of denying him; he does not destroy him, he is silent regarding him; neither explaining the origin and previous existence of man, nor his present state, nor offering conjecture as to his future fate and final liberation. The Buddhist knows not God in any way, and wholly occupied with his own heroic aspirations and self-sympathies, he has never looked up so high nor so far. Again, and on the authority of the *Sūtras* (or doctrinal discourses and apophthegms of Buddha), it must be maintained that Buddhism does not admit the immortality of the soul any more than it admits God. No Buddhic text can be produced in which the simplest distinctiveness of the human soul and body is stated, or, indeed, would seem to be even suspected. Death is but a modification as fallacious as the rest of these matters. It is held that man, unless he follow the creed of *B.*, is revivified in one species of being or another, according to his merits, but that no special destiny is provided here for his body or there for his soul. The soul may be transmigrated into another body, it is true, but it is not more divided from the latter than it was from the former one; it never exists without corporeal entity, (not even in that famous heaven of *Toushita*, where the gods of the Brahmanic Pantheon sit on their thrones, promiscuously with the innumerable Bodhisattvas of the Buddhist superstition.) It must be remembered, however, that this teaching, absurd and to be deplored as it is, was nothing new in itself when first proclaimed and publicly preached as *B.*; it is known to have been started by the school of *Sānkhya*, from Kalpa, or *Kapila*, who is identical with Sānkhya the godless, or, as he is called by the Brahmans, *Nerievara*; the Sānkhya, long before the rise of *B.*, taught the liberation of man by means of science and of virtue, but the absorption of the human soul into God, who was excluded from his system, could not be possible; then what did he do with the soul, and what does it become when redeemed? On this point, the only one of importance, the philosopher was silent, and his reticence darkened his solution with doubt and uncertainty that *B.* cleared away. The soul, or rather that compound of soul and body called *man*, is not really liberated unless annihilated; for, if the least atom of it should remain, the soul might still be revived into one of the numberless appearances pertaining to existence, and its pretended liberation would be but an illusion like so many others of the same kind. The only abode and the only reality is *annihilation:* from that state nothing returns; and once resting in the *Nirvana*, the soul has no longer anything to fear or to hope. From this point of view, *B.* is no longer that monstrous doctrine the existence of which we would willingly doubt. No, it is not a spontaneously formed doctrine; step by step India reached the attainment of it. The Sānkhya approaching to the rejection of the authority of the *Vedas* and the denying of God was not self-constituted in one day. Ages of examination and controversy had to elapse to produce it, hideous as it is. The Buddha was at once the most logical and the boldest of Kapila's disciples. He perfected the teaching of the school, and published it for the salvation of mankind for whom his big heart overflowed with pity; but he did not discover the whole of it, he must share the responsibility, if not the glory, of it, with his predecessor Kapila. Buddha has but reproduced those sad principles, urging them to the utmost, with a severity that plunged him headlong into the abyss, not unseen nor perhaps unfeared by the philosopher; such is the true meaning of all the Buddhic Sūtras. The Nirvana is always introduced and presented as the eternal liberation, the infallible ending of all miseries and revivifyings, through the annihilation of all the principles which compose man. The Sūtras must be believed; their language may be hard to understand, but clearness in this matter would be surprising. The idea of absolute extinction is full of mystery, and consequently the terms intended to depict it shed but a dubious and sinister light. But the Sūtras are the best, we should say, the *only* authority, and they are not more objectionable than the Gospel would be when the Christian faith is to be expounded. It sometimes happens that, in new legends, the production of imaginative chroniclers, Buddhic personages are represented as escaping, replete with life, from the Nirvana, in which cases the Nirvana would appear to be other than nothingness; but when grave doctors learnedly treat these matters, they speak always of the Nirvana as we have done, viz., as the land of oblivion and annihilation. It is true, however, that they take more care to speak of what is *not*, than of what really *is*; the idea of nothingness finding a very imperfect expression in the disordered and excited imagination of the Buddhist monks: truer to nature than their own narrations, they forget, that, having confined them in an everlasting prison, they reclaim from their retreat of oblivion those holy men whose existence they had previously annihilated. It appears that Buddha himself never understood the Nirvana in any other light; if even the explanations of it have been since altered, the original character of the doctrine remains unchanged. The schools still in existence at Nepaul are to be considered as truthful witnesses, when we have before us the primitive monuments. No doubt, *B.* has been, and is even now actually modifying its own dogmas. By *B.*, it must be understood, we mean that doctrine founded by Buddha himself which is adopted in the canonical works. This, as we understand it, is the *B.* of the Theory of Annihilation. In the progress of time, the Buddhists conceived an *Adhibuddha*, resembling our own Supreme Being: but it does not follow from this that the Buddha of Ourovilva and Bodhimanda, &c. has ever thought of God. To the preceding we may add the testimony of

the Brahmans, who call their opponents, the Buddhists, "Men of Nothingness" (*Nastikas*), which reproach they accept as a title of honor; and the testimony of their best philosophical work, known as the *Pradynâpa-ramita*, in which we are taught that the supreme degree of human knowledge is the negation of the known object and knowing subject, a perfect vacuity of all existence and all knowledge. So we have manifold proofs that the *Nirvana* is but another name for *Annihilation*; and in this the missionaries, both Catholic and Protestant, as Mr. Spence Hardy, Father Brigandet, Father Jos. Mullens, and M. Wassilieff, who resided many years in India, agree with M. Barthelemy St. Hilaire. In China, the same opinion prevails, and in the works of Confucius, or Lao-Tsen, we do not discover even a faint idea of God; and if the Chinese are absolutely atheists, we must confess that they are very reticent on this subject. The modern Tai-pings, who endeavor to plant the Christian Trinity in their country, are considered as religious innovators, not less than rebels. *B.* has been a success in the Celestial empire, and produced remarkable men. Some may object that the idea of God and the Immortality of the Soul being, so to speak, co-natural to man, the explanation given here of the Buddhic belief can not be true. But this theory, noble and rational as it is, should not prevail against matters of fact. We have among us men of intellect who do not hesitate to profess infidelity both as regards the Deity and our own immortality. Buddha was one of these earnest but, we hope, deluded thinkers. *B.* is not only an opinion, but also a religion; and the admission by it of such singular opinions can be explained by the influence of the religious leaders, and the weakness of those numerous populations, who, tired of a life of poverty and subjection, and fearing to be transformed by metempsychosis into the several species of animals who dwell beneath the sky, have sought refuge in the state of utter nonentity. They are terrified by the prospect of passing through a series of suffering existences, and their only remedy, as they conceive, is to seek the place, the Nirvana, where transformation shall be an impossibility. Christianity has taught us better principles; it has supplied us with ideas to live by, with hopes to live for; but because we are the superiors of these unbelievers, have we any cause to declare them foreign to humanity? Their books and teaching are erroneous and defective, but still merit some respect. The *Veda* comes immediately after the *Bible*, and the misfortune of *B.* has been in repudiating the principles of the former. But Brahmanic India did not succeed much better than the Buddhic, and could not raise from their sacred seeds the promised fruits. At first the Aryans were the brethren of our ancestors who sprung like them from the N.W. of the Himalayas: they were then equal, but the progress of ages worked against them, and while the Western nations had their development into superior civilization recorded by history, the Aryan races proper could not rise above the Vedic faith, and they bore *B.* in their bosom, a quasi-legitimate son, but despised and banished.— In conclusion, it must be said in favor of *B.*, that, where it took root, it imparted to the people who received it some ideas of morality, which made them less ignorant and degraded. Christ alone excepted, there is not among the founders of religious creeds a purer and more touching figure than that of Buddha. His life is spotless, his heroic constancy equals his convictions, and though the theory he announces be untrue, his personal example is above reproach. He is the perfect pattern of all the excellences he preaches; his self-abnegation, charity, meekness, do not falter for a moment. Leaving the court of the king, his father, to become a monk and a beggar, he prepares for his career of preaching by six years of seclusion and meditation; he extends his doctrine by his strength of mind and persuasion of speech, and when he dies in the arms of his disciples, he presents the serene countenance of a sage who did well throughout, and dies secure in the possession of the truth. The nations who adopted his tenets never thought of making a divinity of him, for their ideas were foreign to such a notion, but they made him a prototype whom they strove to imitate, and hence *B.* could produce some few souls worthy of holding companionship with those admired and revered by mankind.

Buddh'ist, *n.* A worshipper of Buddha; a believer in Buddhism.

Buddh'ist, Buddhis'tic, *a.* Relating to Buddha or Buddhism.

Bud'ding, *n.* (*Hort.*) A peculiar mode of grafting, in which a leaf-bud is used instead of a young twig or scion. The bud to be employed is cut out of the branch along with a small portion of the bark and young wood, and the woody part is then carefully separated (*Fig.* 441, *a*). Two incisions are made in the bark of the stock, intended to receive the bud (*b*); the bark is raised on both sides of the longitudinal cut, and the bud, with its shield of bark, is inserted in such a way that the upper edge of the shield joins exactly to the transverse cut in the bark of the stock (*c*). The leaf in the axil of which the bud grew is cut off, and the newly inserted bud is for a while held in its place by strands of bass matting. If the bud is sufficiently matured, and if the bark attached to it is properly fitted to that of the stock, the operation is almost sure to be successful. This is by far the most common method of *B.* It is generally distinguished as *shield-B.* Another method, called *scallop-B.*, consists in removing entirely a thin slip of bark from the stock, and fitting into the wound a similar slip bearing the bud. The proper time for *B.* is a little after midsummer, when the bud is perfectly formed. The process is particularly well adapted for trees which are apt to exude gum when wounded, as the plum, cherry, peach, and stone-fruits in general; also for roses and many other flowering shrubs. The *B.*-knife has a point like a lancet, and the handle generally terminates in a thin ivory blade, to be used for raising the bark of the stock. The effects of *B.* are precisely similar to those of GRAFTING, *q. v.*

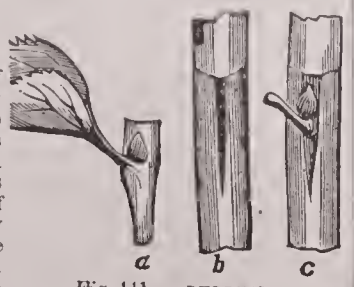


Fig. 441. — BUDDING.

Bud'dle, *n.* (*Mining.*) A pit dug in the earth near the stamping-mill, 7 feet long and 2½ feet deep, where the stamped tin is curiously washed from its impurities by water constantly running through the buddle, while a boy, called a buddle-boy, is standing in the body of it, and working both with a shovel and with his feet.

—*v. a.* To wash, as ore.

Buddlea, (*bud-le'a,*) *n.* (*Bot.*) A genus of plants, ord. *Scrophulariaceæ*. The species are shrubs, natives of the warmer regions of the world, and are remarkable for their gay and sweet-scented orange-colored flowers. *B. neemda* is said to be one of the most beautiful plants of India. *B. globosa*, a native of Chili, is hardy enough to endure a temperate climate, and has become a common ornament of our gardens.

Budd's Creek, in *Maryland*, a P. O. of St. Mary's co.

Budd's Lake, in *New Jersey*, a P. O. of Morris co.

Budds'town, in *New Jersey*, a village of Burlington co., 8 m. from Mount Holly.

Budd'ville, in *Pennsylvania*, a post-office of Centre co.

Bude Light, *n.* A term applied to various forms of oil and gas-burners contrived by Mr. Gurney, of Bude, in Cornwall.

Budge, (*buj,*) *v. a.* [Fr. *bouger*, from O. Ger. *wegan*, to move.] To move off; to stir; to wag.

—*n.* [O. Fr. *bouge*, fur.] The dressed skin or fur of lambs.

—*a.* [Probably from the aspect of the ancient scholastic habit, which was lined with *bouge*.] Surly; stiff; formal.

"O foolishness of men! that lend their ears
To those *budge* doctors of the stoic fur."—*Milton.*

Budge-bachelor, *n.* One of a company of men dressed in a long gown lined with lambs' fur, who accompany the Lord Mayor of London at his inauguration.

Budge'-barrel, *n.* A small barrel used in carrying gunpowder.

Budg'er, *n.* One who budges.

Budget, (*bud'jet.*) [Fr., from *bougette.*] A bag or satchel, such as may be easily carried. — A pocket used by tilers for holding the nails in lathing before tiling. — A stock or store.

—A condensed statement of the income and expenditure of a nation, or of any particular public department. A *B.* contains two leading elements — a statement how the nation's account of charge and discharge stands in relation to the past, and an explanation of the probable expenditure of the ensuing year, with a scheme of the method in which it is to be met, whether by the existing or new taxes, or by a loan. In England, the annual *B.* is submitted to Parliament by the Chancellor of the Exchequer. In France, it is submitted at first at the *Chambre des Députés* by the Ministre des Finances. In both countries the presentation of the *B.* gives rise to the discussion of the most important questions of political finance.

Bud'let, *n.* [From BUD.] A small bud springing from a larger one.

Budukhistan, (*bud-uk'his-tan',*) a prov. of Central Asia, now a dependency of the Khan of Khoondooz, between Lat. 36° and 38° N., and Lon. 70° 30′ and 72° 30′ E.; having N. and N.E a chain of mountains inhabited by tribes claiming a Macedonian origin; S.E. and S. the Bolor-Tagh mountains and the high country of the Caufirs, and W. the other territories of Khoondooz. The scenery of this country and its natural productions are highly spoken of; it contains ruby mines and cliffs of lapis-lazuli. Its inhabitants are Tadjiks; very social and hospitable, speaking the Persian language, and retaining the manners and customs prevalent N. of the Hindoo-Coosh before the Tartar invasion. The cap., also called Budukhistan, or *Tyzabad*, is on the E. bank of the river Koocha, in Lat. 36° 28′ N., Lon. 71° 23′ E., and its inhabitants are of the Shiak sect. This country was almost destroyed and depopulated by an earthquake in 1832.

Budweis, (*bud wise,*) a town of Bohemia, cap. of a circle of the same name, on the right bank of the Moldau, 75 m. S. of Prague and 159 N.W. of Vienna. *Manf.* Woollens, damask, saltpetre, and musical instruments. *Pop.* 25,000.

Bu'el, in *New York*, a P. O. of Montgomery co.

Bu'el, in *Michigan*, a post-township of Sanilac co., 8 m. W. of Lexington.

Bu'ell, DON CARLOS, an American military commander, b. in Ohio, in 1819, took his degree at West Point in 1841, and entered the U. States army as 2d lieutenant of infantry. He highly distinguished himself during the Mexican war at the battle of Monterey, where he was dangerously wounded. In 1848 he was appointed asst. adj. general in Texas. During the civil war, *B.* was made lieut.-col. of the adj.-general's dept., and placed by Gen. McClellan at the head of 12,000 men in the dept. of the Ohio, relieving Gen. Sherman. He co-operated with Gen. Grant in the advance on Forts Henry and Donelson, and, in 1862, was placed in command of five divisions, with which he advanced in time to take part in the second day's battle of Shiloh, and was engaged in various important operations till the close of the war.

Buena, (*bwa'na,*) in *Ohio*, a post-office of Van Wert co.

Buenaventura, (*bwā-na-ven-too'ra,*) a small town of Mexico, state of Chihuahua; Lat. 29° 55′ N., Lon. 106° 30′ W. At about 10 m. N.W. of this place there are ruins covering an area of several square miles, called *Casas Grandes*. The ancient town to which they belonged was evidently very large, and inhabited by a comparatively civilized people.

Buenaventu'ra, a small maritime village of S. America, in New Granada, on the bay of Choco; only important as being the port for a large tract of country.

Buena Ventura, in *California*. See SAN BUENA VENTURA.

Buena Vista, (*bwā'na-vees'ta.*) [Span., "fine view."] The name of several places in Mexico, at one of which, 7 m. from Saltillo, and 90 S.W. of Monterey, occurred, Feb. 22–23, 1847, a great battle between the Americans, numbering about 5,000 men, under Gen. Taylor, and a force of 20,000 Mexicans, under Santa Anna, in which the latter were utterly defeated. The American loss was small. This action has been also called the *Battle of La Angostura*.

Buena Vista, in *Alabama*, a village of Monroe co.

Buena Vista, in *Arkansas*, a post-office of Ouachita co.

Buena Vista, in *California*, a post-village of Amador co., 13 m. S.W. of Jackson.

Buena Vista, in *Georgia*, a post-village and township, cap. of Marion co., 101 m. S.W. of Milledgeville, and 33 S.E. of Columbus.

Buena Vista, in *Illinois*, a township of Schuyler county.

—A post-village of Stephenson co., 10 m. N.N.E. of Freeport.

Buena Vista, in *Indiana*, a village of Franklin co., 10 m. W. of Brookville.

—A village of Gibson co., on White River, 110 m. S.S.W. of Indianapolis.

—A village of Hamilton co., 12 m. N. of Noblesville.

—A village of Harrison co., on Mosquito Creek.

—A village of Monroe co., 13 m. S.W. of Bloomington.

—A village of Pulaski co., on Tippecanoe River.

—A village of Randolph co., 8 m. S.W. of Winchester.

—A village of Washington co., 8 m. N.W. of Salem.

Buena Vista, in *Iowa*, a village of Clayton co., 80 m N.N.E. of Iowa City.

—A township of Jasper co.

—A post-office of Clinton co., 46 m. E. by N. of Iowa City.

—A N.W. county embracing an area of 576 sq. m., and drained by the Racoon and Little Sioux rivers, and some smaller streams. *Cap.* Storm Lake.

Buena Vista, in *Maryland*, a post-office of Calvert county.

Buena Vista, in *Michigan*, a village of Saginaw co., on the river of the same name.

Buena Vista, in *Mississippi*, a post-village of Chickasaw co., 11 m. E. of Houston.

Buena Vista, in *New York*, a P. O. of Steuben co.

Buena Vista, in *Ohio*, a post-office of Tuscarawas co.

—A village of Fayette co., on Rattlesnake Creek, 46 m. S.W. of Columbus.

—A village of Scioto co., on the Ohio River, 100 m. from Cincinnati.

Buena Vista, in *Oregon*, a post-office of Polk co.

Buena Vista, in *Pennsylvania*, a village of Bedford co.

—A village of Lancaster co.

—A post-office of Alleghany co.

Buena Vista, in *Tennessee*, a post-village of Carroll co., 96 m. W. of Nashville.

Buena Vista, in *Texas*, a village of Shelby co., 20 m. W. of Sabine River.

Buena Vista, in *Wisconsin*, a post-village and township of Portage co., 7 m. S.E. of Stanton, on the Central railroad, 10 m. S. of Steven's Point.

—A township of Richland county, on the Wisconsin River.

Buena Vista Bar, in *Idaho*, an unimportant mining village of Boisé county, situated about 2 miles from Idaho City.

Buena Vista Furnace, in *Virginia*, a post-office of Rockbridge co.

Buena Vista Springs, in *Kentucky*, a post-office of Logan co.

Buen Ayré, or BON AIR, one of the Dutch islands, in the W. Indies, about 30 m. E. of Curaçao, Lat. 12° 20′ N., Lon. 68° 27′ W. It has a tolerable harbor on its S.W. side. *Pop.* abt. 3,000.

Buenos Ayres, (*bo'nos a'riz.*) [Span., "good air."] A prov. of the Argentine Republic, extending from the Rio Negro, on the S., in Lat. 41° S., to the prov. of Santa Fé, on the N., in Lat. 33° S.; and from the Atlantic Ocean on the W. to the upper waters of the Talquin River, and the W. limit of the Sierra Ventana, or a breadth N. to S. of about 540 m., and a length E. to W. of 750 m. *Area*, 63,000 sq. m. This prov. presents an almost uniform level surface of vast extent, forming what is commonly called the *Pampas*, and yielding perhaps the finest area of rich and open pasture in the world. It is, consequently, the habitat of immense herds of wild cattle and horses, which, in a merchantable form, afford the staple commerce of the territory. Grain, fruits, and vegetables are also thriving products of some parts of the prov., though cereal crops are not cultivated to any great extent; while the latter are chiefly produced on the shores of the River La Plata, in the neighborhood of the city of Buenos Ayres. In the S. portion of the prov. a vast number of saline lakes are interspersed over the surface of the country, which is here almost uninhabited, except by roving Indian

tribes. The climate is, in general, healthy, though at times rendered almost unbearable by the hot winds, called *pamperos*, which strongly resemble the sirocco of the eastern hemisphere. As before stated, cattle and horses, and their prepared produce, as hides, tallow, horns, jerked beef, &c., form the principal wealth of the prov., and are largely exported to foreign countries. *Chief town*, Bueños Ayres. This prov., in common with the other Spanish-American states, became independent of Spain in 1816, and formed part of the Argentine Republic until 1854, when it seceded, but in 1860 resumed its allegiance to the Conf. *Pop.* (1895) abt. 900,000.

Buenos Ayres, a maritime city, cap. of the above prov., and of the Argentine Republic, is situate on the S. W. shore of the great estuary of La Plata, 125 miles W. by N. of Monte Video, and 90 N. W. of Point Piedras; Lat. 34° 36′ 29″ S., Lon. 58° 23′ 34″ W. The city stands on a bank elevated about 20 ft. above the level of the river, having a length of upwards of 2 m., with a central breadth of 1½ m. It is built in a rectangular form, and is a tolerably well paved, lighted, and drained city, great improvements having been made in late years. The houses are tolerably well built, after the Spanish fashion, and are surrounded by gardens; though some quarters of the city, inhabited by the lower classes of inhabitants, present a mean and squalid appearance. Water until lately, was bad; but now the supply is excellent. The principal public buildings are the Cathedral, in the *Plaza*, University, the Government buildings, new Post Office, &c.. Like every other large Spanish-American town, it possesses a multiplicity of churches and convents, many of which have an attractive aspect. Nearly all these buildings are erected of fine white stone. *B. A.* has hitherto had no harbor, and vessels drawing 16 or 17 ft. anchor in the outer roads, called the *Amarradero*, 7 or 8 m. from the shore, loading and discharging by means of lighters. One of the chief points of lading and discharge for ships trading with *B.* is Ensenada, on the estuary of La Plata, distant 35 m. by rail. It is the principal outlet for the produce of the vast countries traversed by the La Plata, and especially for the provinces situated on its right bank, the trade of which is constantly increasing. The markets of this city are well supplied generally, but poultry, vegetables, and fruits are dear. Education obtains to a noticeable extent, and the city supports numerous schools; few children of 10 or 12 years of age being found who are unable to read and write. As might be presumed from its commercial importance, the element of a foreign resident population is here very marked, and no doubt tends chiefly to maintain the growing progress of its civilization. The geographical position of *B. A.* is such as to enable it completely to control the foreign commercial relations of the entire republic of which it forms a part. The exclusive policy which it has always pursued on this point has often involved it in serious quarrels, not only with many of the South American States and the other provinces of the Argentine Republic, but with England and France. Since the expulsion of Gen. Rosas, the navigation of the Parana and Uruguay has been thrown open, and other measures have been taken to place both the province and city of *B. A.* on a level with the other provinces of the republic. *Population* in 1897 is nearly 700,000.—*B. A.* was founded by the Spaniards under Don Pedro de Mendoza, in 1534; but, in consequence of the opposition of the Indians to the settlement, it was not permanently colonized till 1580. In 1620, it was erected into a bishopric, and in 1700 contained 16,000 inhabitants. In 1776, it was made the seat of the vice-royalty of La Plata, and in 1778, upon the trade of the river being thrown open by Spain, it began rapidly to augment in importance. In 1806 it was taken by the British, and retaken by the Spaniards. See Argentine Republic.

Buet, (Le,) (*boo'ai,*) one of the Alps of Savoy, between Chamonnix and Sixt, to the N. of Mont Blanc, with an elevation of 10,128 feet above sea.

Buff, *n.* [Contracted from *buffalo*, or *buffle.*] Leather prepared from the skin of the buffalo, elk, &c., by imbuing it with an aluminous compound, and afterwards some oily matter, such as yolk of egg; formerly much used for waist-belts and other military accoutrements.—A military coat formerly worn by soldiers, made of buff or other strong leather; as, a trooper in *buff* and breastplate.

"A wolf, nay worse, a fellow all in *buff*." — *Shaks.*

—A color somewhat between pink and primrose yellow; as, he wore a suit of *buff*. (In England, the costume of the Whig or Liberal party was, until comparatively a recent date, a blue coat, and *buff* vest, or waistcoat.)

"It's gude to support Caledonia's cause,
And bide by the *buff* and the blue." — *Burns.*

—A buffet, (*q. v.*)—The nude skin; as, to be stripped to the *buff*.

(*Mech.*) A wheel coated with buff-leather, and used in polishing cutlery, &c.

(*Med.*) A yellow, viscid substance, which, in inflammation, forms on the blood.

—*a.* Of the color of buff leather; light yellow.—Made of buff leather; as, a *buff* jerkin.—Sturdy; valiant; resolute.

"And for the good old cause stood *buff*
'Gainst many a bitter kick and cuff." — *Hudibras.*

—*v. a* To strike. See Buffet.

Buffalo, *n.*; *pl.* Buffaloes. [It. *bufolo*; Sp. *bufalo.*] (*Zoöl.*) Under this title we have to describe the *Bison* and the Buffalo, two very distinct species of the genus Ox, but which are often confounded, at least as far as concerns the *Bos Americanus*, commonly called Buffalo, though a true Bison. —1. The European Bison, called by naturalists *Bos Bison*, *Bos Urus*, or *Bos Priscus*—called also *Aurochs* (Ger., wild ox)—is now chiefly found in the marshy forests of Poland, the Carpathian mountains, and Lithuania. It is as large as a bull, but looks much bigger, on account of its wealth of shaggy hair, and is ten times as formidable, because of its tremendous strength and intense ferocity. Its head is small; its horns short, sharp, and strong; and its eyes red and

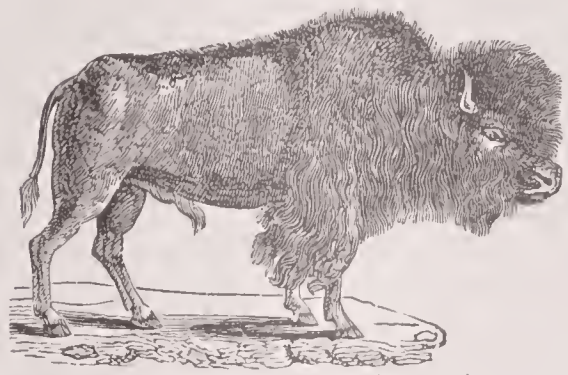


Fig. 442. — American Bison, (Buffalo.)
(*Bos Americanus.*)

fiery. The color of its hide is rufous-brown. — The American bison (*Bos Americanus*), commonly called the American buffalo is larger than the European species, and, though usually shy and pacific when let alone, is fierce when provoked. The hair about its neck and shoulders is bushier, and of a fine texture. The hump, which is oblong, diminishes in height towards the tail, lending a considerable obliquity to the outline of the back. On the crown of the head the hair rises in an immense mass, and shows in thick, close curls before the horns; below the chin the hair grows like a beard, and falls as low as the knees. The Bison differs from all varieties of the common Ox, in the arched line of the back, which rises in a sudden elevation behind the neck; the hump, which is formed, not consisting, however, of mere fat, but in great part of the very thick and strong muscles which support the large head. Its horns are short, tapering, very distant, spreading, and a little curved inwards at the point. The figure of the forehead differs also from that of the Ox in its greater breadth, and in its convex profile. Another important anatomical difference is in the number of ribs, of which the Bison has 14 pair, while the Ox has only 13. Formerly immense herds of bisons roamed over the vast plains of the west, the prey of Indian hunters, and later the helpless victims of the whites. As late as 1870 there were still millions of them, but after that time the value of their hides and the thirst for killing caused such a terrific onslaught upon them that by 1884 they were nearly exterminated, only a few scattered animals remaining. Such an example of merciless and useless slaughter has never been paralleled in the history of the world. There is now a herd of only a few hundreds in Yellowstone Park, but certain ranchmen of the northwest have engaged in the rearing of these animals. See Sec. II.—2. The Buffalo (*Bos bubalus*) differs from the bison in having no hump on the back, and only a small dewlap on the breast. Besides this it carries no shock of hair about its neck and shoulders. It is a native of the East Indies, from which it was carried to Egypt and the S. of Europe. They generally live in flocks of about a hundred, and affect marshy regions, both on account of the coarse but luxuriant vegetation there to be found, as well as the opportunity for a "mud" bath, of which the buffalo is remarkably fond. The way he indulges this ugly predilection is singular: throwing himself flat upon his side in the mire, he shuffles round and round, the soil yielding to his immense weight the exudation of any moisture it may contain, till he manufactures for himself a delicious basin of mortar covering him to his very eyes. When he emerges and has basked a while in the sun, he looks like some hideous slack-baked clay image. This manœuvre, however, is not without its purpose. Among the rank vegetation, and in the air, swarm millions of stinging flies, and until the buffalo's mud coat peels off through long wear, he is as impregnable to their attacks as the clay image he represents. The buffalo is one

Fig. 443. — Buffalo, (*Bos bubalus.*)

among the very few animals who manifest no fear at the approach of the tiger; indeed, sportsmen concur that unless a tiger be full-grown and in possession of all his strength, he will not venture to attack the bull buffalo. Should the tiger, made desperate by hunger, attack a herd of buffaloes, his fate is certain. The whole herd will band against the common foe, and, assailing him with hoofs and horns, rend his striped hide to gory ribands, and trample him maimed and crushed into the mire. — The Cape Buffalo (*Bos Caffre*), found in large herds in the interior of S. Africa, is generally regarded as a different species. The horns are very large; they spread horizontally over the top of the head, and are then bent down laterally, and turned upwards at the point. This animal is regarded as more formidable than any other in S. Africa; and the hunter will more readily risk an encounter with a lion than offer any provocation to a *B.* without great advantages for the combat, or great facilities for escape. The hide is so thick and tough that the Caffres make shields of it, impenetrable to musket-shot; and the balls used by the huntsmen in shooting the animal are mixed with tin, and yet are often flattened by the resistance.

Buf'falo, in *Ark.*, a twp. of Marion co.—A P.O. of Washita co.—In *Ill.*, a twp. of Ogle co., 16 m. W.S.W. of Oregon City.—A twp. of Rock Island co.—In *Ind.*, a vill. of Brown co., 50 m. S. of Indianapolis.—A P.O. of White co.—In *Iowa*, a p.-vill. and twp. of Scott co., 50 m. E.S.E of Iowa City, on the Mississippi River.—In *Kansas*, a P.O. of Wilson co.—In *Ky.*, a P.O. of La Rue co.—In *Minnesota*, a p.-vill. and twp. of Wright co., 44 m. W.N.W. of St. Paul.—In *Missouri*, a p.-vill., cap. of Dallas co., 4 m. W. of Niangua River, 35 m. N. by E. of Springfield.—In *N. C.*, a vill. of Randolph co., 65 m. W. of Raleigh, on Deep River.—In *Nebraska*, a central county, bounded on the S. by Platte River, and drained by Loup Fork and other streams; *area*, abt. 2,000 sq. m.; *surface*, undulating; *soil*, various.—A post-village of Dawson co., near Platte River, 40 m. W.N. W. of Omaha.

Buffalo, in *New York*, a city, port of entry, and seat of justice of Erie co., at the E. extremity of Lake Erie, where it contracts into Niagara River, 22 m. S. of Niagara Falls, and 422 m. by rail N.W. of New York City. The town stands partly on a low marshy tract, intersected by Buffalo Creek, which forms its harbor, and partly on an elevated terrace, leading to a still higher plateau. The principal streets descend from the high ground over the terrace towards the creek and harbor, and are crossed by the others generally at right angles. It is finely situated, well built and drained; the houses in the principal streets are lofty, substantial, and usually of brick or stone. *B.* possesses 600 acres in handsome public parks and drives. Conspicuous among its public buildings are the Insane Asylum, erected at a cost of $1,500,000, said to be the largest in the U. S., if not in the world; the State Arsenal, Custom House, New City Hall and Court House, completed in 1877 at a cost of $1,400,000; Penitentiary, Young Men's Association Hall, with a library of over 30,000 vols.; Academy of Natural Sciences, with a fine museum and library; the Academy of Fine Arts, the Historical Society, with a free library; the Grosvenor Free Library, besides several imposing banking and insurance edifices and private residences, that of Mr Fargo costing $500,000. *B.* has also 14 asylums for the widow, orphans, &c., 5 hospitals, 5 dispensaries, and numerous other benevolent associations; over 20 cemeteries, Forest Lawn being conspicuous for its size and beauty, it adjoins the Park; 97 churches, St. Paul's (Epis.) costing $250,000, St. Joseph's (R. C.), each with fine chime of bells; the Delaware Avenue (Methodist), are among the most striking. The first church edifice erected in *B.* was in 1806, by the Methodists. The city has about 28 newspapers. *B.* is pre-eminent for its extensive manufacturing interests, and its importance as a great entrepôt of the Western trade, commanding, as it does, the navigation of the great upper lakes of this continent. Iron forms a leading feature of industry, and its blast furnaces, rolling-mills, foundries, and stove works, are among the largest in the U. S. Distilleries, malting breweries, and flour-mills flourish here. But it is to its immense traffic in grain that *B.* owes much of its importance and wealth. Its creek is navigable for about eight miles, and admits vessels drawing 14 feet of water. A pier, extending 1,500 ft., with a light-house upon it, facilitates ingress and egress. Still, however, the harbor is not accessible at all seasons, especially in the winter, on account of the accumulation of ice at the end of the lake. This ice, in spring, is pushed forward to *B.* by the S.W. winds, and causes a late opening of navigation. The enormous increase during the last few years in the receipts of grain at this port have originated the establishment of great *elevators*, for its reception and storage; these, some 43 in number, are conveniently located along both sides the creek, and have an aggregate capacity for storage of about 14,000,000 bushels, and daily transfer capacity of over 4,000,000 bushels, unsurpassed by any port in this or any other country. The largest of these affords storage-room for 1,000,000 bushels of grain. *B.* was an inconsiderable place previously to 1812, in which year it was a military frontier station. Its destruction, in 1814, was effected by a party of British and Indians; but in 1817 it was resuscitated. In 1832, it was incorporated as a city, and divided into 5 wards (now 13 wards), with the municipal govt. vested in the Mayor and Common Council chosen annually by the citizens. The International Bridge, from *B.* to Fort Erie, Canada, ¾ of a mile long, was completed in 1873, at a cost of $1,500,000. The city is supplied with water through a tunnel extending to the middle of Niagara river; average daily consumption of water, 196 gallons per capita. A fine series of parks are connected by boulevards which encircle the city. *Pop.* (1890) 255,664; 1897, abt. 325,000.

Buffalo, in *Ohio*, a village of Noble co.—A twp. of Noble co.

Buf'falo, in *Pennsylvania*, a post-township of Washington co., 30 m. S.W. of Pittsburg, on Buffalo Creek. Coal abounds.
—A township of Union co.
—A township of Butler co.
—A township of Perry co.
Buf'falo, in *Tennessee*, a village of Perry co., on Buffalo River, 100 m. S.W. of Nashville.
Buf'falo, in *Texas*, a post-village of Henderson co., on the Trinity River, 200 m. N.E. of Austin City.
Buffalo, in *W. Virginia*, a thriving post-village and township of Putnam co., on the Great Kanawha River, 340 m. W. by N. of Richmond. Coal and iron-ore are largely found in the vicinity.
Buffalo, in *Wisconsin*, a W. county, on the confines of Minnesota, with an area of 650 sq. m. It is watered by the Mississippi River (which bounds it on the N.W.), the Chippewa (on the W.), and the Eagle and Trempealeau rivers. *Surface.* Diversified. *Soil.* Fertile. *Cap.* Alma.
—A post-township of the above co., on the Mississippi, 5 m. below Fountain City.
—A village of the above co., on the Mississippi, 8 m. from Alma. See BUFFALO CITY
—A township of Marquette co.
Buffalo Bayou, in *Texas*, flows E. through Harris co., and empties into Galveston Bay at Lynchburg. Steamers ascend as far up as Houston, 45 m. from its embouchure.
Buffalo-berry, *n.* (*Bot.*) See STEPHERDIA.
Buffalo-chips, *n. pl.* The sun-dried excrement of the buffalo, used as fuel on the American plains.
Buffalo City, in *Wisconsin*, a post-village of Buffalo co., on the Mississippi River, 8 m. from Alma.
Buffalo-clover, *n.* (*Bot.*) A name applied in the U. States to a species of *Trifolium*, common to the prairies where bisons (buffaloes) feed.
Buffalo Creek, in *Georgia*, Glynn co., falls into the Oconee River, 12 m. S.W. of Sandersville.
Buffalo Creek, in *Iowa*, Buchanan co., empties into the Wapsinicon River, near Anamosa.
Buffalo Creek, in *Mississippi*, passes through Wilkinson co., and empties into the Mississippi.
Buffalo Creek, in *N. Carolina*, falls into Rocky River, in Cabarrus co., 12 m. N. of Concord.
Buffalo Creek, in *New York*. Erie co., formed by Cayuga, Seneca, and Cazenove creeks, empties into Lake Erie at Buffalo.
Buffalo Creek, in *Pennsylvania*, in the W. part of the State, flows into the Alleghany River, 25 m. N.E. of Pittsburg.—Another, in Perry co., empties into the Juniata River, 12 m. from its mouth.—A third, in Union co., falls, near Lewisburg, into the N. branch of the Susquehanna.
Buffalo Creek, in *S. Carolina*, empties into Broad River, York district.
Buffalo Cross Roads, in *Pennsylvania*, a post-office of Union co.
Buffalo-fish, *n.* (*Zoöl.*) See TAURICHTHYS.
Buffalo Ford, in *N. Carolina*, a post-office of Randolph co.
Buffalo Forge, in *Virginia*, a P. O. of Rockbridge co.
Buffalo Fork, in *Arkansas*, a township of Marion co.
Buffalo Fork, in *Iowa*, a post-office of Kossuth co.
Buffalo Grove, in *Illinois*, a village of Ogle co., 15 m. W. by S. of Oregon City.
Buffalo Grove, in *Iowa*, a P. O. of Buchanan co.
Buffalo Heart, in *Illinois*, a village of Sangamon co., 15 m. N.E. of Springfield.
Buffalo Knob, in *Missouri*, a village of Pike co.
Buffalo Lake, in *Wisconsin*, Marquette co., abt. 12 m. long, connects with Puckawa Lake.
Buffalo Lake, in British N. America. The name of three lakes: one in Lat. 66° 20′ N., Lon. 113° W.; another in Lat. 56° N., Lon. 113° 45′ W.; and the third in Lat. 52° 15′ N., Lon. 112° 10′ W.
Buffalo Mills, in *Pennsylvania*, a post-office of Bedford co.
—In *Virginia*, a post-office of Rockbridge co.
Buffalo Mountain, in *Pennsylvania*, Union co., in its N. part.
Buffalo-nut, *n.* (*Bot.*) A name given in the U. States to the nut of *Pirularia oleifera*.
Buffalo Paper Mill, in *N. Carolina*, a post-office of Cleveland co.
Buffalo Plains, in *New York*, a P. O. of Erie co.
Buffalo Prairie, in *Illinois*, a township of Rock Island co.
Buffalo'ra, a village of N. Italy, prov. of Lombardy, 25 m. N.N.W. of Pavia. There is a magnificent bridge of 12 arches over the Ticino, that was partially blown up by the Austrians, at the beginning of the Italian campaign of 1859.
Buffalo'ra, in *W. Virginia*, a P. O. of Logan co.
Buffalo Ridge, in *Tennessee*, a post-office of Washington co.
Buffalo River, or RIVIÈRE AU BŒUF, (*re've-air'ō-bif.*) in *Missouri*, flows through Gasconade and Franklin counties, into the Missouri River.
Buffalo River, in *Tennessee*, rising in the S.W. of the State, and taking a course W. and N., empties into Duck River.
Buffalo River, in *Wisconsin*, forms the boundary between La Crosse and Chippewa cos., and empties into the Mississippi.—Another stream, flowing S.W. through Chippewa co. into Chippewa River.
Buffalo-robe, *n.* A buffalo-skin retaining the hair, prepared and used in N. America as a covering or garment, and held, as such, in high estimation.
Buffalo Run, in *Pennsylvania*, a P. O. of Centre co.
Buffalo Shoals, in *Virginia*, a post-office of Wayne co.
Buffaloville, in *Indiana*, a post-office of Spencer co.
Buff'-coat, *n.* A military outer garment worn in the 17th century as a defensive covering. It was made of a thick and elastic material, as the buffalo-skin, had no sleeves, and was laced tightly over the chest.
Buffel-duck, *n.* (*Zoöl.*) The *Anas bucephala* of Linn., ord. *Fuligula albeola* of Audubon, a species of duck found in winter in the rivers of N. and S. Carolina: — so called from the fulness of the feathers about the head.
Buffer, *n.* (*Mech.*) A rod with enlarged end or striking block, projecting from the ends of the frame of a railway carriage, and attached to springs, for deadening the force of concussion with any object of collision.
Buffer-head, *n.* (*Mech.*) The head of the buffer of a railway carriage, which receives the force of a concussion.
Buffet, (*buf'fet,*) *n.* [It. *buffetto*; O. Fr. *buffe*, a slap on the cheek. Formed from the sound.] A blow which produces a dull, hollow sound; a thump; a box on the ear; a slap: as, I gave him a good *buffet*.
"Go, baffled coward, lest I run upon thee,
And with one *buffet* lay thy structure low."—*Milton.*
—Violent concussion, or meeting of force and resistance; as, the *buffet* of the waves.
"Those planks that used . . . to brave the *buffets* of the Bay of Biscay."—*Burke.*
—A small stool.
—*v. a.* To strike so that the blow produces a dull sound; to thump; to beat; to strike; to box on the ear; to cuff.
"Our ears are cudgelled; not a word of his
But *buffets* better than a fist of France."—*Shaks.*
—To contend against; as, to *buffet* the frowns of fortune.
"And *buffeting* the billows to her rescue."—*Shaks.*
—*v. i.* To play in a boxing-match.
"If I might *buffet* for my love, I could lay on like a butcher."—*Shaks.*
—To strive to make one's way by buffeting.
Buffet (*boo-fā'*), *n.* [Fr.] A sideboard; hence, a place where light refreshments or drinks are served.
Buffet-car, *n.* A railroad car which is supplied with a buffet.
Buffeter, *n.* A boxer: one who buffets.
Buffeting, *n.* A striking with the hand.—A series of blows; attack; assault.
Buffet-stool, *n.* A little portable seat, without arms or a back.
Buff'ing-appara'tus, *n.* (*Mech.*) See BUFFER.
Buffle-headed, *a.* Having a large head like a buffalo; dull; stupid; obtuse; foolish.
Buffo, Buffa, *n.* (*Mus.*) The term applied by the Italians to an actor and singer who takes the humorous and ludicrous parts in their operas. There are two sorts of Buffos,—the *buffo cantante*, who has frequently an important part to play, requiring considerable musical talent, and the *buffo comico*, whose part consists more in acting. The term is also applied to the pieces themselves; as, *opera buffa*, a comic opera.
Buffon, GEORGE LOUIS LE CLERC, COMTE DE, (*boof-fawng'*,) an illustrious French naturalist, B. at Montbard, 1707. Son of a counsellor of the Parliament of Dijon, he studied for the law; but his inclination led him into the paths of science, and he paid much attention to astronomy and geometry. At the age of 20 he made the tour of Italy, visited England, and in 1735 published some translations from the English. In 1739 he was admitted into the Academy of Sciences, and appointed Superintendent of the *Jardin des Plantes* and Cabinet of Natural History, which, by his care, were considerably enriched and improved. Profiting by the resources of the establishment over which he presided, he devoted himself entirely to the study of natural history. In 1749 appeared the first of his great works, *Natural History, General and Particular*, which was not completed till 1767, when it amounted to 15 vols. 4to., and 31 vols. 12mo. To it were afterwards added several volumes more by way of supplement. In 1771 appeared his *History of Birds*, and in the same year he was created a count. In 1773 he began his *History of Minerals*. D. 1788. The character of *B.*'s mind seems to have been comprehensive, exhibiting an insatiable desire of knowledge joined with a persevering fondness and appetite for study rarely to be found. To these gifts nature had added a most fervid imagination, and his biographers have superadded no small portion of vanity. If by vanity be meant an anxious solicitude for a literary immortality, "that last infirmity of noble minds," which was continually betraying itself, *B.* was without doubt a vain man. *B.* was of a noble countenance and commanding figure, and his fondness for magnificence and dress seem to have amounted almost to a passion. It is curious to observe such an intellect as his finding time, in the midst of the severest studies, to submit his head to the friseur often twice and sometimes three times in the day, and to make his toilet in the extreme of the fashion. His devotion to study soon ripened into a habit, and became his solace under the excruciating torments which embittered the last years of his life. When asked how he had found time to do so much, he would reply, "Have I not spent fifty years at my desk?" *B.*'s style was brilliant and eloquent even to the verge of poetry; and it is worthy of remark that a mind which had been trained and disciplined in the severity of the exact sciences should surrender the reins so entirely to the most luxuriant, but fanciful imagination. Hence, as is observed in the article on Birds, he was often arraigning nature at the bar of his fancy for some supposed defect of design, when the fault was in his own want of perception of the end to which that design was directed, arising from his not being acquainted with the habits to which it ministered. His observations on the bill of the Avoset, on the structure of the Sloth, and on the melancholy condition of the Woodpecker (*picus*), are examples of this habit; upon the woodpecker he is quite pathetic, but, as in all such cases, he bestows his pity upon a very unworthy object. He has been charged with infidelity; but this, like some others, is a charge easy to be made and hard to be disproved, though it must be admitted that his works afford ground for it. His son, the Comte Henri de *B.*, fell under the guillotine at the beginning of the revolution, the name of his illustrious father being unable to save him from the penalty attaching to the nobility at that period.
Buffont', *n.* (*Costume.*) A projecting covering of gauze or linen for a lady's breast, in fashion in and after the year 1750, a period when English and French lady's costume was very ungraceful. The *B.* entirely concealed the neck and bosom, and stuck out from beneath the chin like the breast of a pigeon. It was generally accompanied by some other ugly articles of costume which were invented at that time. The *B.* was worn in Paris as late as 1788.
Buffoon, (*buf-fön'.*) *n.* [Fr. *bouffon*, from *bouffer*; It. *buffare*, to puff, to trifle, to jest, to play the fool.] One who excites laughter by puffing out his cheeks and making grimaces; one who makes sport by low jests, antic postures, and low gestures; a droll; a mimic.—In England, the name *B.* was sometimes applied to those persons who were employed as fools at court or at the tables of great men.
—*v. i.* To play the part of a buffoon. (R.)
—*v. a.* To render or make ridiculous.
Buffoon', *a.* Resembling, or pertaining to, a buffoon.
Buffoon'ery, *n.* The arts and practices of a buffoon.
"In an ill-bred man, . . . learning becomes pedantry, and wit *buffoonery*."—*Locke.*
—Low jests; ridiculous pranks; ribald nonsense.
"And whilst it lasts, let *buffoonery* succeed
To make us laugh; for never was more need."—*Dryden.*
Buffoon'ing, *n.* Buffoonery: low mirth.
Buffoon'ish, *a.* Imitatory of a buffoon; ridiculously nonsensical in voice and gesture.
Buf'ford's, in *Missouri*, a village of Reynolds co., on Big Black Water River, 90 m. S.S.W. of St. Louis.
Buff'-stick, *n.* (*Mech.*) A stick of wood covered with buff leather, used in polishing silver-plate, &c.
Buf'fy, *a.* Of the color of buff; light-yellow; applied to the blood.
Buf'fy-coat, *n.* (*Med.*) When the coagulation of blood is retarded so as to allow the red particles to sink, and the lighter white corpuscles to rise towards the surface, the supernatant opaline plasma coagulates without the red particles, but includes the white ones, and forms a light-colored clot of fibrin and white corpuscles resting on the main body of the coagulum which has included the red corpuscles, and constitutes what is called the *buffy-coat*. It is indicative of inflammatory disease, during which the coagulation of the blood is retarded beyond the ordinary time.
Bu'fo, *n.*, and **Bufo'nidæ,** *n. pl.* (*Zoöl.*) See TOAD.
Bu'fonite, *n.* (*Pal.*) The obsolete name of the rounded teeth of fossil fishes found in oölite formations.
Bu'ford, in *Illinois*, a post-office of Macoupin co.
Bu'ford, in *Kentucky*, a post-office of Ohio co.
Bu'ford, in *Ohio*, a post-village of Highland co., 45 m. E. of Cincinnati.
Bu'ford's, in *Virginia*, a post-office of Bedford co.
Bu'ford's Station, in *Tennessee*, a P. O. of Giles co.
Bug, *n.* (*Zoöl.*) Of the numerous tribe of hemipterous insects belonging to the genus Cimex, we may specify the troublesome and nauseous insect, the *Cimex lectularius*, or common domestic *B.* To give a very particular description of this noxious tormentor would be superfluous; it may be sufficient to observe, that it is of an oval shape, about the sixth of an inch long, of a compressed and flat form, and of a reddish-brown color. The English assert that they are indebted to our country for the introduction of this little *pet*, but it appears to have been very common in Europe before 1670, the year fixed for its importation from America among the timber used in rebuilding the city of London after the great fire of 1666. Its blood-sucking properties, and the offensive smell it emits when touched, are too well known to require comment. The female *B.* deposits her eggs in the beginning of summer; they are very small, white, and of an oval shape; each is fixed to a small hair-like stalk, which is glutinous, and readily adheres to anything it touches. The places in which the eggs are generally deposited are the crevices of bedsteads or other furniture, or the walls of a room. During the winter months these odious insects secrete themselves behind walls, old wainscoting, or any neglected places, where they are capable of bearing the most intense frost without injury, and on the return of warm weather again emerge from their concealment. A bug always avoids the light, if possible, and takes advantage of every chink and cranny to make a secure lodgment; its motion is slow and unwieldy; but its sight is so exquisite, that, although it persecutes its victim with unceasing assiduity in the dark, the moment it perceives the light it generally makes good its retreat.—The best preventive of bugs in a house is *scrupulous attention to cleanliness;* but where the nuisance exists it is not easily removed, and various means are employed for this purpose, of which one of the best and safest is thorough washing with spirit of turpentine, although recourse is even had to washing with a solution of corrosive sublimate.—See CIMEX.

Fig. 444.—BUG. (*Cimex lectularius.*)

Bug, Bog, or Boug, a river of European Russia, rising in the S.W. of Volhynia, and flowing S.E., falls into the estuary of the Dnieper, 25 m. below Nicolaieff. It is navigable from Vosnesensk. — Also, a river which rises in Galicia, and, after a course of 300 m., joins the Vistula 18 m. N.W. of Warsaw.

Bug'bear, Bug'aboo, Bug, *n.* [*Bug* and *bear*; W. *bwg*, a hobgoblin or scarecrow; from *bw*; Eng. *bo!* an exclamation used to scare or terrify children.] A frightful object; a walking spectre; anything imaginary that is considered frightful; anything that excites needless fear.

"Would he not, naughty man, let it sleep?
A *bugbear* take him" — *Shaks.*

"Take you abroad? Indeed not I;
For all the *bugaboos* to fright ye." — *Lloyd.*

Bug'bear, *a.* Exciting or causing needless terror; as, a *bugbear* thought.

Bug'bear, *v.a.* To frighten with idle apprehensions.

Bugeaud de la Piconnerie, Thomas Robert, Duc d'Isly, (*boozh'o,*) a marshal of France, b. at Limoges, 1784. In 1804 he entered the French army as a private, distinguished himself at Austerlitz, served in the campaigns of Prussia and Poland, and was afterwards sent to Spain, where he remained till 1814. On his return to France he was promoted to a colonelcy, and, at the first Restoration, seemed favorable to the dynasty; but, during the Hundred Days, he followed the fortunes of Napoleon. In 1831, he was created a marshal of France and sent to Algeria, where he conducted a brilliant campaign against the Arabs. In 1840 he was appointed Governor-General of that country, then become partially a French province, and had not held the office long before he recommended the home govt. to adopt measures for the entire subjugation of that country. In three years this was realized. In 1844, hostilities broke out between the French and the emperor of Morocco, when *B.*, with 10,000 men against 40,000, routed the emperor's army at the battle of Isly for which he was rewarded with the title of duke. In 1847 he retired, discontented that his plans for colonizing Algeria were thwarted. Summoned to the aid of Louis Philippe on the night of the 23d and 24th of February, 1848, the command of the army was, a few hours afterwards, taken from him, just as he had adopted decisive measures to save the monarchy. After the election of Louis Napoleon, in the December following, as president of the republic, *B.* was taken into favor, and received the command of the army of the Alps. He d. of cholera, in Paris, 1849.

Bu'genhagen, Johann, (surnamed Pomeranus, or Dr. Pommer,) a German Protestant theologian, b. at Wollin, near Stettin, 1485. He was a friend of Luther, and assisted him in the translation of the Bible. His numerous works are now seldom read. D. 1558.

Bug'gabo, in *N. Carolina*, a post-office of Wilkes co.

Bug'ger, *n.* [Fr. *bougre.*] One guilty of the crime of unnatural intercourse; a sodomite. — A vile wretch.

Bug'gery, *n.* Unnatural intercourse; sodomy.

Bug'giness, *n.* The state of being infected with bugs.

Bug'gy, *a.* Abounding with bugs; as, a *buggy* house.

Bug'gy, *n.* A term used in the U. States to specify a light four-wheeled carriage with a movable calash top.

Bu'gia, or **Boudjeiah,** a seaport town of Africa, in French Algeria, at the mouth of the Adnse, 122 m. E. of Algiers. There is good anchorage off the town in 8 or 10 fathoms, but N.E. winds throw in a heavy sea. It was bombarded by the English in 1671, and taken by the French in 1833.

Bugle, (*bu'gl,*) *n.* [O. Fr.; from Lat. *buculus*, a young bullock.] A buffalo. (R.)

Bugle, Bugle-horn, *n.* [Probably from O. Fr. *bugle*, an ox, from Celt. *bw*, an ox, whence *beugler*, to low, to bellow, as a buffalo, bull, or ox.] Literally, the horn of an ox or buffalo; specifically, a hunting-horn; a brass wind-instrument of military music, latterly so much improved by the addition of six keys, that it now is of the greatest service both in solo and concert music, and is very commonly found in orchestral and military bands. The bugle, when played with taste, forms a delightful accompaniment to the pianoforte, and possesses the advantage over most other horns, of a methodical fingering, by which the true tones can be produced without so much recourse to the ear as would otherwise be necessary.

(*Bot.*) See Ajuga.

—The name given to a horn drinking-vessel, formerly used in England.

"And drinketh of his *bugle-horn* the wine." — *Chaucer.*

—[Ger. *bügel*, a bent trinket.] An elongated glass bead, generally of black color.

"*Bugle* bracelets, necklace amber,
Perfum'd for a lady's chamber." — *Shaks.*

Bu'gler, *n.* The player on a bugle.

Bugle-weed, *n.* (*Bot.*) See Lycopus.

Bu'gloss, *n.* (*Bot.*) See Lycopsis.

Bug'wort, *n.* (*Bot.*) See Cimicifuga.

Buhl, (*bül,*) *n.* Same as Boule, *q. v.*

Buhl-work, *n.* See Boule.

Buhr'-stone, *n.* (*Min.*) A variety of quartz containing many small empty cells, which give it a peculiar roughness of surface. They are used principally as mill-stones. The best kinds are creamy white, with a granular and somewhat cellular texture, and are obtained in the tertiary formation of the Paris basin, and chiefly at La-Ferté-sous-Jouare. They are cut into wedge-shaped parallelopipeds called *panes*, which are bound together with iron hoops to form large millstones. Numerous substitutes for the French *B.* have been found in the U. States, the most important being furnished by the *B.* rock of the bituminous coal-measures of N.W. Pennsylvania and E. Ohio: but they cannot compete in the great markets with the French rock.

Build, (*bild,*) *v.a.* (*imp.* and *pp.* built. The regular *imp.* and *pp.* builded is sometimes, but rarely, used.) [A.S. *byldan*, to confirm; Du. *beelden*, to form; Ger. *bauen*, to build, from Goth. *bauan*, to dwell; Swed. and Goth. *bo*, *bua*, to prepare; Swed. *bygga*, to build. Root *bû*, Sansk. *bhû*, to be.] To prepare, raise, or construct a habitation; to construct and raise; to erect a structure by the use of materials; as, to *build* a church.

"He *builded* better than he knew,
The conscious stone to beauty grew." — *R. W. Emerson.*

—To raise or erect on a basis or foundation; as, to *build* up one's hopes.

"Love *built* on beauty, soon, as beauty, dies." — *Donne.*

—To confirm; to establish; to strengthen; to consolidate. (Sometimes followed by *up.*)

—*v.i.* To exercise the art, or practise the business, of building.

"To *build*, to plant, whatever you intend,
To rear the column, or the arch to bend." — *Pope.*

—To construct, rest, or depend, as on a foundation.

"Some *build* rather upon the abusing of others, and putting tricks upon them, than upon soundness of their own proceedings." *Bacon.*

—*n.* Construction; make; form; as, the *build* of a vessel. (Sometimes written *built.*)

"As is the *built*, so different is the sight,
Deep in their hulls our deadly bullets light." — *Dryden.*

Builder, (*bild'er,*) *n.* One who builds; a constructor. This term is applied both in civil and naval architecture: in the former, the *B.* is generally employed under the superintendence of an architect, by contract, or at measure and value; in the latter, under the naval architect, mostly by contract.

Build'ing, *n.* The art of putting together certain materials, such as stones, bricks, timber, slates, &c., wrought into various necessary forms, for the purpose of constructing dwelling-houses and other edifices required for public or private purposes. In building, the builder practically carries out the ideas of the architect, who contrives the plan of the required edifice, that it may be well fitted for the purpose for which it is intended in every respect, and be suitable for the locality in which it may happen to be placed. This subject is too comprehensive to be usefully treated in a general notice, so that for the different departments and details of the art, and also the materials employed, reference is made to the articles Ashlar, Arch, Bend, Brick, Brick-laying, Carpentry, Chimney, Door, Foundation, Lime, Lintel, Masonry, Painting, Plastering, Roof, Slate, Staircase, Stone, Tiling, &c. See also Building, in Section II.

—An edifice; a raised structure; anything built, as a house.

Built, *imp.* and *pp.* of Build, *q. v.*

Built, *a.* Shaped; formed; fashioned; constructed; as, a strongly *built* man.

Built, *p.a.* Resembling; having a likeness to; after a given manner; used generally after the word specifying the type; as, a clipper-*built* vessel.—*Built beam, mast,* &c., one formed by the joining of two or more pieces mortised or kneed together.

Bujal'ance, a town of Spain, in Andalusia, prov. Cordova, 22 m. from the latter city, and 7 from the Guadalquivir. It is a well-built place, with manufactures of woollens. *Pop.* 9,808.

Bukharia. See Bokhara.

Bukowi'na, a prov. of Austria. See Galicia.

Buk'sheesh, *n.* See Backshish.

Bul, *n.* (*Zoöl.*) The common flounder.

Bulau, *n.* (*Zoöl.*) See Gymnura.

Bulb, *n.* [Gr. *bolbos;* Lat. *bulbus;* W. *bal, bol,* a protuberance.] (*Bot.*) A shortened stem or branch, usually subterranean, bearing on its surface a number of fleshy scales, which are modified leaves. It is only found in monocotyledonous plants, and is seen in the hyacinth, lily (Fig. 439), and onion. The *B.* may be looked upon as a subterranean leaf-bud, arising from a shortened axis. From its centre an herbaceous stem arises, and from the subterranean axis new *B.* or *cloves*, as they are called, are produced. Every new *B.* is formed in the axil of a scale like a *bud*, q. v.; sometimes it remains attached to the parent *B.*, and sends up an axis and leaves; at other times, it is detached in the course of growth, and forms an independent plant. The new *B.* feeds on the parent one, and ultimately causes its complete absorption. The scales are generally thickened by the deposition of nutritive matters, intended for the future use of the plant. In the onion, squill, and leek, these scales are covered externally by thin membranous coats or tunics: hence the *B.* are said to be *tunicated.* When the membranous coats are absent, the *B.* is said to be *naked* or scaly, as in the white lily. The solid, rounded underground stem, called by botanists a *corm*, is commonly regarded as a *B.*

(*Anat.*) A name given to different parts which resemble, in shape, certain bulbous roots. The *B. of the aorta* is the great sinus of the aorta; the *B. of a tooth* is the vascular and nervous papilla contained in the cavity of a tooth; the *B. or root of the hair* is the part whence the hair originates.

—A round body, or spherical expansion on a stem or pipe; as, the *B.* of a thermometer.

Bulb, *v.a.* To form bulbs; to grow into bulbs.

Bulbed, (*bulbd.*) *a.* Having a bulb.

Bul'bel, *n.* (*Bot.*) Same as Bulblet, *q. v.*

Bulbeliferous, *a.* (*Bot.*) Producing or giving out bulbs; as, a *bulbeliferous* plant.

Bulb'let, *n.* (*Bot.*) Small conical or rounded bodies produced in the axil of the leaves of some monocotyledonous plants, and which are of the nature of bulbs. They can be readily distinguished from ordinary leaf-buds by their fleshy character. They are easily detached from the parent stem, and, when placed in favorable circumstances, they produce new individuals. They may be seen in *Lilium bulbiferum*, *Dentaria bulbifera* (coral-wort), and in *Ranunculus ficaria* (pile-wort).

Bulbo'dium, *n.* (*Bot.*) A kind of underground stem resembling a rhizome.

Bulbogeni'na, *n.* (*Bot.*) A term applied to those bulbs that grow on the stems of plants, as in the tiger-lily and other species of that genus.

Bulbose', Bul'bous, *a.* (*Bot.*) Containing a bulb or bulbs: growing from bulbs; round or roundish; as, a *bulbous* root.

Bul'bo-tuber, *n.* (*Bot.*) That kind of stem which the old botanists termed a *solid bulb*, and the moderns more generally a *corm.* It is a solid underground stem, generally round or roundish, clothed with the withered remains of leaves, and producing buds on its surface as in the crocus.

Bul'bul, *n.* [Per.] (*Zoöl.*) The Persian nightingale.

Bul'bule, *n.* [Lat. *bulbulus.*] (*Bot.*) A young bulb springing from an old one.

Bulga'ria (anc. *Mœsia Inferior*). A hereditary principality of South Easterη Europe, bounded N. by the Danube, which separates it from Roumania; E. by the Black Sea, S. by the Balkan chain, which separates it from Roumelia; S. W. by Prissena, and N. W. by Servia. Length N. E. to S. W., about 350 miles; *area*, 24,360 square miles. This country is for the most part mountainous, and eminently so in the S. where the principal chain of the Balkan Mountains forms its boundary; the Danube constitutes its N. limit; but excepting that river, *B.* has none of any magnitude, although sufficiently watered by small streams. Its climate is temperate, and its soil fertile and well adapted for the culture of corn, vines, the mulberry, and other fruit trees, and tobacco; but agriculture is rather backward in regard to modern improvements. There are but few marshes; the pastures are extensive and rich, and feed numerous herds of cattle; the higher lands are often covered with forests of pine, oak, and beech. The Bulgarians are descended from a Slavonic horde, formerly inhabiting the banks of the Volga, who crossed the Danube and established themselves in this country in the 7th century, and have since gradually spread themselves over a large part of the region S. of the Balkan. The present race have laid aside the military character of their ancestors; they are pastoral in their mode of life, dwelling in small hamlets of about 40 or 50 windowless and unwholesome houses each, and occupying themselves chiefly with agriculture and cattle-breeding, with some manufactures, as those of coarse woollens, rifle-barrels, morocco leather, and attar of roses. Large gardens are devoted to the culture of roses. They are kind and benevolent people; their women mix freely with the men, are handsome, industrious, and dress neatly. All wear trinkets, and the girls have their heads uncovered, and hair braided and ornamented with coins. In 1860, an independent *B.* Church was formed, which now embraces almost the entire population renouncing allegiance to the Greek Patriarch. Education, until about 1860, almost unknown; free schools have of late been established. Two schools, under American auspices, were opened in 1865. The language of *B.* is a dialect of Servia.—*Chief Towns.* Sophia or Sofia, (the cap.), Tirnova, Shumla, Silistria, Rustchuk, Widdin, and Varna. Formerly a Turkish province, *B.* was constituted, by the Treaty of Berlin, July 13, 1878, an autonomic and hereditary principality, under the nominal suzerainty of the Sultan. Alexander I, of Battenburg, was elected by the Assembly prince of *B.* April 29, 1879, deposed 1886, succeeded, 1887, by Ferdinand I, of Saxe-Coburg-Gotha. The constitution of 1879 invests the legislative power in an Assembly, elected by universal suffrage. *Pop.* in 1897, estimated 3,154,375.

Bulga'rin, Thaddeus, a Russian author, b. in Lithuania, 1789, received a military education in St. Petersburg, and, in 1805, served against France. Later, he forsook the Russian army for the French, and was, in 1814, appointed by Napoleon to a command. After Napoleon's fall, *B.* went to Warsaw, where he contributed several poetical and humorous works to Polish literature. But, ultimately, he settled in St. Petersburg, and devoting himself to the study of Russ, soon became a popular author. In 1825, together with his friend Gretsch, he began the *Northern Bee*, and since then he has written several romances — of which *Demetrius* and *Mazeppa* are the best. *B.* is humorous and graphic as a writer, judicious as an editor: as a critic, severe, and by no means dispassionate. His large work, *Russia in its Historical, Statistical, Geographical, and Literary Aspect*, has been translated into German. His last work, *Vospominaniya*, contains reminiscences of his life. D. 1859.

Bulge, (*bulj,*) *n.* [Ger. *bulge*, a swelling wave; O. Ger. *balg*, a bag made of an animal's hide; Swed. *bölja;* Dan. *bölge;* Gael. *bolg, builg*, a bag; W. *bwlg*, a rotundity. Root *bal;* O. Ger. *belgan*, to swell.] Literally, a swelling out; a protuberance; specifically, the bilge or protuberant part of a cask.

(*Naut.*) That part of a ship which bulges out at the floor-heads, to assist the vessel when taking the ground. Sometimes called *bilge.*

—*v. i.* To swell out; to be protuberant.

"Any timber that *bulges* from its bottom or foundation." — *Moxon.*

—To bilge out, as a ship.

"And scattered navies *bulge* on distant shores." — *Broome.*

Bulge'ways, *n.* (*Naut.*) See Bilgeways.

Bulim'ia, Bu'limy, *n.* [Gr., literally, ox-hunger.] (*Med.*) An inordinate or voracious appetite; a disease of the stomach and the digestive organs. Persons laboring

under this disease feel all the effects of hunger, even when the stomach is full; and the stories that are told of the quantities of food consumed in such cases are scarcely credible. The real nature of this disease is very imperfectly known. In some cases, the health appears to be otherwise good: but usually, *B.* is a concomitant of other diseases. Its consequences are, leanness, pulmonary fevers, consumption, dropsy. — Sometimes there exists an extraordinary craving for food after the system has been much exhausted, or from a certain condition of the stomach, which causes it to digest the food with too great rapidity; but these do not indicate disease, but only excessive appetite. The amount of food consumed by persons laboring under this ravenous state of appetite is enormous. Ancient history is full of accounts of men and women whose consumption, though beyond all precedent, never seemed to bring satiety. The Emperor Maximus, a man eight feet high, dispatched daily for his dinner 40 pounds of beef and 10 bottles of wine, without counting bread and vegetables. In consequence of this immense diet, his frame expanded to such dimensions that his wife's bracelets served him for rings to his fingers. But even Milo the Cretonian, the gormandizing of the Emperor Claudius, and all other cases recorded of *B.*, sink into insignificance before the achievements of the bloated monster Vitellius, who ransacked Europe, Asia, and Africa, to find luxuries for his inordinate appetite, every road being covered with couriers, and every sea with ships, stored with dainties for this Cæsar's symposia. He made four immense meals a day, frequently taking an emetic an hour before the next, to enable him to eat more and enjoy the feast longer. So insatiable was his appetite, that during the pontifical sacrifices, when, as high-priest, he officiated, he would frequently snatch the half-heated entrails from the sacred fire and devour them before the congregated people. His brother, Lucius Vitellius, once gave him a feast, at which there were 2,000 fishes cooked, 7,000 of the most rare and delicious singing-birds, besides other varieties from all quarters of the world. Some idea of the enormous gluttony of this emperor may be formed when it is known that in the four months of his reign his table alone cost a sum equal to 35 million dollars. A standing order in this despot's domestic arrangements was, that several thousands of pheasants' livers, tongues of fishes, peacocks' brains, and tails of lampreys, should be always kept in stock.

Bulk, *n.* [A. S. *buce;* Du. *buik;* Swed. *buk;* W. *bwlg;* Gael. *bolg.* Of the same origin as bulge.] The whole magnitude or dimensions of anything; size; mass; as, a man of great *bulk.* — The gross; the majority; the main part; as, the *bulk* of the people.

"The *bulk* of the debt must be lessened gradually." — *Swift.*

(*Law.*) Merchandise which is neither counted, weighed, nor measured. — A sale by bulk is a sale of a quantity such as it is, without measuring, counting, or weighing.

(*Naut.*) The chief contents of a ship's cargo when laden; as, iron formed the *bulk* of her freight.

—A projecting front of a building; a place jutting out, as a stall.

"Here, stand behind this *bulk.* Straight will he come;
Wear thy good rapier bare, and put it home." — *Shaks.*

In bulk. In a solid mass or body; as, *grain* in bulk.

Stowed in bulk. (*Naut.*) Having the cargo stowed loose in the hold, and not packed in bales, cases, &c.

To break bulk. To commence the discharge of a cargo.

Sale by bulk. A sale of commodities as they stand, without weight or measurement.

Bulk'ar, *n.* (*Carp.*) A beam or rafter.

Bulk'er, *n.* (*Naut.*) A person employed to determine the carrying capacity of a ship.

Bulk'head, *n.* (*Naut.*) A partition built up in several parts of a ship, to form and separate the various compartments. Modern steamers for ocean traffic are rendered additionally safe by being divided into several compartments of *water-tight bulkheads.*

Bulk'iness, *n.* Quality of being bulky; greatness in bulk, size, or stature.

"Wheat, . . . cannot serve instead of money, because of its *bulkiness.*" —*Locke.*

Bulk'y, *a.* Large; of great size or bulk; of great dimensions; as, a *bulky* package.

"Latreus, the *bulkiest* of the double race." — *Dryden.*

Bull, *n.* [Ger. *bulle;* probably from Ger. *bellen:* A. S. *bellan,* to roar, to bellow; Swed. *bola;* Icel. *baula;* W. *bwla;* Hindoo, *buel.*] (*Zoöl.*) The male of any quadruped of the *bovidæ* family.

(*Astron.*) A sign of the zodiac; TAURUS, *q. v.*

(*Com.*) A cant term used on the Stock Exchange, and applied to those brokers who contract to buy any quantity of stock or shares, without having the intention or the ability to pay for them, and who are, therefore, obliged to sell again, either at a profit or a loss, before the time at which they have contracted to take it. It is the opposite of BEAR, (*q. v.*)

—*a.* A term used in composition as a qualification of large size; as, a *bull-trout,* a *bull-head,* &c.

Bull, *n.* [It. *bolla;* Lat. *bulla,* a bubble; from *bullo,* to boil, to bubble.] A seal of a round shape; a stamp.

(*Eccl. Hist.*) An instrument, edict, ordinance, or decree of the pope, equivalent to the proclamations, edicts, letters-patent, or ukases of secular princes. *B.* are written on the wrong side of parchment, to which a leaden seal is affixed, and are granted for the consecration of bishops, the promotion to benefices, and the celebration of jubilees, &c. The publication of papal bulls is termed *fulmination;* and it is done by three commissioners to whom they are usually addressed. The seal, or "bull," is thus described by Matthew Paris, A. D. 1257:

"*In bulla domini Papæ stat imago Pauli a dextris crucis in medio bullæ figuratæ, et Petri a sinistris.*" Bulls are generally designated by the first words of their text; thus, the *B. Unigenitus,* or *In cœna Domini,* &c.

Golden Bull. (*Hist.*) A term particularly applied to a statute or enactment of the Emperor Charles IV., published in 1536, in two diets held in succession at Nuremberg and Metz, for the purpose of fixing the laws in the election of the emperor, and of regulating the number and privileges of the electors (*Churfürsten*). The original copy of this instrument is preserved at Frankfort-on-the-Maine, and has a seal of gold appendant; whence the appellation "Golden Bull" is derived.

—A verbal blunder or contradiction. (The Irish people are peculiarly noted for their liability to this kind of *lapsus linguæ.*)

"I confess it is what the English call a *bull,* in the expression, though the sense be manifest enough." — *Pope.*

Bull, (John.) The popular *sobriquet* or characteristic name applied to the English nation. Its origin is obscure. It appears to have been first used in Arbuthnot's famous satire, the *History of John Bull,* written in ridicule of the Duke of Marlborough. This work is included in those of Dean Swift.

Bul'la, *n.*; *pl.* BULLÆ. (*Med.*) A portion of the cuticle, detached from the skin by the interposition of a transparent watery fluid. It forms the 4th order in Willan's and Bateman's arrangement of cutaneous diseases, and includes erysipelas, pemphigus, and pompholyx.

(*Antiq.*) A stud or boss, but more particularly an ornament in the shape of a heart, worn around the neck by noble Roman children till they were 17 years old, when they assumed the virile dress of the *toga,* and suspended the *B.* as a consecrated offering to the *lares* or household gods.

(*Zoöl.*) A genus of molluscous animals with univalve shells, whose general characteristics are—that the shell is sub-oval, that the aperture is oblong and smooth, and that one end is a little convoluted. The animal breathes by gills, but has no respiratory tube, and consequently the margin of the aperture of the shell is entire. Most of this genus, especially of the larger sizes, are furnished with an organ exactly resembling the gizzard of a fowl, and which they appear to use for the purpose of masticating their food.

Bul'lace, *n.* (*Bot.*) The English name of a species of plum, the *Prunus insititia.* — See PRUNUS.

Bullan'tio, *a.* Pertaining to, or denoting the ornamental capital letters used in Apostolic bulls.

Bul'lard's Bar, in *California,* a P. O. of Yuba co.

Bul'lary, *n.* A series or collection of papal bulls.

(*Salt Manuf.*) A boilery; a place where salt is boiled.

Bul'late, *a.* [Lat. *bullatus.*] (*Med.*) Having inflated elevations like blisters.

Bullate Leaf. (*Bot.*) Applied to a surface appearing as if blistered, puckered, or bladdery.

Bull'-baiting, *n.* (*Sports.*) The practice of baiting or exciting bulls to combat by the attacks of dogs. The animal was usually tied to a stake, with the points of his horns muffled, and then attacked by the dogs, who tore him to death for the amusement of the spectators. This barbarous practice was a favorite sport among the Egyptians, the Greeks, and the Romans, and being introduced into England about 1209, became for centuries the leading amusement of the lower orders of the people. It was put down by the Act for Prevention of Cruelty to Animals, in 1835.

Bull'-bee, Bull-fly, *n.* (*Zoöl.*) The GAD-FLY, *q. v.*

Bull'-beggar, *n.* A bugbear; any frightful object. (R.)

Bull'-brier, *n.* (*Bot.*) A name applied in the U. States to a large brier, called also *bamboo-brier,* found in the Southern States.

Bull'-calf, *n.* A male calf; sometimes applied as a term of reproach to a stupid fellow.

Bull'dog, *n.* (*Zoöl.*) The *Canis molossus,* a variety of the Dog, remarkable for its short, broad muzzle, and the projection of its lower jaw. The head is massive and large, and the frontal *sinuses* broad; the lips are thick and pendulous; the ears pendent at the extremity, the neck robust and short; and the legs short and thick. Though inoffensive and harmless when properly domesticated, the Bulldog presents to the eye a most savage appearance: the doubtful and designing leer, the tiger-like shortness of the head, the under-hung jaw, the width of the skull, the distention of the nostrils, and the almost constant sight of the teeth, hold forth a very formidable proof of the power he can exert, when that power is angrily brought into action. The breed is by no means so numerous as formerly, in consequence of the abolition of the barbarous sport of bull-baiting. In Europe, the butchers, use Bulldogs in catching and throwing down cattle; and it is surprising to see the apparent ease with which the dog will seize an ox by the nose, and hold him perfectly still, or throw him on his side, at his master's command. They become very vicious, and sometimes extremely dangerous, as they advance in years, inflicting dreadful bites for the slightest provocation; in their unrestrained state, indeed, they are a real nuisance, and therefore ought never to be allowed their full liberty.

Fig. 445. — BULLDOG.
(Awarded the premium at the Exhibition of Canine Races, Paris, 1869.)

Bull Creek, in *Georgia,* a post-office of Tatnall co.

Bull Creek, in *W. Virginia,* a post-office of Wood co.

Bulled, (*bůld,*) *a.* Swelled out. (R.)

Bul'len-nail, *n.* A nail with round head and short shank, turned and lacquered, and used principally for hangings of rooms.

Bul'let, *n.* [Fr. *boulet;* dimin. of *boule,* a bowl to play with; from Lat. *bala,* a bubble.] (*Gun.*) The general name for any kind of leaden projectile discharged from a rifle, fowling-piece, or pistol. Prior to the introduction of the various kinds of modern rifles with barrels furnished with numerous spiral grooves, the *B.* was spherical in form, and made by pouring lead in a molten state into a mould, the diameter of which corresponded with the calibre of the weapon for which it was intended. For the old rifle with two deep grooves in the interior of the barrel, the bullet was surrounded with a projecting rib, and was made by casting the lead in a grooved mould. *B.* of all shapes are now made by compression, a method infinitely superior to that of casting them, as there can be no irregular cavity or air-hole in any bullet formed by pressure, a thing which would seriously affect the flight of any projectile, and cause it to fall wide of the mark, on account of the eccentricity of motion that would be imparted to it, arising from the cavity causing it to be lighter on one side than on the other. The spherical *B.* is now entirely superseded by conical elongated projectiles of various forms, one of the principal of which is that used for the Enfield-Pritchett rifle. This *B.* is spherical at one end and hollow at the other, which is next the powder when the musket is loaded. The cavity is in the form of a truncated cone, and extends into the bullet nearly half its length. A little boxwood plug, about half the depth of the cavity in height, is fitted into the end of the bullet, leaving a small hollow space in its interior between the plug and the bottom of the cavity. When the powder explodes, this wooden plug is driven deeper into the cavity, and causes the lead, which presents the form of a tolerably thin ring at the flat end of the bullet, to expand and fit tightly into the grooves of the rifle, by which windage is prevented, and the accurate flight of the missile towards the mark insured. The first conical *B.* was invented in 1847 by Capt. Minié, and this invention almost immediately caused the abandonment of the use of the rod in the *carabine à tige,* and gave an impetus to the introduction of rifles in all European armies. There are now many kinds of *B.* of the conical form, with numerous contrivances for obtaining expansion at the moment of discharge, the principal of which will be briefly noticed in connection with the accounts of the rifles to which they belong. The latest small arms, as the Mauser, the Krag-Jorgensen, &c., use a bullet of small caliber—from ·22 to ·26—which is made of hardened steel and averages about two inches in length. These missiles have great penetrating power, but are less deadly than leaden bullets of larger calibre, because of the cleaner wounds they produce.

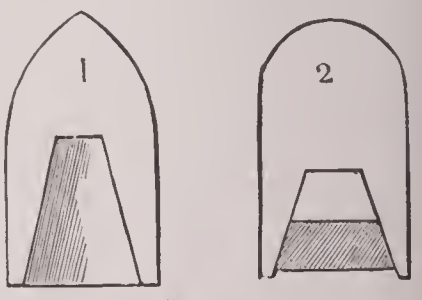


Fig. 446. — BULLETS.
1. Minié; 2. Enfield bullet.

Bul'letin, *n.* [Fr., from *boule,* because votes were given by means of balls.] Originally, a slip of paper on which a vote is given by writing. In diplomatics, a term equivalent to *schedule,* and variously applied to different public acts. In the modern sense, it is used to specify a report of a state of facts issued by authority; as, *bulletins* of health; *bulletins* of military operations, &c.

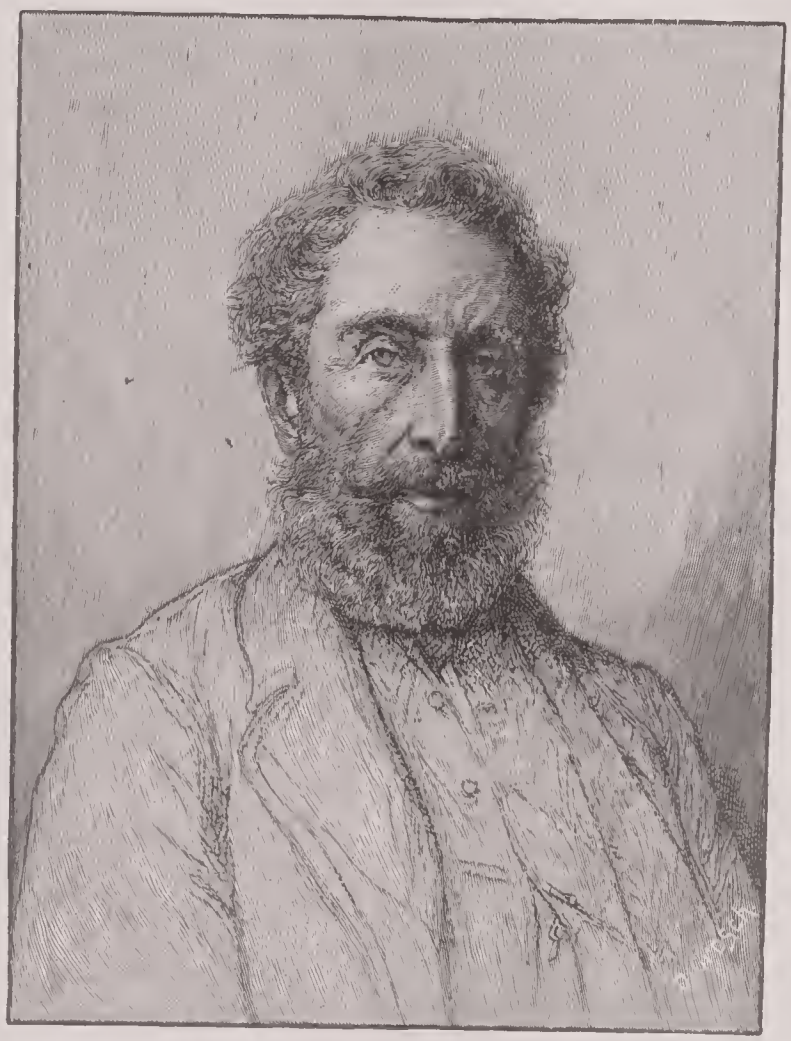
—Any public announcement of late news.

—A work published periodically, to record the proceedings of a learned society, &c.

Bul'letin-board, *n.* A board in a news-room, &c., whereon are posted the notices of latest intelligence.

Bul'let-proof, *a.* Made to resist the impact of a bullet.

Bul'let-tree, or **Bully-tree,** *n.* (*Bot.*) A tree much esteemed for its timber, which is hard and durable. It yields a delicious fruit about the size of a cherry A



Edward G. E. Bulwer-Lytton

1803–1873

native of Guiana, it is supposed to belong to the genus *Mimusops*, order *Sapotaceæ*.

Bull'-faced, *a.* Having a large face.

Bull'-feast, *n.* (*Sports.*) See BULL-FIGHT.

Bull'fice, BULL-FISH, *n.* (*Bot.*) See FROG'S-CHEESE.

Bull'-fight, *n.* (*Sport.*) A combat with a bull, wherein a man is the animal's antagonist. *B.* are a very ancient and barbarous kind of amusement, and were common in Greece several centuries before the Christian æra. In Rome, under the emperors, they were also common, and afterwards they became popular in many of the other countries of Europe. At present Spain is the only European country where they are still held. In Madrid, and all the larger towns of Spain, bull-fights are frequent. In the capital, the season lasts from April to November, during which time these contests take place at least once a week. The combats are held in a large amphitheatre called the *Plaza de Toros* ("place of the bulls"), open at the top, and with seats rising one above another round the circle, and capable of accommodating from 10,000 to 12,000 spectators. The arena is divided into an outer and an inner circle, separated from each other by a strong fence, the latter (or *arena*) being the place where the combats take place; the former affording shelter to the men on foot, when hard pressed by the bull, in order to effect which there are a series of openings in the fence just large enough to allow a man to pass through. The actors on the arena are the bull,

Fig. 447.—BULL-FIGHT IN THE MADRID AMPHITHEATRE.
(The vault with the pole.)

usually of the fierce Andalusian or Castilian breed; the *picadores*, or combatants, on horseback; the *banderilleros*, who are armed with sharp goads decked with colored streamers; the *chulos*, who wear very light-colored cloaks; and the *matador*, who dispatches the bull. The contest begins with the picadores, who are each armed with a lance, and mounted usually on a very worthless horse. Their object is to wound the bull with the lance, and then to avoid his onset. The horse is frequently gored in the encounter, and when a picadore is closely pressed, the banderilleros and chulos rush in and withdraw the bull's attention by pricking him with their darts and waving their cloaks. When the bull begins to flag, the picadores withdraw, and are succeeded by the banderilleros, who are armed with *banderillas*, or darts, about two feet long, ornamented with a colored flag. These the banderillero sticks into the bull behind the horns, when it is preparing to toss him. After a time, the third act of the play commences, and the matador enters upon the stage, attended by some chulos as assistants. Over his left arm he has a red mantle, behind which is concealed a sword which he has in his right hand. He awaits the charge of the bull, and, if well skilled, dexterously plunges the sword between the shoulder and the blade, and the animal drops dead at his feet. Twenty minutes is the time usually taken to terminate the contest, and 8 or 10 bulls are often dispatched in a single day. Lord Byron thus vividly describes the closing scene:

"Foil'd, bleeding, breathless, furious to the last,
Full in the centre stands the bull at bay,
'Mid wounds, and clinging darts, and lances brast,
And foes disabled in the brutal fray;
And now the matadors around him play,
Shake the red cloak, and poise the ready brand;
Once more through all he bursts his thundering way—
Vain rage! the mantle quits the cunning hand,
Wraps his fierce eye—'tis past—he sinks upon the sand!"

Bull'finch, *n.* (*Zoöl.*) The *Pyrrhula*, family *Fringillidæ*, a pretty bird, about the size of a sparrow, very common in many parts of Europe. Its wild note is a soft low twitter; but, when tamed, it becomes remarkably docile, and learns with great facility to whistle musical airs, which, if properly taught, it seldom wholly forgets. The bill is strong, short, black, and thick; the upper part of the head, the ring round the bill, and the

Fig. 448.—BULLFINCH.

margin of the neck, fine glossy black; the back, ash-gray; breast and belly, red; wings and tail, black; the upper tail-coverts and vent are white; legs, dark-brown.

(*Sporting.*) A high, stiff hedge, grown to an unusual height, in order to afford an obstruction to fox-hunters in England.

Bull'-frog, *n.* (*Zoöl.*) The *Rana pipiens*, the largest species of the gen. *Rana*, or Frogs proper. It is generally 6 to 8 inches long, exclusive of the feet, and 4 inches broad. It is an inhabitant of North America, particularly of the Southern States. At a distance, its voice resembles the lowing of a bull; hence its name.

Bull'head, *n.* (*Zoöl.*) The name of the fish MILLER'S-THUMB, *q. v.*

—A stupid fellow; a blockhead.

—A small, black water-insect.

Bull'inger, HEINRICH, a Swiss Protestant theologian B. near Zurich, 1504. In 1531, he succeeded Zuinglius as preacher in the cathedral at Zurich, which office he held to his death. He assisted in drawing up the first Helvetic confession of faith at Basle in 1536; and was sole author of the second Helvetic Confession. D. 1575.

Bull'ion, *n.* Uncoined gold and silver, or, more strictly, refined gold and silver in bars or other masses; but in political economy the term is frequently used to denote the precious metals both coined and uncoined. The word is said to be derived from the French *billon*, base coin, from the currency in France having been much debased by the kings.—See CURRENCY, MONEY, &c.

Bull'ionist, *n.* One who advocates an exclusive metallic currency, or a paper equivalent always convertible into gold.

Bull'irag, *v. a.* [*bully* and *rag.*] Same as BALLARAG.

Bull'isk, *a.* Partaking of the nature of a bull, or a blunder. (R.)

Bul'list, *n.* [Fr. *bulliste.*] One who transcribes papal bulls. (R.)

Bull'itsville, in *Kentucky*, a post-office of Boone co.

Bull'itt, in *Kentucky*, a N.W. county near the centre of the State, having an area of about 300 sq. m. It is watered by Salt River and Rolling Fork, which drains its S.W. frontier. Surface, wooded and diversified. *Cap.* Shepherdsville.

Bull'mouth Creek, in *Mississippi*, flows into the Tombigbee River, near the N. of Monroe co.

Bul'lock, *n.* [A. S. *bulluca.*] A young bull.—An ox.

Bul'lock, in *Alabama*, an E.S.E. county. *Cap.* Union Springs. *Pop.* (1898) 29,300.

Bul'lock, in *Georgia*, an E. county, adjoining the Ogeechee River. *Area*, 900 sq. m. *Surface*, flat and wooded. *Soil*, tolerably fertile. *Cap.* Statesborough.

Bullock's Creek, in *South Carolina*, York district, flows into Broad River.

—A post-village of York district.

Bullock's-eye, *n.* A small, round sky-light. See BULL'S-EYE.

Bull Point, in *Missouri*, a village of Dallas co.

Bull Run, or **Bull's Run,** in *Virginia*, a stream dividing Fairfax and Prince William counties, in the N.E. part of the State, and flowing into the Occoquan River 14 m. from the Potomac. On its banks were fought two of the most memorable battles during the Civil War. After a series of heavy skirmishes, July 16–19, 1861, the Union army under Gen. McDowell were, on the 21st, utterly routed by the Confederates under the command of Gens. Beauregard and J. E. Johnston. The National loss was about 3000 men, while that of the Confederates was estimated at nearly 2000 men. The former lost, in addition, 27 guns, besides an immense quantity of small arms, ammunition, stores, provisions, and accoutrements. On the 30th Aug., 1863, another great battle was fought here between the National forces commanded by Gen. Pope, and the Confederates under Gens. Lee, Longstreet, and "Stonewall" Jackson, when the former were again defeated with heavy loss. The three battles of Groveton, Bull's Run, and Chantilly, fought in three successive days, cost the Union cause about 20,000 men in killed, wounded, missing, and prisoners, 30 guns, and 30,000 small arms. The first battle of *B. R.* is sometimes known as the battle of *Manassas*.

Bull Run, in *Tennessee*, a post-village of Knox co.

Bull's Bay, or **Baboul Bay,** on the E coast of Newfoundland, in Lat. 47° 25′ N., Lon. 52° 20′ W.

Bull's-eye, *n.* A small circular aperture for the admission of light and air.

(*Arch.*) The technical name given to a description of glass lens used for the purpose of concentrating the light of a given centre upon an object; it is also applied to a circular window of plain glass.

(*Archery and Gunnery.*) The centre, or point of aim, of a target.

—In England, a policeman's dark lantern, having a glass reflector, opening and closing at pleasure.

(*Astron.*) The bright star ALDEBARAN, *q. v.*

(*Naut.*) A small oval block of hard sheaves, having a groove round the outside, and a hole in the middle.

—The name given by sailors to a small cloud with a reddish centre, which, in the Mediterranean, and tropical latitudes, is regarded as the precursor of a sudden and violent gale of wind.

—A thick, bossy protuberance made on sheet-glass by the end of the blow-pipe.

—An Americanism for a small, and thick, old-fashioned watch.

Bull's-Gap, in *Tennessee*, a post-village of Hawkins co.

Bull's Head, in *New York*, a village of Dutchess co.

Bull'skin, in *Pennsylvania*, a township of Fayette county.

Bull's Mills, in *Missouri*, a post-vill. of Christian co.

Bull's-nose, *n.* (*Arch.*) The external angle of a polygon, or of two lines which meet at an obtuse angle.

Bull'-stag, *n.* A castrated bull.

Bull'-town, in *Indiana*, a village of Franklin co., 15 m. W.N.W. of Brookville.

Bull'-town, in *W. Virginia*, a post-vill. of Braxton co.

Bull'-trout, *n.* (*Zoöl.*) See GRAY-TROUT.

Bul'luetah, in *Mississippi*, a post-village of Leake co.

Bull'ville, in *New York*, a post-village of Orange co.

Bull'-weed, *n.* (*Bot.*) A species of CENTAUREA, *q. v.*

Bul'ly, *n.* [A.S. *bulgràn*, to bellow; Swed. *buller*, noise, clamor; *bullerbas*, a blusterer; Swed. and Goth. *bullra*, to make a noise or tumult; Ger. *poltern, bultern*: akin to Lat. *pulsare.*] A noisy, blustering, overbearing, quarrelsome fellow.

"All on a sudden the doors flew open, and in comes a crew of roaring *bullies*, with their wenches, their dogs, and their bottles."—*L'Estrange.*

Bul'ly, *a.* Jovial; staunch; merry; genuine. (A slang phrase.)

"Mine host of the Garter!—What says my *bully* rook?"—*Shaks.*

Bul'ly, *v. a.* To insult and overbear with noise and blustering menaces; to act the part of a bully towards one.

"Prentices, parish clerks, and hectors meet,
He that is drunk, or *bullied*, pays the treat."—*King.*

—*v. i.* To bluster; to be noisy and quarrelsome.

Bul'lying, *n.* Act or conduct of a bully.

"As remote from the spirit of true philosophy as *bullying* and cowardice are from valor."—*Beattie.*

—State or condition of being bullied; as, I will not submit to your *bullying.*

"Remote as *bullying* and cowardice is from true valour."—*Beattie.*

Bülow, FRIEDRICH WILHELM, (COUNT VON DENNEWITZ,) (*bo'lo,*) a celebrated Prussian general, B. 1755. He entered the army when 14 years of age, and in 1792 was appointed governor to Prince Ludwig Ferdinand of Prussia. He served with distinction in the campaign on the Rhine; fought under Blücher at Eylau, Friedland, and Tilsit, and was ennobled in 1813 for his victories at Möckern, Luckau, Gross-Beeren, and Dennewitz. He took a prominent part in the battle of Leipzig, and afterwards served with great distinction in Westphalia, Holland, and Belgium, and throughout the campaign of 1814, especially at Soissons. As commander of the 4th division of the allied army he greatly contributed to the victorious close of the battle of Waterloo. D. 1816.

Bul'rush, *n.* (*Bot.*) See PAPYRUS.

Bul'saur, a seaport of Hindostan, pres. Bombay, on the Gulf of Bombay, 45 m. S.W. of Surat; Lat. 20° 36′ N., Lon. 73° 5′ E. *Exp.* Grain, jaghery, and timber.

Bulse, *n.* A specific weight or number of diamonds. (A term used in India.)

Bul'tel, *n.* [L. Lat. *butellus.*] A bolter-cloth or bolter.—The bran after sifting.

Bul'ti, or BULTISTAN. See LITTLE THIBET.

Bul'tow, *n* A mode of fishing by fastening several hooks on one line, and thus taking many fish at one time. It is practised by the Newfoundland fishermen.

Bulwark, (*bul'werk,*) *n.* [Swed. *bolwarck*; Ger. *bollwerk*; Fr. *boulevard*; Swed. and Goth. *bol*, the trunk of a tree, and *werk*, work.] A defensive work around any place, originally constructed with the trunks of trees; any means of defence, safety, or security.

"Britannia needs no *bulwarks*,
No towers along the steep."—*Campbell.*

(*Fortif.*) A bastion; rampart; outwork, &c.

"Our naval strength is a *bulwark* to the nation."—*Addison.*

(*Naut.*) A parapet of woodwork raised around a vessel's deck, for the purpose of preventing men and goods from slipping overboard, and at the same time for protecting the deck from the waves. In ships of war, the bulwark is of considerable solidity and height, to afford the crew cover from an enemy's small shot. The hammocks are ordinarily stowed in the bulwark during the day. (Almost invariably used in the plural.)

—*v. a.* To fortify with a bastion, &c.; to strengthen with bulwarks.

"And yet no *bulwark'd* town, or distant coast,
Preserves the beauteous youth from being seen."—*Addison.*

Bul'wer, HENRY LYTTON, (LORD DALLING AND BULWER,) an English diplomatist and author, brother to Lord Lytton, B. 1804. He has held successively the posts of secretary to the Eng. Embassy at Paris; minister to Madrid (where he brought about the peace between Spain and Morocco, in 1844); minister to the U. States (where the famous "Bulwer-Clayton Treaty" was in a great meas-

ure, his work); minister to Tuscany, and, lastly, 1859–66, ambassador to Constantinople. After retiring from the diplomatic service, he was raised to the peerage in 1871. Lord Dalling has written *The Monarchy of the Middle Classes; France, Social and Literary;* and edited *Memoirs of Lord Palmerston* (1870). D. 1873.

Bul'wer-Clayton Treaty, *n.* (*Hist.*) The name given in Great Britain to a treaty entered into between that country and the U. States, relative to the establishment of a communication by ship-canal between the Atlantic and Pacific oceans. It was so called from the names of the contracting parties, viz., Sir Henry Lytton Bulwer (*q. v.*), on the part of Great Britain, and J. M. Clayton, on behalf of this country; and was signed at Washington, April 19, and ratifications were exchanged there, July 4, 1850. It consisted of 9 articles. The contracting parties declared that they would not erect fortifications on the banks, or in the vicinity of the proposed canal, and that they would not assume dominion over Nicaragua, Costa Rica, the Mosquito Coast, or any part of Central America. Opposite and contrary constructions having been placed upon this treaty by the two Powers interested, another, called the *Clarendon-Dallas Treaty* (q. v.), was, after various negotiations, signed at London, Oct. 17, 1856; but objections being raised by both parties to this also, it was ultimately rejected, and the President, in his message for the year 1859, recommended the abrogation of the Bulwer-Clayton Treaty as the best method of solving the difficulty.

Bul'wer-Lyt'ton. See LYTTON, (LORD.)

Bum, *n.* [A corruption of *bottom*, q. v.] A low phrase for the buttocks; the seat.

"This said, he gently rais'd the knight,
And set him on his *bum* upright."—*Hudibras.*

Bum, *v. i.* [Du. *bommen*, to sound as an empty barrel; formed from the sound.] To make a booming noise like that of the bittern or bee.

Bum'bailiff, *n.* [A corruption of *bound-bailiff.*] (*Eng. Law.*) A subordinate officer whose duty it is to serve writs, and effect captions of debtors. (Used in a vulgar sense.)

"Go, Sir Andrew, scout me for him at the corner of the orchard like a *bumbailiff.*"—*Shaks.*

Bum bard, *n.* See BOMBARD.

Bum'barge, *n.* Same as BUMBOAT, *q. v.*

Bumbast, *n.* See BOMBAST.

Bumbe'lo, Boube'lo, *n.* (*Chem.*) A glass flask of flattened ovoid shape, in which camphor is sublimed.

Bum'ble, *n.* An English provincialism for the bittern.

—*v. i.* To make a hollow, booming, humming sound, like that of a bittern, or bumble-bee.

"As when the hittern *bumbleth* in the mire."—*Chaucer.*

Bum'ble-bee, *n.* (*Zoöl.*) See APIDÆ.

Bum'boat, *n.* [Du. *boom*, a tree, and *boat*, a canoe.] (*Naut.*) A large boat allowed to attend a ship to supply the sailors with articles of provision, liquors, clothing, &c.

Bume'lia, *n.* (*Bot.*) A genus of trees, order *Sapotaceæ*. The bark of *B. nigra* and other species is bitter, astringent, and febrifugal, and the wood very hard. The fruit of *B. retusa* is said to be milky; while the flowers of *B. grareolens* have a heavy, unpleasant odor.

Bum'kin, Boom'kin, *n.* [Ger. *baum*, a tree, boom.] (*Naut.*) A short boom fixed on each side of the bow for the purpose of stretching the foresail farther to windward than the width of the deck at that part permits. It has a strong block at the end through which the back of the sail is worked.—An outrigger extended out from the stern of a boat to stretch out the mizzen.

Bum'lin, a parish of Ireland, co. Roscommon.

Bump, *n.* [Goth. and Icel. *bomps*, a blow.] A thump or heavy blow, or the noise of it.—A lump produced by a blow; a swelling or protuberance; as, the *bumps* of the skull of the head.

"His eyes
Hung by a string, in *bumps* his forehead rise."—*Dryden.*

—*v. i.* To strike against anything large or solid; to thump; as, to *bump* against a boat.

Bum'pass, in *Virginia*, a post-office of Louisa co.

Bum'per, *n.* [From *bump.*] A cup or glass filled to the brim, or till the liquor swells up and runs over; as, to drink a *bumper* of wine.

"Pledge it merrily, fill your glasses,
Let the *bumper* toast go round."—*Sheridan.*

—A crowded house at a theatre, to compliment a favorite performer.

Bump'kin, *n.* [Du. *boom*, a beam or log, and *kin*, kind.] A clumsy, heavy, awkward rustic; a lout; a country clown.

"In his white cloak the magistrate appears,
The country *bumpkin* the same liv'ry wears."—*Dryden.*

Bumptious, (*bum'shus,*) *a.* Self-conceited; offensively forward. (Used vulgarly.)

Bump'tiousness, *n.* Quality of being bumptious or self-conceited.

Bun, *n.* [Scot. *bun, bunn.*] A small cake; as, a Chelsea *bun.*

"Thy songs are sweeter to mine ear
Than . . . *buns* and sugar to the damsel's tooth."—*Gay.*

Bunch, (*bunsh,*) *n.* [Goth. *puggs*, a purse; O. Norse, *bunki*, a heap.] A heap; a protuberance; a hunch; a knob; a lump.

"Little round balls or *bunches*, like hard boiled eggs."—*Boyle.*

—A cluster; a collection; a number of things put or tied together; as, a *bunch* of keys.

"For thee, large *bunches* load the bending vine,
And the last blessings of the year are thine."—*Dryden.*

—Anything bound into a knot or tuft; as, a *bunch* of ribbon.

"Upon the top of all his lofty crest,
A *bunch* of hairs . . . with sprinkled pearl,
And gold full richly dress."—*Spenser.*

(*Mining.*) A small isolated mass of ore.

—*v. i.* To swell out in a bunch or protuberance; to be protuberant or round.

—*v. a.* To form or fasten in a bunch or bunches; as, to *bunch* flowers.

Bunch'-backed, *a.* Having bunches on the back; crook-backed.

"The day shall come, that thou shalt wish for me
To help thee curse this pois'nous *bunchback'd* toad."—*Shaks.*

Bunch'iness, *n.* The quality of being bunchy, or growing in bunches.

Bunch'y, *a.* Growing in bunches; having tufts; as, "a *bunchy* tail." *Grow.*—Swelling out in masses or protuberances; as, *bunchy* joints.

—(*Mining.*) A mine that is sometimes rich and at other times poor, is said to be *bunchy.*

Bun'combe, in *Iowa*, a N.W. county, touching Minnesota, with an area of abt. 800 sq. m. The Sioux River forms its W. boundary, and it is drained by Inyan Reakah River and other streams.

—A post-office of Dubuque co.

Bun'combe, in *Mississippi*, a village of Union co.

Bun'combe, in *North Carolina*, a W. county, having an area of 450 sq. m. This county is traversed by the Blue Ridge of the Appalachian chain of mountains, and is watered by the French Broad river. *Soil*, fertile. *Cap.* Asheville. *Pop.* (1898) 38,750.

Bun'combe, Bun'kum, *n.* [From *Buncombe*, a county of North Carolina.] An American term applied to a speech delivered merely for the purpose of conciliating popular favor, or gaining public applause. The origin of the phrase "talking for Buncombe" is thus explained: "Several years ago, in Congress, the member from this district arose to address the House, without any extraordinary powers, in manner or matter, to interest the audience. Many members left the hall. Very naïvely he told those who remained that they might go too; he should speak for some time, but he was only talking for *Buncombe.*"—(*Wheeler's History of N. C.*)

Bunera'na, a seaport and bathing resort of Ireland, co. Donegal, on Lough Swilly, 11 m. W.N.W. of Londonderry; *pop.* 1,097.

Bundelcund, (*boon-del-koond',*) a large division of Hindostan, prov. Allahabad, between Lat. 24° 3′ and 26° 26′ N., and Lon. 70° 48′ and 81° 33′ E.; having N. the Jumna; S. Berar and Malwah; E. Begilcund, and W. Scindia's dominions; *area*, 23,817 sq. m. This country is mountainous, and imperfectly cultivated; the mountains belong to the Vindhyan chain, and run in parallel ranges, each buttressing a table-land, and forming a series of natural fortifications. The Cane, Desan, and Betwah are the only rivers of importance. The soil is of every variety, from rich black to sterile conkar, and a large extent of country is covered with jungle. Diamonds are found and extensively worked. At the fall of the Mogul empire, the Mahrattas, under Ali Bahawder, possessed themselves of part of this prov. until 1817, when it was ceded to Great Britain. *Pop.* 2,400,000.

Bundle, (*bund'l,*) *n.* [A. S. *byndel*; Du. *bundel*; O. Ger. *bendil;* from the root of *bind.*] A number of things bound or put together; a package or parcel made up loosely; a roll; as, a *bundle* of straw.

"She carried a great *bundle* of Flanders lace under her arm."—*Spectator.*

—*v. a.* To tie or bind in a bundle or roll. (Generally used with *up.*)

"As if a man in making posies,
Should *bundle* thistles *up* with roses."—*Swift.*

To bundle off. To cause to depart in a hurry; as, he was *bundled off* about his business.

—*v. i.* To make preparations for departure; to leave in a hurry.

—To sleep together on a bed while fully dressed; spoken of a man and woman who are courting.

Bun'dle-pillar, *n.* (*Arch.*) A column or pier, with others of small dimensions attached to it.

Bun'dling, *n.* The act of one that bundles.

Bundo'ran, a watering-place of Ireland, co. Donegal, on the bay of the latter name, 5 m. S.W. of Ballyshannon.

Bung, *n.* [A. S. *pyngan*, to prick; Swed. and Goth. *bunga*, to strike through; L. Ger. *pungen, inpungen*, to pack in or up; Fr. *bondon*, a stopper.] The stopple of the orifice in the bilge of a cask.

—The orifice itself; called, properly, the *bung-hole*, q. v.

—A vagabond; a sharper; a low fellow. (o.)

"You filthy *bung*, away."—*Shaks.*

—*v. a.* To stop the orifice in the bilge of a cask with a bung; to close up.

Bun'galow, *n.* [Bengalee, *bângla.*] An East-Indian term for a sort of house, or villa, with a thatched or tiled roof. They are occupied by Europeans, and vary in size and accommodation to meet the taste or requirements of their owner. They generally consist of a ground-floor, surrounded by a verandah; but some are of two stories. In the cities of Calcutta, Madras, and Bombay, the *B.* of the wealthier class of Europeans are spacious and magnificent. Public *B.* are maintained by government for the reception of travellers, and somewhat resemble inns in other countries. Military *B.* are for the accommodation of troops in cantonments, and are on the same extensive scale as barracks.

Bun'gay, a town of England, co. of Suffolk, 98 m. N.E. of London. It is a neat, well built town, with a considerable agricultural trade, and manufactures of hemp. *Pop.* 4,185.

Bung'e, ALEXANDER VON, a Russian botanist and traveller, B. 1803. He travelled with Ledebour into Siberia and visited the Altai Mountains. In 1833, *B.* was sent by the Russian govt. as naturalist with the mission to Pekin, where he remained for some months, and made a large collection of plants. He again visited the Altai Mountains at the request of the Russian govt. He was subsequently appointed professor of botany at Kazan, and, finally, in 1836, he succeeded Ledebour as professor of botany and director of the botanical garden at Dorpat. His chief works are, a *Treatise on the Natural System, Enumeration of Chinese Plants*, and *Catalogue of Altai Plants.*

Bung'-hole, *n.* The hole or orifice in the bilge of a cask.

"Why may not imagination trace the noble dust of
Alexander, till he find it stopping a *bung-hole?*"—*Shaks.*

Bungle, (*bung'gl.*) *v. i.* [W. *bwn y gler*, the lowest class of minstrels; probably allied to *jongleur.*] To perform in a clumsy, awkward manner.

—*v. a.* To make or mend clumsily; to botch; to manage awkwardly; as, repaired in a *bungled* manner.

"Other devils . . . do botch and *bungle* up damnation, . . .
From glittering semblances of piety."—*Shaks.*

—*n.* A botch; an inaccuracy: a gross blunder; a clumsy performance; as, he has made a *bungle* of it.

Bun'gler, *n.* A clumsy, awkward, inexpert workman; one who performs without skill.

"Hard features every *bungler* can command,
To draw true beauty shows a master's hand."—*Dryden.*

Bung'ling, *a.* Clumsy; unskilful; awkward; as, a *bungling* operator.

—Awkwardly done; inexpertly performed.

"When men want light,
They make but *bungling* work."—*Dryden.*

Bung'lingly, *adv.* Unskilfully; clumsily; awkwardly.

Bun'go, *n.* (*Naut.*) A kind of boat or canoe, used in the Southern States, and in Central America.

Bunias, *n.* (*Bot.*) A genus of European plants, order *Brassicaceæ.*

Bunion, (*bun'yun.*) [Gr. *bounos*, an eminence.] (*Med.*) An inflamed and painful swelling of the *bursa mucosa*, or sac containing the oil of the joint; chiefly situated on the inside of the great toe. This disease, if not remedied in time, is certain to lead to a permanent enlargement and disfigurement of the toe. The exciting cause is generally a long-continued pressure from a tight boot or shoe. The treatment should commence with a warm bran poultice, continued for one or two hours, so as to soften the cuticle of the part; a piece of lint, wetted in the extract of lead, is then to be applied cold, round the toe, and the lint moistened from time to time with more of the extract. In a few hours all inflammation will have subsided, and if care be taken not to repeat the pressure, but use a large boot, the bunion will be cured. If it be preferred, a couple of leeches may be applied, and, after the bleeding, a lotion. But in most cases, the above treatment repeated will effect a cure.

Bunk, *n.* [Swed. *bunke*, a coop, a tub.] A wooden receptacle in the form of a box, which serves for a seat by day, and for a bed at night. (U. S.)

(*Naut.*) A sleeping-berth on board ship.

Bunk, *v. i.* To retire to rest in a bunk. (U. S.)

Bunka'ra, or BLUE RIVER, in the State of *Colorado*, river which, rising in the Rocky Mountains, takes a S.W. course, unites with the Gunnison River in Lake co., and forms Grand River.

Bunk'er, *n.* [Scot. *bunker*, a bench.] A large bin, or hollow bench, used as a receptacle for various things.

—A description of box which serves as a seat. (Used in Scotland.)

Bun'ker Hill, an eminence, 110 feet high, situate in Charlestown, Massachusetts, connected by a ridge with another elevation, 75 ft. high, named Breed's Hill. These heights are memorable as being the seat of a battle fought bet. the British and American forces, June 17, 1775, and known under the name of *Bunker Hill.* The city of Boston was occupied by the British under Gen. Gage, who had resolved to begin offensive operations against the rebels. This design being known in the American camp, it was determined to seize and fortify the heights of Charlestown on the night of the 16th of June. The execution of this perilous mission was confided to Cols. W. Prescott and Pepperell at the head of a brigade of 1,000 men; and at dawn of day a strong redoubt was already completed on Breed's Hill. About 1,500 Americans advanced successively to the relief of Prescott, and Gen. Warren entered the redoubt as a volunteer, refusing the command which was tendered to him. At about 2½ o'clock, two columns of the British advanced to a simultaneous assault; they were received with a terrific fire, and twice repulsed in disorder. When the Americans had exhausted all their ammunition, Prescott gave the order for retreat. They received a destructive volley as they left the redoubt, and Warren fell, shot through the head with a bullet. The retreat was harassed by a raking fire from the British ships and batteries, but there was no pursuit beyond Charlestown Neck. The British loss was

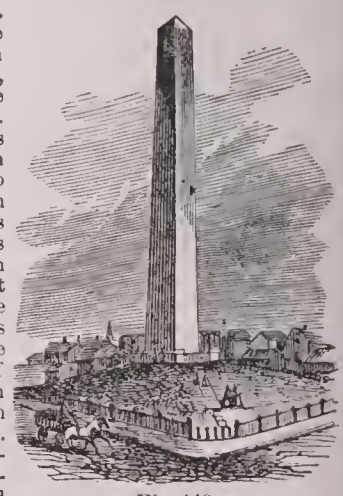


Fig. 449.
BUNKER HILL MONUMENT.

John Bunyan

1628–1688

226 officers and men killed, and 828 wounded; that of the Americans 145 killed or missing, and 304 wounded. Although a defeat, the moral result of this action was great. The Americans had seen superior numbers of the disciplined soldiers of England retreat before their fire, and given the glorious proof that they were able to preserve their liberties. On Breed's Hill, and near the spot where Warren fell, stands now the *Bunker Hill Monument*, the corner-stone of which was laid by the Marquis de Lafayette, June 17, 1825. This monument was inaugurated June 17, 1843. It consists of a plain granite shaft, 220 feet high, 31 feet square at the base, and 15 at the top. Within is a winding staircase, by which it is ascended to a chamber immediately under the apex, 11 feet in diameter, containing four windows, which afford a magnificent panoramic view of the surrounding country.

Bunker Hill, in *Illinois*, a city and township of Macoupin county, 20 miles N. E. of Alton. *Pop.* (1897) about 1,800.

Bunker Hill, in *Indiana*, a post-village of Miami co., abt. 6 m. S. by W. of Peru.

Bunker Hill, in *Michigan*, a post-township of Ingham co., 70 m. W.N.W. of Detroit.

Bunker Hill, in *Missouri*, a P. O. of Lewis co.

Bunker Hill, in *Ohio*, a post-village of Butler co., 10 m. W. by N. of Hamilton.

Bunker Hill, in *Tennessee*, a post-office of Giles co.

Bunker Hill, in *Virginia*, a P. O. of Bedford co.

Bun'kum, *n.* See BUNCOMBE.

Bunmahon, (*bun'mān,*) a bathing resort of Ireland, co. of Waterford, and 14 m. S.W. of the latter city.

Bunn, *n.* [Scot. *bun;* Ir. *bonna.*] A kind of sweet bread; a cake.

Bun'ner's, in *W. Virginia*, a P. O. of Marion co.

Bun'nian, Bun'yŏn, *n.* See BUNION.

Bun'ny, *n.* (*Mining.*) In tin and copper mining, a large collection of ore without any vein coming into, or going out of it.

Bunrat'ty, a par. of Ireland, co. Clare, on the Shannon.

Bunrat'ty, (UPPER and LOWER,) two baronies of Ireland, co. Clare.

Bun'sen, CHRISTIAN KARL JOSIAS, BARON, an eminent German diplomatist, theologian, and author, b. 1791. He was educated at Göttingen, and early distinguished himself by his scholarly acquirements, and knowledge of the Old German, Icelandic, Persic, Arabic, and other languages. In 1818 he was appointed secretary to the Prussian embassy at Rome, under Niebuhr. In 1827, he succeeded the latter as minister there, and amidst his archæological and other studies, his attention was directed to Egyptian antiquities by Champollion's visit to Rome, in 1826. To the importance of the great discovery made by Champollion, *B.*'s eyes were immediately opened; and, in his grand work on Egypt, he has done ample justice to the genius of the great Frenchman. In 1841, he was appointed minister to the court of St. James', where he remained for 14 years. His works are too numerous to notice here, embracing, as they do, almost the entire range of theological and archæological study, but we mention his *Egypt's Place in Universal History*, (Hamburg and Gotha, 1845–57, 5 vols.,) perhaps his greatest production. D. 1860.

Bunt, *n.* [Dan. *bundt;* Swed. *bunt*, a bundle, a bunch, a protuberance.] (*Naut.*) The middle part of a sail formed into a bag, belly, or cavity, that it may gather more wind.

(*Agric.*) A disease of wheat and other grains.—See UREDO.

—*v. i.* To swell or belly out; as, the sail *bunts.*

—To butt with the horns:—spoken of a stag.

Bun'tam Falls, in *Connecticut*, a village of Litchfield co., 25 m. W. of Hartford.

Bunt'er, *n.* [O. Eng. *bunt*, a mushroom.] A cant phrase for a female rag-picker; hence, by implication, a low, coarse woman.

Bun'tine, *n.* (*Naut.*) See BUNTING.

Bunt'ing, *n.* [Swed. *bunt.*] (*Zoöl.*) See PLECTROPHANES.

Bunt'ing, *n.* [Du. *bont*, particolored.] (*Naut.*) Thin woollen stuff of different colors, of which ships' colors are made; hence, the flags themselves are often so called; as, there was a fine display of *bunting.*

Bunt'line, *n.* (*Naut.*) A rope used for gathering up the centre part of a square sail.—*Buntline cloth*, the lining sewed up the sail in the direction of the buntline, to prevent the rope from chafing the sail.

Bun'yan, JOHN, one of the most popular of religious English writers, b. at Elstow, 1628. He was originally a travelling tinker, and having neither been taught to read nor to write, led a profane kind of life for some years: at length his attention was happily drawn to serious subjects, and he began to study the Scriptures, of which he acquired a great knowledge. In the civil war he took the side of the Parliament. About 1655 he became a member of, and was accustomed to address, a Baptist congregation at Bedford. On this account he was, at the Restoration, confined in the jail of that town for twelve years and a half, supporting himself and family by tagging laces. Here he wrote his esteemed *Pilgrim's Progress*, a religious allegory, which has received universal praise and been translated into many languages. On his release from prison, he became teacher of the Baptist congregation at Bedford, often travelling through different parts of England to visit the people of that persuasion, and was consequently called "Bishop Bunyan." D. in London, 1688.

Bunz'lau, or BUNTZLAU, (*boonts'low,*) a town of Prussia, in Silesia, on the Bober, 25 m. W.N.W. of Liegnitz; *pop.* 8,125.

Bunz'lau, (JUNG,) a town of Austria, in Bohemia, on the Iser, 32 m. N.E. of Prague; *pop.* 5,866.

Buoflick, a parish of Ireland, co. Tipperary.

Buol-Schau'enstein, KARL FERDINAND, COUNT VON, an Austrian statesman, b. 1797. He was ambassador at Carlsruhe (1828), at Stuttgart (1838), at Turin (1844), at St. Petersburg (1848), and at London (1851). On Schwartzenberg's death, *B.* became minister for foreign affairs, and retired in May, 1859, the month following the declaration of war against Sardinia. D. 1865.

Buonarotti. See MICHAEL ANGELO.

Buoy, (*boi,*) *n.* [Fr. *bouée*, from Sp. *bóya;* Du. *boei.*] (*Naut.*) A block of wood, cork, &c., used as a float; a floating body formed of wood, and very often of hollow iron, moored over a certain spot, to indicate the situation of a shoal or sand-bank, and to mark out the course

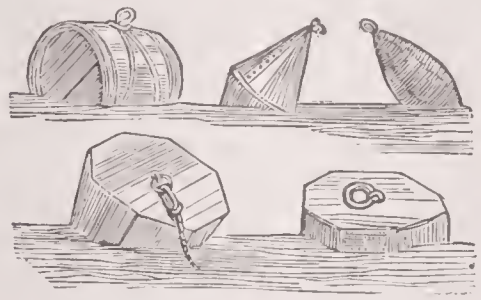


Fig. 450.—VARIOUS FORMS OF BUOYS.

a ship is to steer. When used for this purpose, *B.* are usually close vessels of conical form, of large dimensions in order that they may be seen from a distance; and generally painted of some particular color, so as to be readily distinguished from one another. Some *B.* have a bell attached to them, particularly those stationed on coasts liable to fogs, others have a storm-proof lantern, lighted by gas (the Pintsch system), the buoy forming the receptacle for the gas. Small *B.* are also used to indicate the situation of ships' anchors (to which they are fastened by a rope), in order that the ship may be prevented from running foul of the anchor.—*To stream the buoy.* To allow it to drop into the water by the vessels before letting go the anchor.

—*v. a.* To keep afloat; to bear up. (Used generally before *up.*)

"Presbytery, . . . was lately *buoyed up* in Scotland by the like artifice of a covenant."—*King Charles I.*

—To support or sustain: to keep from sinking into despondency: as, *buoyed* on hope.

—To place or fix buoys; to mark by buoys; as, to *buoy* a channel.

—*v. i.* To float; to rise by specific lightness.

"Rising merit will *buoy* me up at last."—*Pope.*

Buoyage, (*boi'age,*) *n.* Buoys collectively; a complete set of buoys for the service of a harbor.—Duties or tolls levied on vessels for the use of buoys.

Buoy'ance, *n.* Buoyancy. (Used poetically.) (R.)

Buoyancy, (*boi'an-sĭ.*) *n.* The quality of being buoyant, or floating, or of floating on the surface of water, or in the atmosphere; as, the *buoyancy* of a cork.

"All the winged tribes owe their flight and *buoyancy* to it."
Derham.

—Lightness of spirits; vivacity; cheerfulness; as *buoyancy* of manner.

(*Phys.*) The weight of a floating body, measured by the volume of fluid displaced.

Buoy'ant, *a.* [From *buoy.*] Floating; light; elastic; as, *buoyant* as a wave.

"I swum with the tide, and the water under me was *buoyant.*"
Dryden.

—Vivacious; sprightly; cheerful; as, a *buoyant* mind.

"His once so vivid nerves,
So full of *buoyant* spirit, now no more
Inspire the course."—*Thomson.*

Buoy'antly, *adv.* In a buoyant manner.

Buoy'-rope, *n.* (*Naut.*) A rope which fastens a buoy to the anchor.

Bupres'tris, *n.*, and BUPRESTIDÆ, *pl.* (*Zoöl.*) A genus and family of Coleopterous insects, distinguished by

Fig. 451.—BUPRESTRIS.

the toothed or serrated form of the antennæ, and the splendor of its colors; many of its species having spots of golden hue upon an emerald ground, whilst in others azure glitters upon the gold. The *B.* are hard-shelled beetles, often brilliantly colored, of an elliptical or oblong oval form; the legs are rather short, and the feet are formed for standing firmly, rather than for rapid motion. The larvæ are wood-eaters or borers: and both fruit- and forest-trees are very subject to their attacks. There exist nearly 500 species, the most brilliant of which are found chiefly in tropical climates.

Buphaga, *n.* (*Zoöl.*) There is but one species which constitutes this genus of birds of the family *Fringillidæ*, and that is the African Beef-eater, or Ox-pecker, *B. Africana.* It is said to be frequently found in Senegal, and that its chief food consists in the larvæ of *œstri*, or bot-flies, which it sedulously extracts from the backs of cattle: hence its name. It measures about eight inches and a half in length: is rufous-brown above, and of a dull yellowish white beneath. The bill is nearly an inch long, yellowish, with a red tip: the legs and claws are brown.—It is extremely wild or shy, and is usually seen in small flocks of six or eight together.

Bur, Burr, (*bèr,*) *n.* [Fr. *bourre*, down, from L. Lat. *burra;* W. *bàr*, a bushy head, a bunch; Ir. *borr*, a bunch or knob.] The rough, prickly head of the burdock, chestnut, &c.

—The indurated edge left by a tool, in cutting, or trimming metal, &c. The rough neck left after casting a bullet.

—The lobe of the ear.—The sweetbread.—A clinker-stone or brick.—A broad circle of iron on a tilting-spear.

—A guttural enunciation of the *r*, formed by trilling the surface of the palate against the back part of the tongue. Frequently called the *Northumbrian burr*, from its peculiarity to the speech of the people of Northumberland, and the English Border.

(*Mech.*) A small circular saw.—A sort of triangular chisel.

(*Engraving.*) A slight ridge of metal raised on the edges of a line by the *graver* or *the dry point.* As the bur produces an effect like a smear, it is usually regarded as a defect, and scraped off. Some etchers, however, take advantage of it to deepen their shadows, and Rembrandt made use of it in this way with telling effect.

Buras Settlement, in *Louisiana*, a post-office of Plaquemines co.

Bu'ratite, *n.* (*Min.*) A hydrated carbonate of copper, containing also zinc and lime, occurring in the radiating needles at Chessy in France, and in the Altai Mountains.

Bur'bage, RICHARD, an English actor, for many years associated with Shakespeare in dramatic productions. *B.* was the first licensed English player. Died in 1619.

Bur'bank, in *Minnesota*, a post-office of Kandiyohi co.

Bur'bank, in *Ohio*, a post-office of Wayne county.

Bur'bot, *n.* (*Zoöl.*) See LOTA.

Burch Creek, in *Indiana*, Clay co., empties into Eel River.

Burch'ville, in *Michigan*, a post-township of St. Clair co., 80 m. N.N.E. of Detroit.

Burckhardt, (*burk'hard,*) JOHANN LUDWIG, a celebrated explorer, *B.* at Lausanne in 1784. He studied at Leipzig and Göttingen, went to England in 1808, and in 1809 was sent by the English African Society on an exploring expedition into Africa. He first repaired to Aleppo, where, during a three-years' residence, he metamorphosed both his outward and inward man into a true Mussulman: an operation which he performed with such success, that, afterwards, when a doubt had been raised as to his creed, he was examined by two *ulemas* (or priests), and by them declared not only a true, but a deeply learned Moslem. In 1812 he travelled through Egypt, up the Nile to Nubia, through the Nubian desert, and across the Red Sea to Mecca, in order to study Mohammedanism at its fountain-head. Thence he joined in a pilgrimage to Mount Ararat, by which he acquired the title of *hadji, i. e.* pilgrim. In 1815, *B.* returned to Cairo, and made preparations for his long intended journey to Fezzan; when, however, the caravan was just about to start, he died of a fever, 17th Oct., 1817, and was honorably buried in a Mohammedan cemetery. His journals were published after his death, at London. A German edition appeared at Weimar. For truth, accuracy, and minute observation, they are hardly to be excelled. His *Notes on the Bedouins and Wahabees*, (London, 1830,) and his *Arabic Proverbs*, (London, 1831,) are also highly valuable works.

Bur'dach, KARL FRIEDRICH, a well-known German physiologist, b. in Leipzig, June 12, 1776. He was professor of anatomy and physiology in Dorpat from 1811 to 1814, when he accepted the same chair in the University of Königsberg, which he held until his death in 1847. He was a man of fine ability, and an arduous worker in science; he is the author of many works on anatomy, physiology, &c., and is well known for his works, *The Formation and Life of the Brain and Spinal Marrow; Medical Jurisprudence; Physiology of the Nervous System*, &c.

Burdelais', *n.* [Fr. *bourdelais*, from *Bordeaux.*] A sort of grape.

Bur'den, HENRY, a distinguished inventor and iron manufacturer, born in Scotland, 1791; in early life removed to Troy, N. Y., where he built up a large business. *B.* made the first cultivator used in America; invented the hook-headed spike used in railway construction, and the horse-shoe machine. Died in 1871.

Burden, (*ber'dn,*) *n.* (Written also BURTHEN.) [A.S. *byrden, byrthen*, from *beran*, to bear: Ger. *bürde.*] That which is borne or carried; a load; a weight; as, he bore a *burden* on his back.

"And the gay grandsire, skill'd in gestic lore,
Has frisk'd beneath the *burden* of three-score."—*Goldsmith.*

—That which is grievous, oppressive, or wearisome; as, the *burden* of pain.

"Deaf, giddy, helpless, left alone,
To all my friends a *burden* grown."—*Swift.*

—A fixed quantity of a certain commodity; as, a *burden* of steel, (120 lbs.)

(*Naut.*) The contents of a ship; freight: cargo; the tonnage capacity of a vessel; as, a ship of five hundred tons *burden*.

Bur'den, *n.* [Fr. *bourdon.*] The chorus or refrain of a song; the bob of a melody; hence, that which is often repeated, or on which one dwells; as, the *burden* of a tale.

"At ev'ry close she made, th' attending throng
Reply'd, and bore the *burden* of the song."—*Dryden.*

(*Mus.*) The drone or bass of a musical instrument; the drum of a bagpipe.

(*Mining.*) The tops or heads of stream-work which lie over the stream of tin, and which must first be cleansed.—*Beast of burden.* Any animal employed in carrying a burden.—*Burden of proof.* (*Law.*) The duty of proving a fact in dispute on an issue raised.

Bur'den, *v. a.* To load; to encumber with a weight; as, to *burden* a camel.

"*Burden* not thyself above thy power."—*Eccl.* xiii. 2.

—To oppress with anything hard to be borne; as, to *burden* one's self with a wife.

"With meats and drinks they had suffic'd,
Not *burden'd* nature."—*Milton.*

—To impose a weight upon as a load to be borne; as, to *burden* another with one's own responsibility.

Bur'dener, *n.* An oppressor; one who loads.

Bur'denous, *a.* Grievous; oppressive; wearisome.

"Nor let it be light to thee, which to me is so *burdenous.*"
Sir P. Sidney.

—Useless; cumbersome.

"But to sit idle on the household earth,
A *burd'nous* drone, to visitants a gaze."—*Milton.*

Bur'densome, *a.* Grievous to be borne; heavy; weighty; oppressive.

"Could I but live till *burdensome* they prove,
My life would be immortal as my love."—*Dryden.*

Bur'densomely, *adv.* In a burdensome manner.

Bur'densomeness, *n.* Weight; heaviness; causing uneasiness or oppression.

Burdett', Sir Francis, Bart., a celebrated English politician, b. 1770. He sat in the British parliament for 40 years, as a Liberal of the most ultra type; was one of the earliest advocates of parliamentary reform, and suffered bitter persecutions at the hands of the Tory government of those times. He was twice imprisoned in the Tower of London for his out-spoken Liberalism, fined $5,000, and condemned to three months' further imprisonment in the King's Bench. Died in 1841.

Burdett-Coutts, Baroness Angela Georgiana, born in 1813, daughter of Sir Francis Burdett. Inherited from her grandfather, Coutts, the banker, an enormous fortune, which she devoted largely to works of philanthrophy.

Burdett, (*bur-dĕt'*,) in *New York*, a village of Tompkins co., on Seneca Lake, 180 m. W. by S. of Albany.

—A post-village of Schuyler co., about 3 m. from Watkins Glen.

Bur'diekville, in *Michigan*, a P. O. of Leelenaw co.

Bur'doek, *n.* (*Bot.*) See Lappa.

Bur'don, Bur'den, *n.* [Fr. *bourdan.*] A pilgrim's staff.

Burdwan, (*boord'wan,*) a district of Hindostan, pres. and prov. Bengal; between Lat. 22° and 24° N., and Lon. 87° 20′ and 88° 25′ E.; having N. Beerbhoom, E. Nuddea, S. Hooghly, and W. the Jungle Mehals dist.; *area*, 2,000 sq. m. This is one of the most productive territories of India, and being environed by jungles N. and S., appears like a garden surrounded by a wilderness. The chief articles of produce are indigo, sugar, cotton, tobacco, and mulberry-trees. A principal part of the wealth of *B.* lies in its coal mines, which are very extensive. The zemindars (or proprietors) are very opulent, and the proportion of Mohammedans to Hindoos is about one to five. *B.* became subject to the British in 1760. *Cap.* Burdwan. *Pop.* Estimated at 1,500,000.

Burdwan, a city, and cap. of the above prov., 60 m. N.N.W. of Calcutta; Lat. 23° 15′ N., Lon. 87° 57′ E. *Pop.* about 54,000.

Bureau, (*bū'rō,*) *n.* [Fr. *bureau*; O. Fr. *bure*, *burel*, thick cloth made of wool dyed *red* or *russet*, from L. Lat. *burrus*, red and black.] Originally, a thick, coarse, brownish kind of cloth made of wool; hence, a writing-table, for which it formed a covering, with drawers to contain papers.

"For not the desk with silver nails,
Nor *bureau* of expense, . . . avails
To writing of good sense."—*Swift.*

—An office, court, or place wherein public business is transacted: as, a banker's *bureau*.

—A department, or organized company of persons, appointed to control or take charge of certain public duties; as, the Freedmen's *Bureau*.—In the classification of public officers of government, and the distribution of duties among them, a *B.* is understood to be a division of the great departments of which the secretaries, or chief officers, constitute the *cabinet*.

—A wardrobe, or article of furniture for the safe-keeping of clothes, &c. (Used in the U. States.) In England, a name sometimes given to a closet, or *garde-de-vin*.

Bureau, (*bu'rō,*) in *Illinois*, a N.W. county, bounded S.E. by the Illinois River, and watered by Green River and Bureau Creek. *Area*, 800 sq. m. *Surface*, diversified. *Soil*, fertile. *Cap.* Princeton.

Bureaueraey, (*bu-rō'kra-sy,*) *n.* [Fr. *bureaucratie.*] The system by which the business of administration is carried on in departments, each under the control of a chief; in contradistinction to those systems in which government officials have a co-ordinate authority.

Bureauerat'ie, *a.* Pertaining to, or having the form of, a bureaucracy.

Bureau'eratist, *n.* An upholder, or supporter of bureaucracy.

Bu'reau Creek, in *Illinois*, empties into the Illinois River, in Putnam co.

Bu'reau Junetion, in *Illinois*, a post-village of Bureau co., 47 m. N.N.E. of Peoria, and 30 W. of Ottawa.

Bu'reu, Martin Van. See Van Buren.

Burette, (*bu-rĕt'*;) *n.* (*Chem.*) An instrument occasionally used in the laboratory, and the assay office, for the purpose of dividing a given portion of any liquid into 100 or 1,000 equal parts.

Bur'ford's Landing, in *Alabama*, a post-office of Wilcox co.

Burg, Burgh, (*berg,*) *n.* See Borough.

Burg, a walled town of Prussia, prov. Saxony, reg. Magdeburg, on the Ille, 13 m. N.E. of Magdeburg. *Manuf.* Woollens and snuff. *Pop.* 16,632.

Burgage, (*berg'uj,*) *n.* [From *burg.*] (*Eng. Law.*) A species of tenure in boroughs, cities, and towns, under which citizens hold tenements of the sovereign, or other person, at a certain rent.

Burgall, *n.* (*Zoöl.*) See Ctenolabrus.

Burgamot', *n.* A variety of pear.—A perfume. See Bergamot.

Bur'ganet, Bur'gonet, *n.* [Fr. *bourguignotte*, from *Burgundy.*] The upper part or ridge above the crown-piece or *curvaliere* of the ancient helmet, upon which the heraldic crest of the knight's family was attached, and to which a panache of feathers was sometimes superadded. Hence, *B.* is sometimes used to signify the heraldic crest itself; and, at other times, the entire knightly casque so crested.

Bur'gas, or Burghaz, a town of East Roumelia, on a promontory in the Gulf of Burgas in the Black Sea, 76 m. N.E. of Adrianople. *Pop.* 6,538.

Burgaw, in *North Carolina*, the capital of Pender county.

Bur'gee, *n.* Small coal for burning in the furnaces of engines.

(*Naut.*) A distinguishing ensign or pennant ending in two points, used by yachts and merchant-vessels.

Bur'geo Islands, between Newfoundland and Cape Breton, Lat. 47° 33′ N., Lon. 57° 44′ W. They belong to Great Britain. *Pop.* abt. 800.

Burgeois, *n.* See Bourgeois.

Bur'geou, *v. i.* See Bourgeon.

—*n.* (*Hort.*) A knot or button put forth by the branch of a tree in spring.

Bürger, (*bōōr'jer,*) Gottfried August, a German poet, b. in Molmerswende, 1748; d. 1794. Well known for his ballads, most of which have been translated into all the languages of the civilized world. He wrote *Lenore* (translated by Sir Walter Scott); *Lenardo and Blandine*; *The Wild Hunter*, &c.

Burgermeister, *n.* The title of the chief magistrate of a city or town in Germany; corresponding to our *mayor*, and to the French *maire*.

Burgess, Tristam, an American statesman and orator, b. in Rochester, Massachusetts, 1770. He was elected as a representative to Congress in 1825, and successively re-elected till 1835, when he was defeated by the candidate of the Democratic party. During the ten years of his congressional career, there was scarcely a question of any importance which he did not illustrate with his convincing logic, his persuasive eloquence, or his blighting satire. D. 1853.

Bur'gess, *n.* [Fr. *bourgeois*, from L. Lat. *burgensis*, from *burg.*] An inhabitant of a borough or walled town; a freeman of a borough; a representative of a borough in the English parliament.

—A magistrate of a borough. An officer who discharges the same duties for a borough that a mayor does for a city. The word is used in this sense in Pennsylvania.

Bur'gess, or Bur'gessbeg, a parish of Ireland, co. Tipperary.

Bur'gess, in *Iowa*, a post-village of Clinton co., 38 m. S.S.W. of Dubuque.

Bur'gessship, *n.* State, privilege, and position of a burgess.

Bur'gettstown, in *Pennsylvania*, a post-village of Washington co., 20 m. N.N.W. of Washington, the co. seat.

Burg'grave, Bur'grave, *n* [Ger. *burg-graf.*] In Germany, the feudal title for a castellan, or lord of a castle, having the right of private justice, and of imposing taxes, &c.

Burgh, *n.* See Borough.

Burgh'bote, *n.* (*Old Eng. Law.*) An impost levied for the raising or repairing of the defences of a borough or city.

Burgh-breeh, (*burg'brĕch,*) *n.* (*Old Eng. Law.*) A breach of the peace.

Burgher, (*borg'er,*) *n.* A burgess or freeman of a burgh or borough.

(*Eccl. Hist.*) In Scotland, a member of the seceding party from the Scottish church (1747) which asserted the legality of the burgess-oath (abiding by "the true religion professed within the realm"), their opponents being denominated *anti-burghers*.

Burgh'ermaster, *n.* See Burgermeister.

Burgh'ership, *n.* Quality or privilege of a burgher; citizenship.

Burgh Hill, in *Ohio*, a post-village of Trumbull co., 17 m. E.N.E. of Warren.

Burgh'-holder, *n.* See Borsholder.

Burgh'-master, *n.* A burgermeister.

(*Mining.*) An officer in tin-mines, called also *bar-master* and *bailiff*.

Burgh'-mote, *n.* [*Burgh* and *mote*, meeting.] The Court of Wards of a borough: a municipal court.

Burglar, (*berg'ler,*) *n.* [*Burg*, and Arm. *luer*, a thief; Lat. *lutro*; Fr. *larron.*] One guilty of burglary.

Burgla'rious, *a.* Pertaining to burglary; constituting the crime of burglary.

Burgla'riously, *adv.* In the manner of a burglar; with an intent to commit burglary.

Burg'lary, *n.* [L. Lat. *burgi latrocinium.*] (*Law.*) The breaking and entering the dwelling-house of another in the night-time, with intent to commit a felony. This offence is punishable by penal servitude or imprisonment.

"Flat *burglary* as ever was committed."—*Shaks.*

Burgo, a town of Spain, 36 m. W. of Malaga; *pop.* 2,500.

Burgomaster, *n.* See Burgermeister.

(*Zoöl.*) See Gull.

Bur'gonet, *n.* See Burganet.

Burgos, (*boor'gos,*) a city of Spain, cap. prov. of same name, on the Arlançon, 134 m. N. of Madrid, and 59 S.W. of Vittoria. The city is of irregular shape, but is clean and generally handsome. It has a fine Gothic cathedral; and from having been the cradle of the two most renowned warriors of Spain,—Ferdinand Gonzales, and the Cid Campeador.—*B.* contains a triumphal arch in memory of the former, and a monument to the latter. *Manuf.* Leather, woollens, and hats. *B.* was formerly the residence of the counts of Castile, and of many of the Castilian kings.

Bur'gout, Bur'goo, *n.* A kind of thick porridge eaten by seamen.

Burgoyne', John, an English general, and dramatic author, b. abt. 1730. After having served with distinction in Portugal, he was sent to America in 1775. He joined General Gage at Boston, with large reinforcements, and witnessed, from one of the batteries in that city, the famous battle of Bunker Hill, of which he has left an animated description. After proceeding to Canada as governor, he returned to England, but, in 1777, was dispatched to take command of that expedition from Canada against the U. States, the failure of which so largely contributed to the establishment of American freedom. Few battles, indeed, have achieved, in their ultimate influence, results so great as the surrender of *B.*, with 5,791 fighting-men, well provided with artillery, at Saratoga, to the army of General Gates. It gave heart to the colonists, confirmed them in their resistance, and, in England, greatly strengthened the hands of those opposed to a continuance of the struggle. *B.*, on his return home, was received by the king with marked disfavor. He defended himself with eloquence, and demanded an inquiry. The inquiry was commenced, but summarily stopped by a prorogation of parliament. Although *B.* did not possess the genius of a great general, and was in many respects utterly inadequate to the tasks imposed upon him, yet no one can read the work published in his defence—*State of the Expedition from Canada*, London, 1780—without acknowledging his courage, and detecting qualities, which, in a less exalted station, might have been of service to his country. Disgusted with his treatment by the govt., he retired into private life, and devoted his leisure to the production of dramas, many of which, as the *Maid of the Oaks*, *The Lord of the Manor*, &c., were highly popular in their day. His best play, *The Heiress*, still keeps the stage. D. 1792.

Bur'grass, *n.* (*Bot.*) See Cenchrus.

Bur'grave, *n.* See Burggrave.

Burgundy. [Fr. *Bourgogne.*] An ancient province of France, now forming the departments of Cote d Or, Saone-et-Loire, Ain, and part of Yonne. Dijon was the capital of *B.* The ancient Burgundians (*Burgundi* or *Burgundiones*), originally a German tribe, were at first settled on the banks of the Oder and the Vistula, and afterwards extended themselves to the Rhine and the Neckar, and, in 407, penetrated into Roman Gaul. Their conversion to Christianity took place in the course of eight days! They adopted a brief Arian confession of faith, and were baptized. From 407 to 534, the kingdom of *B.* was several times divided; and in 451, Gundicar, king of *B.*, with 10,000 men, confronted Attila, but was defeated and slain. The tradition of this overthrow of the old Burgundians is still preserved in a confused form in the *Nibelungen Lied*. In 534, *B.* passed under the rule of the Franks; but the weak government of the later Carloviugian kings allowed it to become once more independent, and it was named the *kingdom of Arles*, from the residence of its first king, Bose, who died 887. He was succeeded by his son Louis; and after a time of contention, and division of the French territories, Duke Rudolf, nephew of King Hugo of France, made himself ruler of Upper *B.*, and was followed by Rudolf II. (912), who was crowned king of Italy in 921, and united Lower *B.*, or Arles, to his own kingdom in 928. Conrad the Peaceable succeeded, and after him Rudolf III., who dying without male issue in 1033, bequeathed his kingdom to the Emperor Conrad II. of Germany, whose son, Henry III., made it a duchy of the German empire. With Philip the Good, the founder of the new ducal dynasty of *B.*, a new and splendid æra was commenced, in 1363, and was continued to the death of Charles the Bold (*q. v.*), in 1477, who left no male issue. *B.* was then incorporated with France.

Burgundy Pitch, *n.* (*Med.*) A resin obtained from the species of fir known as the white pine. It is, however, seldom obtained pure, a common pine resin being mixed with it. Burgundy pitch is only used in the composition of plasters, in which it is retained on account of its warm, stimulating properties. It is employed in the manufacture of the pitch plaster, *emplastrum picis*,

John Burgoyne

1730–1792

Edmund Burke

1730–1797

and in making the common warming plaster—a combination of Burgundy pitch, litharge plaster, and blister plaster.

Burgundy Wines, *n. pl.* These celebrated French wines derive their name from the ancient province of Burgundy. They are wines of delicious flavor and bouquet, and are often recommended in the cure of disease, as a light, diffusible stimulant, on account of the small percentage of alcohol contained in them. They are imperfectly known in this country, to which it has been believed that they would not well bear a sea-voyage. It has been ascertained that, in well-corked bottles, the *B.* wines may be imported in good condition, but we do not believe, as has been said, that they improve by crossing the Atlantic. The most renowned red wines of *B.* are *Romané-Conti, Clos Vougeôt, Chambertin, Nuits, Richebourg,* and *Beaune.* The *Chablis,* a white wine, is relatively inferior to the red products of *B.*, though preferred by some to the best growths of white Bordeaux (claret). The annual product of wine in *B.* is about 7,000,000 gallons.

Burial, (*ber'ĕal,*) *n.* Act of burying; interment; a sepulture; a funeral.—See SEPULTURE.

(*Law.*) No *B.* is lawful unless made in conformity with the local regulations; and when a dead body has been found, it cannot be lawfully buried until the coroner has held an inquest over it.

Burial Service. That portion of a religious service relating to the interment of the dead; as, the English *burial-service.*

Burial-ground, *n.* A place appropriated for depositing the dead; a cemetery.

Bu'ridan, JEAN, a French scholastic philosopher, B. at Bethune, flourished in the 14th century. The events of his life, as well as the manner of his death, are very obscure. One account states, that he was thrown into the Seine, by command of Marguerite de Bourgogne, daughter-in-law of Philippe le Bel, whose infidelities he had rebuked. Another, later, but less mythical-looking account, states that *B.* was driven from France as a disciple of Occam, and fled to Austria, where he founded a school. He is now but known for an apologue which he invented to illustrate the doctrine of free will. "An ass," says he, "placed midway between two bundles of hay, would maintain his position, and die of starvation, if he had no choice; but if he turns to one side or the other for the purpose of satisfying his appetite, then he has choice, and of course freedom of will." This proposition, commonly called "Buridan's ass," was long a source of great perplexity to the schools. It has been said that this celebrated sophism was adduced, not by *B.*, but by his adversaries, who wished to ridicule his metaphysical doctrine of *Determinism.* D. 1538.

Bur'ier, *n.* One who buries; that which covers or conceals.

Bu'rin, *n.* [Fr. *burin:* It. *borino, bolino,* from the root of *bore* or *bite.*] A graver; an instrument for engraving. See GRAVER.

Bu'rin, a S. district of Newfoundland.

Burk, in *Iowa,* a post-office of Benton co.

Burke, *v. a.* [From the name of an Irishman who first perpetrated the crime in 1829.] To murder in order to obtain the body for dissection. (R.)—To dispose of in a quiet, unobtrusive manner; to shelve; as, to *burke* a question.

Burke, EDMUND, an eminent author, statesman, and orator, B., of a good Irish family, at Dublin, 1730. After leaving Trinity College in that city, where he had acquitted himself brilliantly, he resorted to London in 1749, where he became an associate of the most eminent literary characters of that day. In 1756, he published his celebrated *Essay on the Sublime and Beautiful,* which at once placed him in the front rank of authors. In 1765, *B.* became secretary to the Marquis of Rockingham, prime-minister of England, and obtained a seat in Parliament, where he joined the Whig party. In 1769 appeared his observations *On the Present State of the Nation,* which elicited such admiration as to draw upon *B.* the credit of the authorship of the letters of "Junius," which appeared about the same time. On the outbreak of the American War, *B.* espoused the side of the colonists, and on the 19th April, 1774, in the debate for repealing the duty on tea, levied on the American people, he delivered a speech that electrified the British senate. *B.* steadily continued to be the champion of liberal measures in the English parliament, and, in 1782, was made a privy-councillor, and paymaster of the forces. Shortly afterwards, on Mr. Pitt taking the head of the govt., *B.* became, in conjunction with his illustrious friend Fox, one of the leaders of the opposition. In 1788, on the trial of Warren Hastings (*q. v.*), late governor-general of India, for "high crimes and misdemeanours," *B.* was one of the managers of the impeachment. On the third day of this momentous trial (which lasted for 10 years), *B.* delivered in the English House of Commons a speech only equalled by the famous "Begum" speech of his friend Sheridan. This wonderful masterpiece of commanding oratory held parliament for nine days under a spell of mingled awe and admiration. On the outbreak of the French revolution, he defended the cause of the French royal family, and denounced the excesses of the revolutionists in such unmeasured language as estranged him from his old political associates. In particular, his championship of the lovely and unfortunate Marie Antoinette was one of those episodes of the old knightly spirit of past days, resuscitated to redeem the barbarous proletarianism of the time. It was in this speech, when describing the woes of this hapless queen, that he uttered his memorable words, "The age of chivalry is past. 'tis gone!" *B.* next produced his *Reflections on the Revolution of France,* a work which has had no equal in knowledge, eloqueuce, or insight into the tortuous spirit of party. Within the year, 19,000 copies of this work were sold in England, and 13,000 in France. It produced an effect such as no other political essay ever had; it arrested the violent progress of the revolutionary spirit in England, and gave the first and most decisive check to the disorganizing influences which were rapidly spreading through Europe. This great Irishman d. 7th July, 1797.

Burke, in *Georgia,* an E. county, divided from S. Carolina by the Savannah River; *area,* 1,040 sq. m. It is drained by the Ogeechee River and Rocky and Brier creeks. *Surface.* Undulating. *Soil.* Excellent, with substrata of limestone and gypsum. Agate and jasper are also obtained. *Cap.* Waynesborough.

Burke, in *New York,* a twp. of Franklin co.

Burke, in *North Carolina,* a W. county, having an area of about 620 sq. m. It is watered by Catawba and Linville rivers, and by Mulberry creek. *Surface.* Hilly, being skirted on the N.W. by the Blue Ridge. *Soil.* Tolerably good. This county was named after the illustrious British statesman, Edmund Burke. *Cap.* Morganton. *Pop.* (1898) 15,750.

Burke, in *Vermont,* a post-township of Caledonia co., 48 m. N.E. of Montpelier. It is drained by the Passumpsic River, and traversed by the Passumpsic R. R.

Burke, in *Wisconsin,* a post-township of Dane county.

Burk'er, *n.* One who burks, or commits burking.

Burkes'ville, in *Kentucky,* a post-village, cap. of Cumberland co., on Cumberland River, 116 m. S. by W. of Frankfort.

Burkesville, in *Virginia,* a village of Prince Edward co., 52 m. W. of Petersburg.

Bur'kettsville, in *Maryland,* a post-office of Frederick co.

Burke'ville, in *Texas,* a post-village, former cap. of Newton co. *Pop.* (1898) 400.

Burk'ism, *n.* The practice of quietly murdering people, in order to sell their bodies for dissection.

Burk's Garden, in *Virginia,* a P. O. of Tazewell co.

Burks'ville, in *Illinois,* a P. O. of Monroe co.

Burksville, in *Virginia,* a P. O. of Nottaway co.

Burl, (*berl,*) *v. a.* [From *burr.*] To remove burs, knots, loose thread, &c. from cloth.—*Manf.* To dress cloth as fullers do.

—A knot in thread or cloth.

Bur'laee, *n.* Same as BURDELAIS, *q. v.*

Burleigh, LORD. See CECIL.

Burl'er, *n.* One who dresses cloth; one who removes knots, &c. from cloth.

Burle'son, in *Alabama,* a P. O. of Franklin co.

Burleson, in *Texas,* a S. central county, bounded N.E. by Brazos river, and S. by Yegua creek. *Area,* 1,025 sq. m. *Soil.* For the most part fertile. *Cap.* Caldwell. *Pop.* (1898) 15,000.

Burlesque, (*bur-lesk',*) *a.* [Fr.; It. *burlesco,* from L. Lat. *burlare,* to jest, play the fool; L. Lat. *burleschus,* satirical.] Jesting; jeering; jocular; tending to excite laughter by ludicrous images.

—*n.* (*Lit.*) A style of composition in which the humor consists in a ludicrous mixture of things high and low, of high thoughts clothed in low expressions; or *vice versa,* of ordinary or base topics invested in artificial dignity. The *B.* style may exist in conversation as well as in written composition, and even in action and drawing. It is, however, most common in poetry. *B.* appears to have been unknown among the ancients; but specimens of it are found in most modern languages, particularly the Italian. Butler's *Hudibras* is a well-known example in English.

—*v. a.* To turn into ridicule; to make ludicrous by perverted representation.

Burlesquer, (*bur-lesk'er,*) *n.* One who burlesques, or acts in a burlesque.

Burlet'ta, *n.* [It., from *burlare,* to jest.] A comic operetta or musical farce.

Bur'liness, *n.* State of being burly; bulkiness.

Bur'lingame, ANSON, B. at New Berlin, New York. 1822. Having embarked in politics, he was elected a member of the senate of Massachusetts, and afterwards of Congress. He was sent as U. States Minister to the Chinese gov. in 1861. On his retirement from this post, in 1867, he was requested by the regent, Prince Kung, to go on a special mission for the Chinese gov., to some foreign courts. After visiting the U. States, where he concluded a treaty, July 4, he sailed from New York, and arrived at Liverpool in Sept. with the Chinese mission, including 10 Chinese and 2 European secretaries. The mission, received by the Queen, Nov. 20, 1868, left England for Paris, Jan. 2, 1869, and *B.* D. at St. Petersburg, Feb. 1870.

Burlingame, in *Kansas,* a city, former cap. of Osage co., 22 m. S.S.W. of Topeka. *Pop.* (1898) 2,450.

Bur'lingham, in *New York,* a post-village of Sullivan county.

Burlingham, in *Ohio,* a post-office of Meigs co.

Burl'ing-iron, *n.* An instrument used in burling cloth.

Bur'lington, RICHARD BOYLE, third EARL OF, and fourth EARL OF CORK, B. 1695. He was distinguished for his architectural taste and skill, and designed many fine edifices in England; and he was not less eminent for his munificent patronage of arts and letters. He was the munificent patronage of arts and letters. He was the munificent patronage of arts and letters. He was the own expense one of Palladio's works. D. 1753.

Bur'lington, in England. See BRIDLINGTON.

Bur'lington, in *Connecticut,* a post-township of Hartford co., on Farmington River, 15 m. W. of Hartford. *Manf.* Screws, woollen goods, etc.

Burlington, in *Illinois,* a post-village and township of Kane co., 54 m. W. by N. of Chicago.

Bur'lington, in *Indiana,* a post-village and township of Carroll co., 52 m. N. of Indianapolis, and 22 miles S. of Logansport.

—A village of Delaware co., on Prairie Creek, 7 m. S.E. of Muncie.

—A vill. of Rush co., 8 m. W.N.W. of Rushville.

Burlington, in *Iowa,* a thriving post-city, and seat of justice of Des Moines co., and formerly the State cap., on the Mississippi River, 45 m. from Keokuk, 210 m. W.S.W of Chicago, and 250 from St. Louis. This is a well-built and rapidly improving city, and most picturesquely situated.

Burlington, in *Kansas,* a city and township of Coffey co., on the Neosho river, 60 m. S. S. W. of Lawrence. *Pop.* (1897), about 3,000.

Burlington, in *Kentucky,* a post-village and twp., cap. of Boone co., 16 m. S.W. of Cincinnati.

Burlington, in *Maine,* a post-township of Penobscot co., 40 m. N.E. of Bangor.

Burlington, in *Massachusetts,* a post-township of Middlesex co., 14 m. N. by W. of Boston.

Burlington, in *Michigan,* a post-village and township of Calhoun co.

—A township of Lapeer co.

Burlington, in *Minnesota,* a village of Clay co., on the Red River of the North.

Burlington, in *Missouri,* a post-office of Boone co.

Burlington, in *New Jersey,* a central county, embracing an area of about 860 sq. m. Bounded on the N.W. by the Delaware river, N. and N.E. by Mercer, Monmouth and Ocean cos., on S.W. by Camden and Atlantic cos. *Surface,* level. *Soil,* generally fertile. *Cap.* Mount Holly. *Pop.* (1898) 61,150.

—A city, port of entry, and township of the above co., on the Delaware, nearly facing Bristol, 20 m. from Philadelphia, and 12 S.W. of Trenton. This is a very handsome, and well built and lighted town, possessing a college and many fine buildings. It is in summer a great resort of Philadelphia pleasure seekers, and was originally called *New Beverly. Pop.* (1898) 7,950.

Burlington, in *New York,* a township of Otsego co.

Burlington, in *Ohio,* a village of Clinton co., 11 m. N.W. of Wilmington.

—A village of Belmont co., on the Ohio river.

—A village of Hamilton co.

—A township of Licking co.

—A post-village, former cap. of Lawrence co., on the Ohio, 145 m. S.E. of Columbus.

—A village of Marseilles township, Wyandot co.

Burlington, in *Oregon,* a village of Linn co., 11 m. S.S.W. of Albany.

Burlington, in *Pennsylvania,* a post-village and township of Bradford co., 8 m. W. of Towanda.

Burlington, in *Vermont,* a flourishing city, port of entry, and seat of justice of Chittenden co., on a bay of the same name, on the E. bank of Lake Champlain. 40 m. W.N.W. of Montpelier, and 82 N. of Whitehall, Lat. 44° 27′ N., Lon. 73° 10′ W. This is a finely built and pleasantly situated place, and contains the State University, and many handsome buildings. It is largely engaged in shipping, and is a busy town generally. *Pop.* in 1897, abt. 16,500.

Burlington, in *Virginia,* a village of Roanoke co.

—A village of Hampshire co., on Patterson's Creek, 205 m. N.W. of Richmond.

Burlington, in *W. Virginia,* a P. O. of Mineral co.

Burlington, in *Wisconsin,* a flourishing post-village and township of Racine co., on Fox River, 26 m. W by S. of Racine City.

Burlington Flats, in *New York,* a post-village of Otsego co., 25 m. S. of Utica.

Burly, (*ber'li,*) *a.* [A. S. *gebur*; Dn. *boer*; Ger. *bauer,* a boor, boor-like.] Like a boor; great in size; of full figure; clumsy.

"Too *burly* and too big to pass my narrow gate."—*Dryden.*

—Boisterous; coarse and rough.

"It was the orator's own *burly* way of nonsense."—*Cowley.*

Bur'mah, BIRMAH, or the BIRMAN EMPIRE, in Asia, an extensive country of India beyond the Ganges, formerly the most powerful State of that peninsula, and considerably larger than at present; extending between the lat. of 9° and 27° N., upwards of 1,000 m. in length, and nearly 600 in breadth. At present it comprises the territory between Lat. 19° 29′ and 27° 22′ 30″ N., and Lon. 92° 43′ and 99° E.; having W. the British provs. of Aracan, Chittagong, and Pegu; N., Upper Assam and Thibet; E., the Chinese prov. Yunnan, Laos, the country of the independent Shans, and prov. of Martaban belonging to the British; and S., the kingdom of Siam, and the British province of Pegu. *Area,* about 2,000,000 sq. m. *B.* is enclosed E. and W. by two principal offsets of the Himalaya chain of mountains, which again ramify into subordinate mountain ranges. From Cape Negrais to 23° N., the Yoomadong range constitutes the W. boundary, giving a maximum altitude of 5,000 ft. The highest summit, however, in this country is the Phungan, attaining to a height of 12,474 ft. above sea-level, and covered with perpetual snow.—*Plains, &c.* There are many plains, but none of them very extensive; numerous valleys of the highest fertility and beauty are found in the S. of the empire; in the N. they are mostly defiles or narrow steppes.—*Rivers.* The principal are the Irrawaddy, with its affluents; and the San-luen, and Si-tang; all streams of the first class. The largest lake is that of Kandangyee, or the "Great Royal Lake," 25 m. N. of Ava, which is 30 m. long by 9 broad. *Min.* The N. prov. are the richest in valuable minerals. Besides fine marble, serpentine and nephrite, and amber mines are worked by the Chinese, gold, silver, rubies, sapphires, diamonds, and topazes; iron, copper, tin, lead, antimony,

arsenic, vitriol, sulphur, and nitre are found. Coal is also believed to exist largely. Petroleum has been obtained to the gross annual amount of 80,000 lbs.; but its exportation has been considerably diminished since the great development of this product in the U. States. The government has a monopoly of gold, silver, and precious stones.—*Clim.* Generally healthy, especially in the hilly tracts. The extremes of heat and cold are rarely experienced, except before the periodical rains. *Bot.* 16,000 different species, natives of this country, were collected by Dr. Wallich, in 1826: the teak-tree abounds; the saul and varnish-tree are most plentiful; and the bamboo grows to the circumference of 24 inches in the jungles. The mimosa catechu, sugar-cane, indigo, and cotton-plant are common; and the tea-plant, of a genuine character, besides inferior sorts, flourishes in the N. and central provinces. The banana, cocoa, palm, pine-apple, guava, jambo, and mango are abundant; but citrons, pomegranates, and oranges are the only fruits shared in common with Europe. Pulse of all kinds, wheat, millet, and rice are extensively cultivated.—*Zoöl.* Elephants of three different varieties, the single-horned rhinoceros, wild boar, tiger, leopard, &c., inhabit the jungles: buffaloes, porcupines, civet and wild cats, and great numbers of apes, deer, and antelopes are found. Occasionally a white elephant is met with, which is much prized, and one is always kept as part of the royal establishment at Ava, where he is treated with the greatest care and attention. Parrots, and other tropical birds of rich plumage, are plentiful; while the serpent tribe, reptiles, and venomous insects flourish here to a formidable extent.—*Inhab.* Several distinct tribes inhabit the *B.* territories: viz., 1. The *Mramma* (Burmans), between 19° and 24° N. Lat.; 2. *Talains*, between the Shan-lnen river and the Anopectomoo hills; 3. *Shans*, with more affinity to the Siamese than other races, and spreading over the E. and N. provinces; 4. *Cassayers*, chiefly in the capital; 5. *Khyens*, a rude people, scattered among the other population: 6. the *Yo*, probably a Chinese tribe who have adopted Burmese customs; and the Karyens, Zabanigs, and several others. Most of these nations, though differing in language and manners, are of the physical type common to all those situated between India and China, resembling most, however, the Malays. They are generally well-featured, robust, and active; more lively than their Bengalee neighbors, thieving, lying, deceitful, servile, and proud, but at the same time courteous, benevolent, and religious.—*Agric.* Farming is on a very rude and limited scale; rice, millet, and maize being the produce generally raised; cotton, of good texture, but short staple, is extensively cultivated. Oxen are used only for draught. The Burman horse is strong and active, and used only for the saddle. The elephant is domesticated and used for draught purposes.—*Manf.* Manufactures are in the most rude and backward state: bells, cutlery, and matchlocks, lacquered ware, coarse cottons, &c., form the principal articles.—*Com.* The principal foreign trade is with China, and its chief seat the town of Bhamo; whither the Chinese caravans come, and meet the Burmese and Mohammedan merchants; and, from Dec. to April, this town presents a more animated scene of active industry, and a greater variety of people, than is, perhaps, to be found at any other fair in Asia. The total annual value of the trade with China is variously estimated at from $2,000,000 to $3,500,000.—*Currency.* There is no coined money in *B.*, excepting some of very base quality, and of lead, struck at Amarapúra; gold and silver ingots, of a *tical* weight, and various degrees of purity, form the rest of the currency. Gold is valued at about 17 times the worth of silver, a tical of which latter, nearly pure, is worth 80 cents.—*Govt.* An hereditary and absolute despotism was the former form of government, the emperor being "lord of life and limb" over his subjects, who styled him "golden." They approached him with their hands joined above their heads, and even made obeisance to the palace walls, before which all had to dismount and take off their shoes. The whole nation was divided into the royal family, nobles and commonalty, and none dared assume the dress of a superior grade. The Burmese have no further distinctions of *caste*, as in India, although, in other respects, a kind of feudal system prevails.—*Revenue.* Besides the government monopolies,—1-10th of the produce of the country, 10 per cent. on imports and on exports,—a system of wringing money, in the form of forced presents, from the people, prevails to a great extent, and, altogether, combine to form the financial resources of this country. *Army.* The Burmese are not, as a nation, a military people, but would make good soldiers under able officers. They have no standing army, but every man is liable to serve, and, in emergency, can bring a respectable force of about 50,000 men into the field.—*Religion and Educ.* The religion of the Burmese is Buddhism, but toleration with regard to foreigners is fully permitted, although they are most intolerant among themselves; no Burman dare change his religion under the severest penalties; and the most rigorous measures are adopted for suppressing all religious innovations. Education is so far diffused that almost every male Burman can read and write; and this is the case with many of the females.—*Manners and Customs.* The dress of the people in many respects resembles that of the Hindoos, although in the N.E. of the empire the Chinese costume is adopted. Chewing betel is common, and smoking universal, even with children. Slavery, and especially the selling of women, is general; polygamy is allowed: marriage, though a mere civil contract, is universally respected, and the sovereign himself has no right to seize for his harem a married woman. Divorces are exceedingly common. Boxing, cock-fighting, foot-ball, chess, and dancing, are among the chief recreations of the people. They are good mimics, fond of acting and music, and their drama is by far the best among the Indo-Chinese nations.—*Chief towns.* Mandalay, Monohobo (the cap.), Ava, Martaban, Bhamo, Prome, &c. *Pop.* Estimated at 9,000,000. *Hist.* The earliest records of *B.* go back to the year B. C. 543. The first monarchs are said to have come from Bahar, in Hindostan, and fixed the seat of govt. at Prome, where it continued for 366 years. In the 18th cent., the Burmese became the most powerful nation of the E. peninsula of Asia. Ava had been governed by the King of Pegu for some time previous to 1753, when Alompra, the founder of the present dynasty, expelled the Peguans, and in 1756 conquered their country. The Shan country was conquered by his son in 1768; Cassay, in 1774; Aracan, in 1783; in 1790, the Tenasserim provinces were taken from the Siamese; and Assam was conquered in 1823. Hostilities were then commenced against British India, and a war followed, in which the Burmese were defeated, and a treaty of peace was signed in 1826, by which the provs. of Aracau, Yé, Tevoy, Mergui, and Martaban, were ceded to the British, together with $5,000,000 to defray the war-expenses, and the king of Ava ceased to have dominion over Assam, Cassay, and other provs. A war bet. *B.* and the English broke out in 1851, when the latter stormed Martaban and Rangoon, captured Pegu and Prome, and annexed Pegu. In Nov., 1885, another war broke out bet. *B.* and Gt. Britain; the campaign was short and decisive and resulted in the absorption of *B.* into the British Empire.

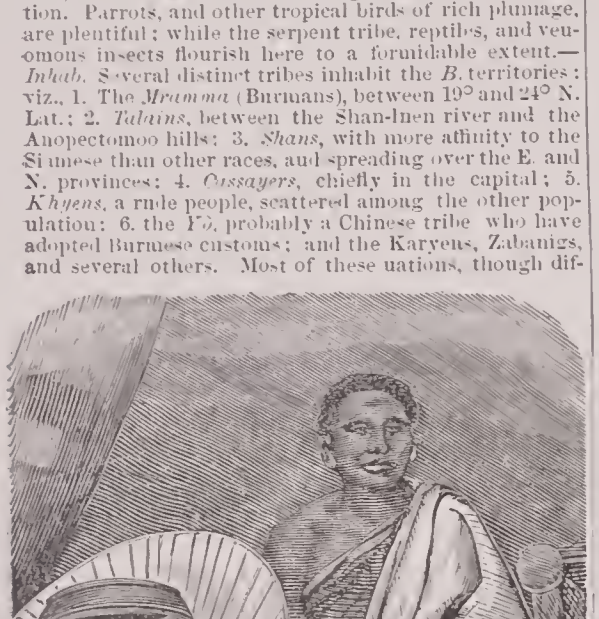


Fig. 452.—A BURMESE CIVIL OFFICER.

Fig. 453.

1. Kee Wongee, or prime minister. 2. A trooper.

Burmah, BRITISH. See SECTION II.

Burmanniaceæ, BURMANNIADS, (*bur-man'ne-ai'se-e,*) *n. pl.* (*Bot.*) An order of plants, order *Orchidales.* DIAG. Regular flowers and free perygynous stamens. They are herbaceous plants, without true leaves, and with tufted radicle ones. Flowers hermaphrodite, regular; perianth tubular, regular, superior, usually with 6 divisions; stamens inserted into the tube of the calyx, 3 or 6, distinct; ovary inferior, 1-celled, with three parietal placentas; seeds numerous, very minute; embryo solid. This order includes 10 genera and 38 species, natives of the tropics, *Burmania* being found as far north as Virginia. The species have no important properties. [BIDENS.

Bur-marigold, or BURR-MARIGOLD, *n.* (*Bot.*) See

Bur'meister, HERMANN, a German naturalist, b. in Stralsund, 1807, and studied at Greifswalde and Halle, where he received the diploma of doctor of medicine. Was elected professor of zoölogy in Halle in 1842. In 1850 he started on a scientific tour through Brazil, returning in 1852.—He returned again, in 1856, to South America, passed through Uruguay and the Argentine Confederation, and in March, 1859, over the Andes to Copiapo, by a route that no European had traversed before, and went from there by sea, via Panama, to Cuba, whence he shipped in May, 1860, for Germany. In 1861 he resigned his professorship in Halle, and went to Buenos Ayres as professor and director of the museum of natural history which he had established there. All his writings show great clearness and comprehensibility of their subject. His works are numerous; among them are:—*Manual of Natural History, Zoölogical Atlas, Manual of Entomology, Genera Insectorum, Geological History of the Earth and its Inhabitants, Travels in Brazil, Travels through the States of the La Plata, The Climate of the Argentine Republic,* &c. Died May 21, 1891.

Burn, *v. a.,* (*pp.* BURNED or BURNT.) [A.S. *bernan, barnan,* or *byrnan;* Goth. *brennan;* Ger. *brennen.*] To consume with fire; as, the house was *burned* down. (Sometimes used with *up.*)

—To injure or wound by fire; as, to *burn* one's finger.

—To exert the qualities of heat, as by drying or scorching; to heat; to inflame.

"But this dry sorrow *burns* up all my tears."—*Dryden.*

(*Surg.*) To cauterize; as, to *burn* a sore.

(*Chem.*) To combine with oxygen; as, a man *burns* a certain amount of carbon at each respiration.—*Webster,* after *Liebig.*

To burn together. (*Metal.*) To fuse two surfaces of metal together by pouring over them a quantity of the same metal in a liquid state.

To burn one's fingers. A metaphorical phrase signifying to get into trouble by interfering in matters one's self is not concerned in.

To burn a bowl. (*Games.*) To displace the bowl accidentally, when playing at bowls.

To burn out. To obliterate by burning.

To burn up. To consume entirely by the action of fire.

—*v. i.* To be on fire; to be kindled; to flame; as, the place is *burning.*

"The light *burns* blue."—*Shaks.*

—To shine; to sparkle.

"The barge she sat in, like a gilded throne,
Burnt on the water."—*Shaks.*

—To be inflamed with passion or desire.

"Tranio, . . . I *burn* . . . if I achieve not this young, modest girl."
Shaks.

—To act as fire, or with destructive violence.

"The groan still deepens, and the combat *burns.*"—*Pope.*

—To be heated; to glow; to be affected with a sensation of heat; as, how her cheek *burns.*

—In certain plays, to approach near to a hidden object, as in blindman's-buff.

To burn out. To burn till the fuel is exhausted.

Burn, *n.* A hurt, injury, or mark caused by burning.

—The operation of burning in relation to brick-making; as, bricks of a good *burn.*

(*Med.*) No species of accident is more painful to witness, or more serious in its consequences, than burns, especially when the result of the clothes catching fire; for they not only cause immediate and terrible agony, but produce most serious local injuries afterwards, often impairing all the enjoyments of life, and too often proving fatal on the spot. So thoroughly is the mind paralyzed by the instant terror, that no previous teaching, no experience, is of any avail to the victim, who, losing all presence of mind, rushes wildly into the air, creating an extra draught by the flight, and doubling the danger by its fanning power. Till female garments are made of less inflammable material, there seems no way by which the present frightful sum of annual deaths by burning might be reduced, the foolish fashion of crinoline having fearfully added to the yearly list of mortality through such accidents. As it seems hopeless to impress on the mind of the persons in flames the observance of any code of rules, (the fright making them for the time delirious,) it should be familiarly known to all, what steps to adopt in case they are suddenly called on to render assistance to man or woman in such an extremity, though, unfortunately, the cases are seven to three of women over men. The moment a person is seen in flames, the by-standers should instantly pull her or push her to the ground, whether in a room or the street, as the fire on that part of the person on which they lie will be thereby, in part at least, extinguished: the rug, the carpet, the table-cover, whatever material is at hand, must be snatched up—no matter at what risk of damage—and flung on the body, being at the same time tightly pressed down, so as to suffocate the flames. To a man, the first idea will be to take off his coat, and, if a large one, hardly anything better could be obtained: but still he must not attempt to stifle the fire by wrapping it round the victim as she stands; *she must be forced down;* for while she believes he is conquering the flames above, the deadly enemy may be, unseen, destroying the sufferer below. If water is at hand, a pail suddenly dashed over the person might extinguish the fire, and act beneficially: but before such a volume could be obtained from a tap the victim would be past the benefit of aid. Independent of the fatal consequences arising from the ignition of the clothes and from the violent shock conveyed to the nervous system, all burns over the *head, chest, throat,* and *bowels* are considered mortal, through the inflammation certain to ensue, by the powerful stimulus applied to the parts covering the vital organs. Before proceeding to the treatment of burns, there are three points which cannot

Robert Burns

1759–1796

be too firmly fixed on the mind of those who undertake the care of the sufferer. First, never to expose the burnt part to the air. Secondly, as quickly as possible to cover it from all contact with the atmosphere, for the cold air coming in contact with the inflamed part is the source of all the suffering. Thirdly, the blisters raised are not to be cut or broken, and burnt clothes never removed from the flesh to which they adhere. — *Treatment.* Sheets of wadding, the wool next the skin, are as quickly as possible to be placed over the burnt parts, or folded round the arms and legs, removing everything from the body but such fragments as adhere to the skin. This operation cannot be performed *too quickly*, so as to exclude the cold air, a second coating of the wadding being in the same way laid over and round the first, so as to exclude all access of air to the parts. If an abundance of soft wool is at hand, it may be substituted, the same precautions being adopted to protect all parts equally from the air. This must be done at the time while a person rushes for a doctor. — For trivial burns on the hands, arms, and face, apply lint soaked in the extract of lead, over which lay a piece of wadding, and secure the whole with a bandage; or the wadding may be used alone, so that the part is not uncovered till the burn is healed. — See SCALD.

Burn, *n.* [See BRUN and BOURN.] A small river; a brook; a stream. (Used in Scotland.)

Burn'able, *a.* That may be burnt; combustible.

Burn'er, *n.* One who burns something. — The part of a lamp that holds the wick.

(*Gas Fixtures.*) The jet-piece at which combustion takes place. Carburetted hydrogen of the specific gravity ·390 (which is about the density of gas when arrived at the point where it has to be burnt) requires two volumes of pure oxygen for its complete combustion and conversion into carbonic acid and water. Atmospheric air contains, in its pure state, 20 per cent. of oxygen (in populous cities less; but 20 per cent. may be taken as a fair average); a cubic foot of carburetted hydrogen, then, requires for its proper combustion 10 cubic feet of air; if less be admitted on to the flame, a quantity of free carbon will escape (from its not finding a proper volume of oxygen for conversion into carbonic acid), and be deposited in the form of dense black smoke. When the flame from an Argand burner is turned up high, the air which rushes through the interior ring becomes decomposed before it can reach the air on the top of the flame, which consequently burns in one undivided mass, the gas being in part unconsumed, the products unconverted, and carbon deposited abundantly. If an excess of air is admitted, it would appear at first to be of no consequence, but it will be found that the quantity of nitrogen accompanying this excess has a tendency to extinguish the flame, while it takes no part in the elective affinity constantly going on between the several elementary gases, viz., hydrogen, oxygen, and the vapor of carbon; and also that the quantity of atmospheric air passing through the flame unchanged, tends to reduce the temperature below that necessary for ignition, and therefore to diminish the quantity of light. For the proper combustion of the gas, neither more nor less air than the exact quantity required for the formation of carbonic acid and water can be admitted through the flame without being injurious. It is not possible practically to regulate the supply of air to such a nicety; it is preferred, therefore, to diminish the quantity of light by having a slight excess of air rather than to produce smoke by a deficiency, the former being unquestionably the least evil.

Bur'nersville, in *W. Virginia*, a P. O. of Barbour co.

Burnes, SIR ALEXANDER, an English explorer, B. 1805. He, early in life, went to India, and after his arrival volunteered to explore the N.W. frontier of that country and descend the Indus to the sea. He afterwards travelled to Cabul, and over the Hindoo Coosh to Khoondooz, Balkh, and Bokhara, and thence through Persia to Bushire. The information he had thus collected was of inestimable value to his government. In 1839, *B.* was appointed commercial resident at Cabul for the English govt., and on Nov. 3, 1841, was murdered by an Afghan mob. *B.* was the author of *Travels in Bokhara.*

Bur'net, *n.* (*Bot.*) See SANGUISORBA.

Bur'net, GILBERT, bishop of Salisbury, B. at Edinburgh, 1643. In 1664 he went to Holland, where he studied the Hebrew language, and on his return was ordained and presented to the living of Saltoun. He subsequently became bishop of Salisbury, and is known principally by his *History of the Reformation*, and by that of *His own Times.* He was interred in the church of St. James, Clerkenwell. Besides the above, he published an excellent treatise on Pastoral Care, and several Sermons. The *History of his own Times* appeared in 1724, and is very entertaining, though far from being impartial. The bishop possessed many virtues, although somewhat vain and credulous. D. 1715.

Bur'net, JACOB, one of the founders of Cincinnati, B. at Newark, 1770. Admitted to the bar in 1796, he removed to Cincinnati, then a village with about 500 inhabitants, and was a member of the territorial government from 1799 till the establishment of a State government in 1803. In 1821 he was appointed judge of the supreme court of Ohio, and was elected U. S. senator in 1828. *B.* was elected a member of the French Academy of Sciences upon the recommendation of Lafayette, and published in 1847 a vol. of *Notes on the North-Western Territories.* One of the principal hotels of Cincinnati is called after him the *Burnet House.* D. 1853.

Bur'net, JOHN, an engraver, painter, and art-critic, B. near Edinburgh, 1784. He was first brought under the notice of the public through his engravings of Wilkie's works, which he executed in a most admirable manner. Of his own paintings, the best-known engraving is that of *Greenwich Pensioners receiving News of the Battle of Trafalgar.* He has written several works on art, illustrated by drawings and engravings of his own, the most important of which is a *Practical Treatise on Painting.* He is also the author of *Rembrandt and his Works*, 4to, 1849; and, in conjunction with Mr. Peter Cunningham, of the *Life and Works of J. M. W. Turner*, 4to, 1852. In 1862, he received a pension on the recommendation of Lord Palmerston. D. 1868.

Bur'net, THOMAS, B. at Croft, in Yorkshire, 1635; chiefly known from his *Sacred Theory of the Earth*, published in 1684. It is an ingenious speculation, written in ignorance of the facts of the earth's structure, and is therefore a mere system of *cosmogony*, and not geology. But it abounds in sublime and poetical conceptions and descriptions, conveyed in language of extraordinary eloquence, and called forth the highest applause at that time. D. 1715.

Bur'net, in *Missouri*, a village of Dallas co., on Niangua River.

Bur'net, in *Texas*, a central county, with an area of about 950 sq. m. The Colorado River intersects it, and is, also, its W. boundary. *Surface.* Hilly. *Soil.* Tolerably fertile. *Cap.* Burnet.

—A township and village of the above co.

Bur'net-saxifrage, *n.* (*Bot.*) See PIMPINELLA.

Bur'nett, JAMES. See MONBODDO, (LORD.)

Bur'nett, in *California*, a post-office of Santa Clara co.

Bur'nett, in *Wisconsin*, a N. W. county on the border of Minnesota; area about 1,100 sq. m. It is watered by the St. Croix, Namekagon, Yellow, and Shell rivers. *Surface*, undulating and wooded. *Soil*, fertile. *Cap.* Grantsburg. *Pop.* (1890) 4,393.

—A post-village and township of Dodge co., 55 m. N. W. of Milwaukee.

Bur'nett's Creek, in *Indiana*, emptying into the Wabash, 4 m. from Lafayette.

—A post-office of White co.

Bur'nett Station, in *Wisconsin*, a post-village of Dodge co., 25 m. S.S.W. of Foud-du-Lac, and 22 N. of Watertown.

Bur'nettsville, in *Maryland*, a P. O. of Somerset co.

Bur'ney, CHARLES, F.R.S., an eminent English musical composer, B. 1726. In 1776 he published his *General History of Music*, a masterpiece of profound learning and critical acumen. In 1784 appeared from his pen the *Life of Handel*, which still holds its place in English standard biography; and in 1796, the *Life and Letters of Metastasio.* His merits as a composer are overshadowed by his honors of authorship. *B.* was the father of the celebrated Madame D'Arblay, and D. in 1814.

Bur'ney, FRANCES. See D'ARBLAY, (MADAME.)

Bur'ney's Mills, in *North Carolina*, a post-office of Randolph co.

Burn'ham, in *Maine*, a post-village and township of Waldo co., on the Sebasticook River, 30 m. N.E. of Augusta.

Burn'ing, *n.* The act of burning, or the state of being consumed by fire. — State of inflammation.

—*a.* Much heated; very hot; ardent; fiery; scorching; as, the *burning* deserts of Africa.

—Flagrant; powerful; vehement; as, a *burning* shame.

"Like a young hound upon a *burning* scent." — *Dryden.*

Burn'ing-bush, *n.* (*Bot.*) See EUONYMUS.

Burn'ing-glass, Burn'ing-mirror, *n.* (*Optics.*) A glass which collects the rays of the sun, producing an intense heat.

Burn'ing-house, *n.* (*Mining.*) The furnace in which tin ores are calcined to sublime the sulphur from pyrites: the latter being thus decomposed, are more readily removed by washing.

Bur'nip's Corners, in *Michigan*, a post-office of Allegan co.

Bur'nish, *v. a.* [Fr. *brunir*, from *brun*, brown.] To make brown or of flame-color, as brass; to polish.

"The shadow'd livery of the *burnish'd* sun." — *Shaks.*

—To make smooth, bright, glossy, or resplendent.

"I've seen a snake in human form . . . .
Burnish, and make a gaudy show,
Become a general, peer, and beau." — *Swift.*

—*v. i.* To grow bright or glossy.

"The slender poet must have time to grow,
And spread and *burnish* as his brothers do." — *Dryden.*

—*n.* Gloss; brightness; lustre.

Bur'nisher, *n.* He, or that which, burnishes. — A tool used for smoothing and polishing a rough surface. Agates, polished steel, ivory, &c. are used for burnishing.

Bur'nishing, *n.* The act of polishing, or giving a gloss.

Burn'ley, a flourishing manufacturing town of England, co. Lancaster, 180 m. N.W. by N. of London, and 21 N. of Manchester. *Manf.* Cottons, iron and brass founding, machine-making, and tanning. Great coalfields surround the town.

Bur'noose, Bur'nos, *n.* See BOURNOUS.

Bur'nouf, EUGÈNE, a French orientalist, B. at Paris, 1801, who, after entering on the study of law, betook himself to the Oriental languages, especially those of India and Persia. In 1834, he published the first volume of his *Commentaires sur le Yaçna l'un des Livres Liturgiques des Perses*, a work which, for the first time, rendered possible a knowledge, not only of the dogmas, but also of the language of Zoroaster. In 1840, he published the text along with a translation of the *Bhâgavat-Purâna*, a system of Indian mythology and tradition. As the fruit of his study of the Sanskrit books of the Buddhists, appeared, in 1845, the *Introduction à l'Histoire du Bhoudhisme.* This great work absorbed during six years the whole energies of *B.*, who was now recognized as the worthy successor of Silvestre de Sacy. D. 1852.

Burns, ROBERT, the national poet of Scotland, B. in Ayrshire, in 1759. His father, a small farmer, was able to afford his son but a scanty education, and *B.*'s adolescent years were passed in working at the plough, and, in his spare hours, writing scraps of verse. He enlivened his dull, prosaic mode of life, however, by occasional fits of tippling and love-making. His innate spirit of poetry, fostered by a perusal of the writings of Pope, soon developed itself into active and powerful life. His *Poems* appeared in 1786, and made him at once famous, — the *Cotter's Saturday Night* alone being sufficient to stamp him a poet of the truest and best class. In 1786, *B.* went to Edinburgh, where he was received with the utmost distinction by the literati of the "Modern Athens." There is no need that we should here enter upon the story of the too well-known weakness of this gifted man; suffice it, that, in 1788, he married Jean Armour, the "Bonny Jean" of some of his earlier poems, with whom he had previously formed a connection. The public success of his works enabled *B.* to purchase a farm, and also to assist, in a pecuniary manner, his father and brothers. But the man's generosity of disposition, and addiction to good-fellowship and the "flowing bowl," soon made serious inroads upon his means. In 1791, he was, through the patronage of powerful friends, appointed an officer of excise, and went to reside at Dumfries. Here his unconquerable habits of intoxication again got the mastery over him, domestic afflictions added their share to the drama of a sad life, and he died in poverty and sorrow, in his 37th year, July 18, 1796. —

Fig. 454. — ROBERT BURNS.

The history of literature scarcely affords another instance of a popularity either so sudden or so complete as that obtained by the poetry of *B.* Even in his own lifetime, and indeed almost immediately after his genius first burst into public notice, his name and his poems were familiar to all ranks of his countrymen. Nor did the enthusiasm for his poetry die away with the generation among whom it was first kindled. His works are still everywhere a cottage-book in his own land, and they are read wherever the English language is understood. No poetry was ever better fitted to obtain extensive popularity than that of *B.* It has little of either grandeur or richness of imagination, but it is all heart and passion, and every human bosom capable of feeling strongly must be stirred by its fire and tenderness. Nothing can be more masterly — more demonstrative both of high skill and of general elevation of mind — than the manner in which he triumphs over the disadvantages of a dialect so much vulgarized as that of Scotland had come to be at the time when he wrote. Familiar as his subjects generally are, and bold and expressive as his diction constantly is, we will venture to say that there is not one instance of real vulgarity in all that he has written. Of mere license and indecorum there is certainly no want in some of his productions; but even in his broadest humor, in his most unpardonable violations of moral propriety, in the rudest riot of his merriment and satire, there is never anything that is mean or grovelling, anything that offends our sense of what is noble and elevated. Some of the most immoral of his pieces are distinguished by a studied propriety of expression springing from the finest taste and most delicate sensibility to the beautiful. — In 1859, the centenary of the birth of *B.* was celebrated with enthusiasm in every country where the English language is spoken; and nowhere more enthusiastically than in the United States. *B.*'s two sons, Colonel *B.* and Major *B.*, were officers in the British Army.

Burns, in *Illinois*, a township of Henry co., 55 m. N.W. of Peoria.

Burns, in *Michigan*, a post-village of St. Clair co., 5 miles W. of Port Huron.

Burns, in *New York*, a township of Alleghany co., 50 m. S. by W. of Rochester.

Burns, in *Wisconsin*, a post-village and township of La Crosse co., 15 m. N.E. of La Crosse.

Burn'side, in *Connecticut*, a post-office of Hartford co

Burn'side, in *Illinois*, a post-village of Hancock co.
Burn'side, in *Indiana*, a post-village of Clinton co.
Burn'side, in *Michigan*, a post-township of Lapeer co., 65 m. N. of Detroit.
Burn'side, in *Minnesota*, a township of Goodhue co., 6 m. from Red Wing, on the Mississippi River.
Burn'side, in *New York*, a post-village of Orange co.
Burn'side, in *Pennsylvania*, a post-village and township of Clearfield co., 30 m. N.W. of Altoona, and 75 E.N.E. of Pittsburg.
—A township of Centre co.
Burn'side, in *Wisconsin*, a post-village of Buffalo co.
Burn'side, AMBROSE EVERETT, major-general in the U. States army, B. 1824, at Liberty, Union co., Indiana, from which State he was appointed a cadet to West Point Academy in 1843, and 2d lieutenant of the 3d Artillery, 1847. In 1851 he was appointed to a 1st lieutenancy, but resigned his connection with the regular service in 1853, and acted as treasurer of the Illinois Central Railway, the same line of which Gen. McClellan was president. This position he held at the breaking out of the Civil War. The "call" of the President for troops to defend the capital brought *B.* from his private position, and at the head of the 1st regiment of Rhode Island volunteers, a corps of 1,300 men, he made his way to the capital, April 27, 1861. When the army of N.E. Virginia was organized under Gen. McDowell, Col. *B.* was appointed commander of the 2d brigade of the 2d division, and on the return home of his regiment, Aug., 1861, was commissioned as brigadier-general of volunteers. After taking part in various operations in the war, he was, Nov. 5, 1862, appointed to succeed Gen. McClellan in command of the army of the Potomac. After a rapid march upon Fredericksburg, he made a rash attempt to storm the heights, and was defeated with terrible loss in the following month. He was relieved, at his own request, of the command of that army in January, 1863, was employed in the movements around Chattanooga, in conjunction with Gen. Rosecrans, was transferred to the West, and on the re-opening of the campaign in Virginia, in the spring of 1864, commanded a corps of reserve in Gen. Grant's army, having a large force of negro troops under him. The aid of that corps was required at the sanguinary contest of the Wilderness, and its services were chiefly relied upon to secure the advantage that Gen. Grant hoped to gain through springing a mine near Petersburg. Owing, however, to some "blunder," the attack failed, and the Union army was repulsed. He resigned April 15, 1865; was elected governor of Rhode Island in 1866, and reëlected in 1867 and 1868. In 1875, he was elected senator to Congress from this State. D. Sept. 13th, 1881.
Burns'ville, in *Alabama*, a vill. of Dallas co.
Burnsville, in *Illinois*, a village of McDonough co., 90 m. N.W. of Springfield.
Burnsville, in *Indiana*, a post-village of Bartholomew co., 11 m. E. by S. of Columbus.
Burnsville, in *Minnesota*, a township of Dakota county.
Burnsville, in *Mississippi*, a vill. of Tishemingo co.
Burnsville, in *North Carolina*, a village, and cap. of Yancy co., on the Nolichucky River, 250 m. W. of Raleigh.
Burnt, *imp.* and *pp.* of BURN, *q. v.*
Burnt Cabins, in *Pennsylvania*, a post-village of Fulton co.
Burnt Carmine, *n.* (*Paint.*) The carmine of cochineal partially charred till it resembles in color the purple of gold, for the uses of which in miniature and water-color painting it excels.
Burnt Corn, in *Alabama*, a post-village of Monroe co.
Burnt-ear, *n.* See UREDO.
Burnt Fort, in *Georgia*, a village of Camden co., on the Santilla River.
Burnt Hills, in *New York*, a vill. of Saratoga co.
Burntisland, (*burnt-i'land,*) a seaport town of Scotland, in Fifeshire, on the Frith of Forth, 6 m. N. of Granton. It has a good harbor, and is much resorted to for sea-bathing.
Burnt-offering, *n.* (*Script.*) See SACRIFICE.
Burnt Or'dinary, in *Virginia*, a post-office of James City co.
Burnt Prai'rie, in *Ill.*, a twp. of White co.
Burnt Ranch, in *California*, a village of Trinity co., 35 m. W. of Weaverville.
Burnt Sien'na Earth, *n.* (*Paint.*) The Terra di Sienna burnt, which is of an orange-russet color.
Burnt Um'ber, *n.* (*Paint.*) A pigment obtained from a fossil substance, which when burnt assumes a deeper and more russet hue; it contains manganese and iron, and is very drying in oil, in which it is employed as a dryer. It is a fine warm brown, and a good working strong color, of great use for the hair of the human head, and mixes finely with the warm shades.
Burnt Ver'digris, *n.* (*Paint.*) An olive-colored oxide of copper deprived of acid. It dries well in oil, is more durable, and in other respects an improved and more eligible pigment than in its original state.

Bu'row, JULIE, (Mrs. Pfannenschmidt,) a German writer of romance, B. Feb. 24, 1806. She has written, *A Life's Dream*, *A Doctor in a Little City*, *John Kepler*, *Pictures from Life*, *The Burgomaster*, &c., &c., and the much admired work, *The Nursing and Attention of Children.*
Burr, *n.* See BUR.
—*v. n.* To pronounce with a burr; to talk or whisper hoarsely; to murmur.
Burr, AARON, the third vice-president of the U. States, B. at Newark, New Jersey, 1756. He was but three years old when his parents died, leaving him a considerable estate At the outbreak of the Revolution he joined the force before Boston, volunteered for the expedition against Canada, where he distinguished himself, was raised to the rank of major, and invited to join the family of Gen. Washington. Some event soon occurred, the precise character of which is not well known, which compelled *B.* to leave headquarters, and produced on the mind of Washington an impression against him, which was never removed. In 1779 *B.* resigned his commission; he was admitted to the bar at Albany in 1782, and married the same year Mrs. Prevost, the widow of a British officer. In 1789 he was appointed attorney-general of New York, and U. States senator in 1791. In 1800, being then one of the leaders of the republican party, he was elected vice-president. His connection with the republicans was soon dissolved, and in 1804 he was nominated for governor of New York by the Federalists, but some of the leading men of that party refused to support him, and the bitter contest which terminated in his defeat led to a duel between *B.* and Col. Hamilton, in which the latter was killed. In 1805 he made a journey to the South-west; and on being suspected of organizing an expedition to invade Mexico, with the project of establishing there an empire which should embrace some of the S.W. States, he was arrested and taken to Richmond for trial, upon an indictment for treason. He was acquitted, Sept., 1807, and went to Europe in 1808. He returned to America in 1812, and resumed in New York his profession at the bar, but without regaining his former influence. He D. 1836, leaving no children, his only daughter, Theodosia Allston, having been lost at sea, Jan., 1813. His principles were very loose, but his manners and presence were very attractive, and he mainly owed his political influence to his skill in enlisting the good-will and sympathy of those with whom he came in contact.
Bur'rageville, in *Massachusetts*, a post-vill. of Worcester co.
Bur'ras-pipe, *n.* (*Surg.*) A utensil for holding corrosive substances.
Bur'-reed, *n.* (*Bot.*) See SPARGANIUM.
Bur'rel, *n.* A sort of pear, called also *red butter-pear*, which has a delicious soft pulp.
Burrel-fly, *n.* (*Zoöl.*) The GAD-FLY, *q. v.*
Bur'rell, in *Pennsylvania*, a township of Armstrong co.
—A post-township of Westmoreland co.
Burria'na, a town of Spain, 8 m. S. of Castellan-de-la-Plana, on the Rio Seco, about 1 m. from its mouth in the Mediterranean; *pop.* 6,769.
Bur'rill, or **Burrell,** in *Iowa*, a township of Decatur county.
Bur'rillville, in *Rhode Island*, a post-township of Providence co., 20 m. N.W. of Providence. It has flourishing cotton and other manufactures.
Burrishoole', a parish of Ireland, co. Mayo.
Bur'ritt, ALEXANDER M., jurist, B. in New York, about 1807, received his education at Columbia College, where he graduated in 1824; was admitted in 1828 to the bar in the State of N. Y., and practised with much success. In 1840 he published a treatise on the *Practice of the Supreme Court of the State of New York.* His best work, *A Law Dictionary and Glossary*, which did not appear till 1850, is recognized as an authority by all U. States jurists. In 1853, Mr. *B.* published his *Treatise on the Law and Practice of Voluntary Assignments for the Benefit of Creditors*, and, in 1856, his *Treatise on Circumstantial Evidence.* D. 1869.
Burritt, ELIHU, an American linguist, B. in New Britain, Connecticut, 1811. His father was a village shoemaker, and himself a blacksmith; but he had a great facility, however, in the acquirement of languages, and while serving his apprenticeship at his trade, he labored at self-instruction, and made considerable progress in the Latin and French languages. When his term of apprenticeship had expired, he had six months' education at the school of his brother, where he made further advancement in these languages, and also gained some knowledge of mathematics. On returning to his trade, he assiduously pursued his studies, and made himself acquainted with the Hebrew, Greek, Syriac, Spanish, Bohemian, Polish, and Danish languages. In 1842 he translated some of the Icelandic *Sagas*, and contributed to the "American Eclectic Review" translations from the Samaritan, Arabic, and Hebrew. In 1843 he commenced the study of the Persian, Turkish, and Ethiopic languages, and in the following year started a newspaper called "The Christian Citizen." Since then he has edited several journals, and lectured throughout Europe and America, endeavoring to form a "League of Universal Brotherhood," and establish an ocean penny postage. He has also produced several works advocating these schemes, and others of a kindred nature. D. 1879.
Bur'ritt, in *Illinois*, a post-township of Winnebago co., 10 m. N.W. of Rockford.
Burritt's Rapids, in Upper Canada, a post-village of Grenville co., on the Rideau Canal, 73 m. N.E. of Kingston.
Burr-ma'rigold, *n.* (*Bot.*) See BIDENS.
Burr Oak, in *Iowa*, a post-township of Winneshiek co., 17 m. N.N.W. of Decorah.
Burr Oak, in *Kansas*, a township of Doniphan co.
—A post-village of Jewell co.
Burr Oak, in *Michigan*, a post-township and village of St. Joseph co., 73 m. W. of Adrian.
Burr Oak, in *Wisconsin*, a post-vill. of La Crosse co.
Bur'rock, *n.* A small weir, or dam, for catching fish.
Burrow, (*bur'ro,*) *n.* [A.S. *beorh*, a hill, defence, refuge.] A hollow place in the earth, made by small animals, as rabbits, where they lodge for defence, security, or shelter.

"They will out of their *burrows* like conies after rain."
Shaks.

(*Mining.*) The heap of attle, deads, or earth (void of ore), which are raised out of a mine, and commonly lie around the shafts; any heap or hillock of deads or waste.
—*v. n.* [A. S. *beorgan*, to protect, to shelter, to fortify.] To excavate a hole underground; to lodge in any deep or concealed place.
Bur'row-duck, *n.* (*Zoöl.*) The *Anas tadoma*, an aquatic bird; named also Shell-drake.
Bur'rowing, *p. a.* Lodging in a burrow.
Bur'rows, in *Indiana*, a post-office of Carroll co.
Burr's Mills, in *New York*, a vill. of Jefferson co.
Burrs'ville, in *Maryland*, a vill. of Caroline co.
Burr'ville, in *Connecticut*, a vill. of Litchfield co.
Bur'ry, *a.* Covered with hooked stiff hairs, like the heads of bur or burdock.
Bursa, in Asia Minor. See BRUSA.
Bur'sæ Muco'sæ, *n. pl.* [Lat., mucus-bags.] (*Anat.*) Small membranous sacs, situated about the joints of the bones, and containing a kind of mucous fat, which serves to lubricate the joints, in order to render their motion easy. They are of different sizes and firmness.
Bursal'ogy, *n.* (*Anat.*) A treatise on, or description of, the bursæ mucosæ.
Bur'sar, *n.* [Fr. *boursier*, from *bourse.* See BURSE.] A treasurer or cash-keeper of a college or convent. — A student in a Scottish university maintained either in whole, or in part, by funds derived from endowments.
Bur'sary, *n.* Allowance paid to a bursar or student; an exhibition to a college.
Bursch, or **Bursche,** (*boorsh.*) [Ger.] A student at a university in Germany.
Burschenschaft, (*boorsh'en-shaft.*) (*Hist.*) The name of an association of the students in Germany, formed in 1815, and which had for its object the political regeneration of Germany.
Burse, *n.* [Fr. *bourse;* Lat. *bursa*, from Gr. *byrsa*, a shin, a hide.] An Exchange for money or mercantile transactions. See BOURSE. — A fund, or foundation, for the maintenance of poor scholars in the French universities.
Bur'sera, *n.* (*Bot.*) A genus of plants, order *Amyridaceæ.* The species *B. gummifera* and *acuminata* yield fragrant resinous substances; that from the former being termed *Chibou*, or *Cachibou* resin, and that from the latter, resin of *Carana.*
Burs'lem, a town of England, in the Potteries district of Staffordshire, 3 m. N.W. of Newcastle-under-Lyme, 19 m. N. of Stafford, and 161 N.W. of London. This is one of the principal places engaged in the earthenware manufacture.
Bur'sonville, in *Pennsylvania*, a P. O. of Bucks co.
Burst, *v. n.* (*Imp.* and *pp.* BURST.) [A. S. *berstan, byrstan, burstan;* Dut. and Ger. *bersten.*] To break in pieces; to start or break open.

"It is ready to *burst* like new bottles."—*Job.*

—To fly asunder; to rush, or gush, forth.

"Yes, I am thankful; if my heart were great,
'T would *burst* at this."—*Shaks.*

—To break away; to break forth.

"You *burst*, ah cruel! From my arms. . . ."—*Pope.*

—To come suddenly, or with violence.

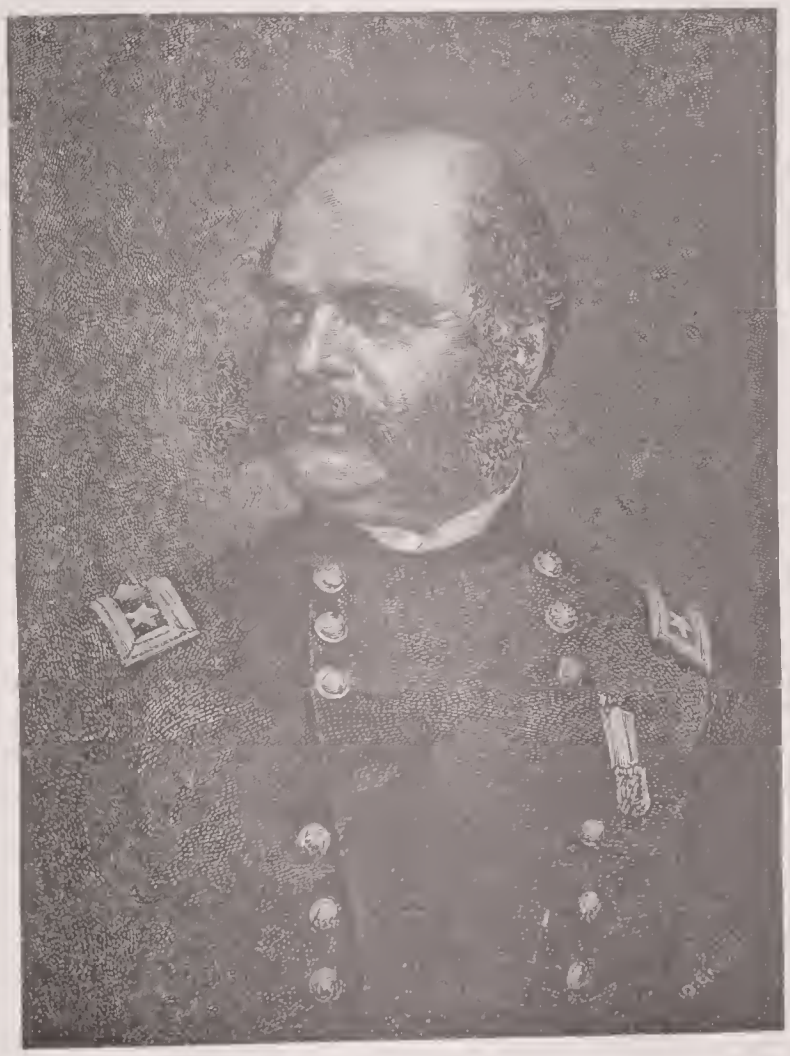
"Young spring protrudes the *bursting* gems."—*Thomson.*

—To begin an action violently or suddenly; to rupture.

"She *burst* into tears, and wrung her hands."—*Arbuthnot.*

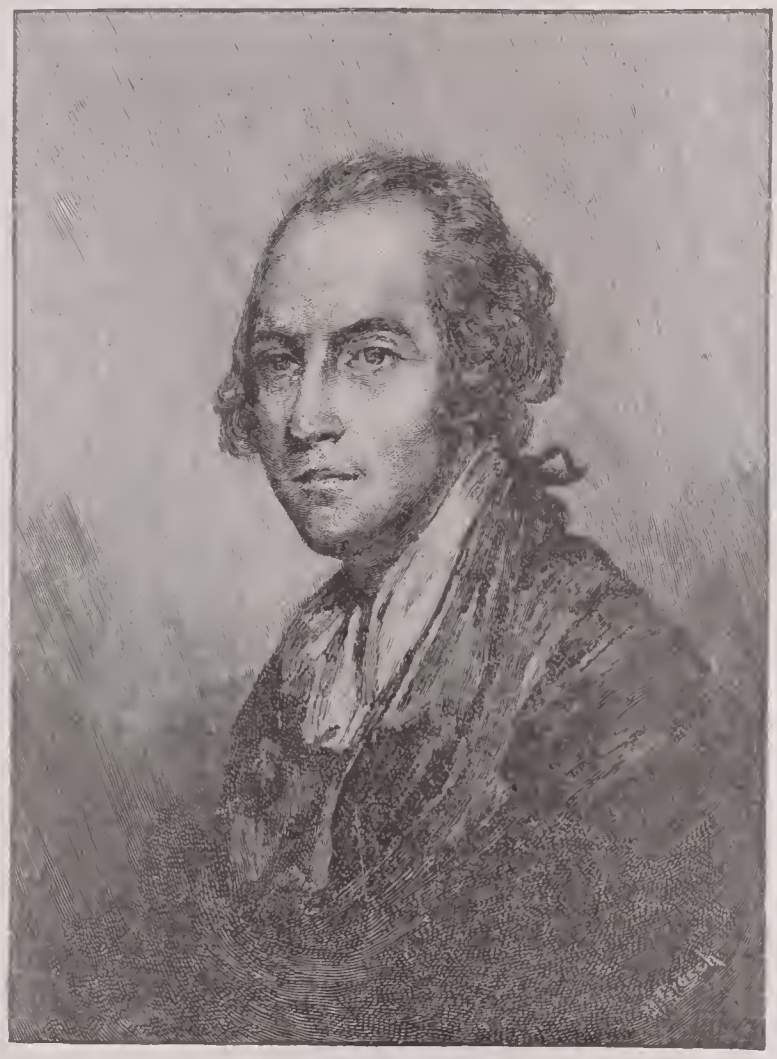
—*v. a.* To break by force or violence; to rend; to open suddenly.
—*n.* A sudden breaking forth; a violent disruption; a sudden explosion; a rupture.
—*p. a.* Opened or rent asunder by violence. — Diseased with a rupture or hernia.
Burst'er, *n.* One who bursts.
Burst'wort, *n.* (*Bot.*) See HERNIARIA.
Burt, *n.* [See BIRT and BRET.] A species of turbot.

Burt, or BERT, a parish of Ireland, co. Donegal.
Burt, in *Nebraska*, an E.N.E. county, on the confines of Iowa, and bounded on the E. by the Missouri River. *Area.* About 500 sq. m. Drained by Logan's Creek. *Surface.* Uneven. *Soil.* Fertile, with a substratum of limestone. *Cap.* Tekamah.
Bur'then, *n.* and *v. a.* See BURDEN.
Bur'ton, JOHN HILL, an English historian and biographer, B. at Aberdeen, 1809. His best work is the *History of Scotland, from the Earliest Period to the Revolution of* 1688, (1867). D. 1881.
Bur'ton, ROBERT, an English divine and writer, B. at Lindley, Leicestershire, 1576. His *Anatomy of Melancholy* consists mainly of an extraordinary mass of quotations from old and obscure writers, strung on a thread of rambling reflection; often tiresomely pedantic, but relieved by quaint touches of humor and feeling. Dr. Johnson said it was the only book that ever took him out of bed two hours before his usual time. It supplied Sterne with much of his wit, and Byron declares "it is the most amusing and instructive medley of quotations and classical anecdotes *he* ever perused." D. 1640.
Bur'ton, in *Illinois*, a township of McHenry co., on the Wisconsin line.
—A post-village and township of Adams co., 10 m. E. by S. of Quincy.
Bur'ton, in *Michigan*, a township of Genesee co.
—A post-village of Shiawassee co.
Bur'ton, in *New York.* See ALLEGHANY.
Bur'ton, in *Ohio*, a post-village and township of Geauga co., 30 m. E. by S. of Cleveland.
Bur'ton, in *West Virginia*, a post-office of Wetzel co.
Bur'ton-on-Trent, a town of England, cos. Stafford and Derby, 22 m. E. of Stafford, and 128 N.N.W. of London. *B.* is famous, all the world over, for its ale. Brewing is conducted here on the most extensive scale; and the *India Pale Ale*, made by the great firms of Bass and



Ambrose Everett Burnside

1824–1881



Aaron Burr

1756–1836

Allsopp, bears a noted reputation both at home and abroad, more especially in India, its greatest market. *Pop.* in 1895, 46,047.

Bur'ton's Corners, in *Illinois*, a village of Boone co.

Bur'tonsville, in *New York*, a post-office of Montgomery co.

Burt'scheid, or BORCETTE, a town of Rhenish Prussia, and a suburb of Aix-la-Chapelle, celebrated for its sulphur springs and baths, with a temperature of 106° to 155°; *pop.* 6,827.

Burt'ville, in *Pennsylvania*, a post-office of Potter co.

Bur'wha, or BARUWA, a walled town of Central Africa, on the W. bank of Lake Tchad, kingdom of Bornou; *pop.* about 6,000.

Bur'wood, in *California*, a post-village of San Joaquin co., 25 m. S.E. of Stockton.

Bur'y, *v. a.* [A. S. *byrian, buryan;* Du. and Ger. *bergen,* to conceal, to hide.] To secrete; to cover; to conceal or put into concealment.—To put into a grave or sepulchre; to inter; to entomb; to deposit in the earth; to overwhelm.

—*n.* [A. S. *burh*, a castle, a town; *bur*, a cottage.] An obsolete name for a dwelling-place; a manor house. It is still found as a termination to the names of several places, as Aldermanbury, &c.

—*n.* [Fr. *beurré.*] A name applied to several varieties of delicate pears.

Bury, (*ber're,*) a manufacturing town of England, co. Lancaster, 8 m. N.N.W. of Manchester, and 196 N.N.W. of London. Cotton goods, calicoes, and woollens form the leading manufactures. *B.* is famous as being the original seat of the English cotton manufacture, first established here in 1791, by the father of Sir Robert Peel.

Bur'ying, *n.* Burial.—*John* xii. 7.

Bur'ying-beetle, *n.* (*Zoöl.*) See NECROPHORUS.

Bur'ying-ground, BURYING-PLACE, *n.* A burial-ground; a CEMETERY, *q. v.*

Bury St. Edmund's, a borough of England, co. Suffolk, 60 m. N.E. of London. This is one of the most ancient towns in England, and was formerly noted for its magnificent abbey. The town now bears a modernized aspect, is handsomely built, paved, and lighted, and is, altogether, for its size, a neat and prosperous place.

Busachi'no, or **Busaqui'no,** a town of Italy, in Sicily, prov. Palermo, 29 m. S.S.W. of Palermo city; *pop.* 8,326.

Busaw, in *Indiana*, a post-office of Miami co.

Bus'bayville, in *Georgia*, a post-village of Houston co., 16 m. S. by W. of Macon.

Bus'ea, a town of Italy, in Piedmont, about 9 m. N.W. of Coni; *pop.* 10, 212.

Bush, *n.* [Du. *bosch;* Ger. *busch;* It. *bosco.*] A thicket; a cluster or clump of trees or shrubs; a shrub with branches; a thick shrub.—Something resembling a bush.

—The sign of a tavern in England;—formerly an ivy-bush. It was sometimes applied to the tavern itself; as, "you will find him at the *Bush.*"—*Beau. & Fl.*

(*Hunting.*) A fox's tail. (Usually called *brush.*)

(*Mech.*) [Du. *bus*, a box.] A circle or hollow cylinder of metal which lines the *box*, or hollow of the nave of a wheel in which the axle works.—A similar circle let into other holes or orifices.

Bush, *v. a.* To grow thick or bushy.

Bush'berg, in *Missouri*, a post-office of Jefferson co.

Bush-bok, *n.* See BOSH-BOK.

Bush Creek, in *Arkansas*, a township of Washington co. See BRUSH CREEK.

Bush Creek, in *Ohio*, a township of Highland county.

—A township of Scioto co. See BRUSH CREEK.

Bush'el, *n.* [Fr. *boisseau*, from Celt. *boessel—boes*, wood, and *tel*, in comp. *sel*, hollowed.] A dry measure, containing generally 8 gallons or 4 pecks. The *Winchester B.*, established by 13 Will. III. c. 5 (1701), was made the standard of grain. A cylindrical vessel, 18½ inches in diameter, and 8 inches deep inside, contains a *B.*; the capacity is 2145·42 cubic inches. The *B.* established by 5 and 6 Geo. IV. c. 74, is to contain 2218·192 cubic inches. This measure has been adopted in many of the U. States. In New York the heaped *B.* is allowed, containing 2815 cubic inches. The exceptions, as far as known, are Connecticut, where the *B.* holds 2198 cubic inches; Kentucky, 2150⅔; and Indiana, Ohio, Mississippi, and Missouri, where it contains 2150·4 cubic inches.

Bush'elage, *n.* In England, a duty payable on goods by the bushel.

Bush'eller, *n.* In the U. States, one who repairs garments for tailors.

Bush'et, *n.* A wood. See BUSKET.

Bush-harrow, *n.* An implement used in harrowing grass lands.

Bush Hill, in *N. Carolina*, a post-office of Randolph county.

Bu'shi, in *Alabama*, a post-office of Clark co.

Bush'iness, *n.* Quality of being bushy.

Bush'ing, *n.* (*Mech.*) The operation of fitting a lining of metal in an orifice in which an axis or journal turns.

Bushire', ABOO-SHEHR, ABOUSHEHR, ("*Father of Cities,*") a seaport town of Persia, prov. Fars, and excepting Bassora, the principal port of the Persian Gulf, on the N.E. coast of which it is situated, 120 m. W.S.W. of Shiraz, and 255 S. by W. of Ispahan; Lat. 29° N.; Lon. 50° 48′ E. It is built on a low, sandy spit of ground enclosing a deep bay or harbor, and is nearly surrounded by the sea. It was bombarded by the English in 1856. Estim. *pop.* 18,000.

Bush'kill, in *Pennsylvania*, a post-township of Northampton co.

—A post-village of Pike co., near the mouth of Bushkill Creek.

Bush'kill Creek, in *Pennsylvania*, falls into the Delaware River, near the S. extremity of Pike co.

—In Northampton co., enters the Delaware at Easton.

Bush'man, *n.* See BOSJESMANS.

Bush'man's, or **Bosjesman's River,** in South Africa, in the E. part of Cape Colony, empties into the Indian Ocean, and forms, in its lower course, the W. boundary of Albany.

Bushmills', a town of Ireland, co. Antrim, on the Bush, 8 m. N.E. of Coleraine; *pop.* 1,500.

Bush'nell, in *Illinois*, a post-township and city of McDonough co., 77 m. N.E. of Quincy. *Manufactures.* Plows, pumps, &c.

Bushnell, in *Michigan*, a township of Montcalm co.

—In *Nebraska*, a post-village on the U. P. R. R.

Bushnell Centre, in *Mich.*, a P. O. of Montcalm co.

—In *New York*, a post-office of Monroe co.

Bushnell's Basin, in *New York*, a post-village of Monroe co., 217 m. W. by N. of Albany.

Bush'nellsville, in *New York*, a P.O. of Greene co.

Bush River, in *S. Carolina*, a small stream flowing into Saluda River, in Newbury district.

Bush's Mills, in *W. Virginia*, a post-office of Lewis co.

Bush's Store, in *Kentucky*, a post-office of Laurel co.

Bush'ville, in *Georgia*, a post-village of Franklin co., 109 m. N. of Milledgeville.

Bush'ville, in *New York*, a post-office of Sullivan co.

Bush'-whacker, *n.* One accustomed to beat about or travel through bushes; a raw countryman.—A stout scythe or other instrument for cutting bush or bushes: a bush-scythe. (*Webster.*)—A GUERILLA, *q. v.* (U. S.)

Bush'-whacking, *n.* A word applied in the U. States to the action of travelling, or working a way through bushes; or, of pulling by the bushes, as in hauling a boat along the bushy margin of a stream.

Bush'wick, in *New York*, formerly a township of King's co., now included in the limits of Brooklyn.

Bush'y, *a.* Full of bushes; full of branches; thick and spreading like a bush.

Bushy Fork, in *Illinois*, a village in the N.E. of Coles co.

Bushy Fork, in *North Carolina*, a P. O. of Person co.

Bus'ily, *adv.* In a busy manner; actively; earnestly.

Business, (*biz'nes,*) *n.* [From *busy.*] That which makes busy; employment; that which occupies the time, attention, and labor of men.—Occupation; concern; serious engagement; affair; a point; something to be transacted. Trade; profession; office; calling.

Businessburg, in *Ohio*, a post-office of Belmont co.

Business Corner, in *Iowa*, a P. O. of Van Buren co.

Bu'siris, *n.* (*Egypt. Myth.*) A fabulous personage, of whose origin, exploits, and character the most contradictory accounts are given, some maintaining that he was a king of Egypt, others that the name signified only the tomb of OSIRIS, *q. v.*

Busk, *n.* [Fr. *busc*, from L. Lat. *boxus*, a wood.] A piece of something, originally wood, worn by women to strengthen their stays; the quilted belly of a doublet; a piece of steel, whalebone, or wood, worn by women on the breast.

Busked, *a.* Wearing a busk.

Bus'ket, *n.* [It. *boschetto.*] A sprig or small bush.—A compartment of shrubs in a garden. (R.)

Bus'kin, *n.* [Du. *broosken;* Fr. *brodequin*: probably from *bootikin*, a little boot.] A species of covering for the leg, or rather for the ankle and foot, generally used by English writers, as the translations of *cothurnus, caliga*, and other Greek and Latin words, denoting different kinds of boots, &c. Hence *B.*, in the sense of *cothurnus*, stands for the tragic drama, in contradistinction from *soccus*, the boot or sock worn by comedians, and used in the comic drama.

"Great Fletcher never treads in *buskins* here,
Nor greater Jonson dares in *socks* appear." — *Dryden.*

Bus'kined, *a.* Dressed in buskins.—Tragic; as, "*Buskined* measure."—*Gray.*

Bus'kirk's Bridge, in *New York*, a post-village of Washington co., on Hoosick R., 29 m. N.N.E. of Albany.

Bus'ky, *a.* Woody; shaded with woods; bosky.

Bus'rah, or BASRA, a town of Asiatic Turkey, situated on the W. bank of the Euphrates (which is here called Shat-el-Arab), 56 miles from its mouth at the Persian Gulf. The river is navigable up to this point for vessels of 500 tons. *Pop.* (1898) about 55,000.

Buss, *n.* [Fr. *baiser*, from Lat. *basio;* Gael. *bus*, a mouth, a lip.] A kiss; a salute with the lips.

—A two-masted vessel, 50 to 70 tons in burden, formerly much used by the Dutch and English in the herring fisheries.

—*v. a.* To kiss; to salute with the lips.

Bus'selville, in *Illinois*, a village of Lawrence co.

Bus'sero Creek, in *Indiana*, rises in Vigo co., and falls into the Wabash, about 15 m. above Vincennes.

Bus'seron, in *Indiana*, a post-village of Knox co., 12 m. N.N.E. of Crawfordsville.

Bus'si, or **Bussy d'Amboise,** LOUIS DE CLERMONT DE, one of the favorites of the Duke d'Anjou, brother of Henry III., king of France. Little is known of this minion but the history of his desperate bravery and his crimes. During the massacre of St. Bartholomew, having joined the assassins, he murdered with his own hand his relation, Antoine de Clermont, with whom he had a law-suit for the marquisate of Rénel. He afterwards commanded at Angers, where his exactions rendered him most unpopular; and having long interrupted the tranquillity of Paris by private brawls and combats, in which he set at nought the terrors of the Bastile and the authority of the king, he became so odious to Henry III. by frequent acts of presumption, that he gave information to Charles de Chambres, Comte de Montsoreau, of an intrigue which *B.* carried on with his wife. The secret had been revealed to the king by his brother d'Anjou, to whom *B.* had jestingly written in one of his letters that he "had the game of the mighty master in his toils." Montsoreau compelled the wretched adulteress to write a letter with her own hand, making an assignation in the Château de Constancières, where the injured husband awaited *B.* with a numerous ambuscade of armed men, and, in spite of a most courageous resistance, put him to death, 1579.

Busso'ra, in Turkey in Asia. See BASSORA.

Buss'ville, in *Illinois*, a village of Jefferson co., 12 m. W. by N. of Mount Vernon.

Bus'sy, ROGER DE. See RABUTIN.

Bust, *n.* [Fr. *buste;* It. and Sp. *busto;* L. Lat. *bustum*, allied to *uro, ustum*, to burn, the place where a corpse is burned and buried. In this place the portrait of the deceased was placed in bas-relief.] The chest and thorax. (*Sculp.*) The figure of a person in bas-relief (Fig. 74), showing only the head, shoulders, and breast.

Bus'tamente. See GUERRERO.

Bus'tamite, *n.* (*Min.*) A grayish-red variety of Rhodonite (or native silicate of manganese) occurring in irregularly disposed prismatic crystals.

Bus'tard, *n.* (*Zoöl.*) See OTIS.

Bus'ter, *n.* Anything very large.—A spree. (Vulgar.)

Busti, in *New York*, a post-township of Chautauqua co., on Chautauqua Lake.

Bustle, (*bus'l,*) *v. i.* [A.S. *brastlian*, to crackle, to make a noise.] To stir quick; to be very active; to be very quick in motion.

"Come, *bustle, bustle,* caparison my horse."—*Shaks.*

—*n.* Hurry; great stir; rapid motion with noise and agitation; tumult.

—An article of female attire; a BISHOP, *q. v.*

Bus'tler, *n.* One who bustles; an active, stirring person.

Bus'tleton, in *Pennsylvania*, formerly a village of Philadelphia co., 11 m. N.E. of the State-House; now included in the limits of Philadelphia city.

Bus'y, *a.* [A.S. *bysi, bysig;* Goth. *budum, budans*, to order, to command.] Occupied; fully employed; actively engaged.—Earnestly diligent; active.—Officious; meddling; bustling; troublesome.

"They repulsed the proud enemy, still *busy* with them."—*Knolles.*

—*v. a.* To make or keep busy; to employ with constant attention; to keep engaged. (Used chiefly with the reciprocal pronoun.)

Bus'y-body, *n.* An officious meddling person.

"*Busy-bodies* and intermeddlers are a dangerous sort of people to have to do withal."—*L'Estrange.*

But, *conj.* and *prep.* [A.S. *butan, buton;* originally the imperative of A.S. *beon-utan*, to be out.] Except; besides; unless; save.

"Your poem hath been printed, and we have no objection *but* the obscurity of several passages, by our ignorance in facts and persons."—*Swift.*

—Excepting that; were it not that; unless.

"And *but* infirmity, . . .
Hath something seiz'd his wished ability,
He had himself the lands and waters measur'd."—*Shaks.*

—Yet; nevertheless; otherwise than that.

"Our wants are many, and grievous to be borne, *but* quite of another kind."—*Swift.*

—Only; solely; nothing more than; merely.

"Did *but* men consider the true notion of God, he would appear to be full of goodness."—*Tillotson.*

—On the contrary; yet; still; nevertheless; however.

"Now abideth faith, hope, charity, these three; *but* the greatest of these is charity."—1 *Cor.* xiii. 13.

But, *n.* [Fr. *bout*, from Celt. *bod*, an end.] A limit; a bound. See BUTT, and BUT-END.

—*v. n.* To be bounded by; to lie contignous to; to abut. See BUTT.

Butcher, (*buch'er,*) *n.* [Fr. *boucher*, from *bouche*, the mouth.] One who provides for the mouth; one who furnishes animal food; one who slaughters animals for market.

"Like a *butcher* doom'd for life
In his mouth to wear the knife."—*Swift.*

—One who delights in slaughter or bloody deeds.

"Honour and renown are bestowed upon conquerors, who, for the most part, are but the great *butchers* of mankind."—*Locke.*

—*v. a.* To kill or slaughter animals for food, or for market.—To murder; to slaughter cruelly.

"The poison and the dagger are at hand to *butcher* a hero, when the poet wants brains to save him."—*Dryden.*

Butch'er-bird, *n.* (*Zoöl.*) See COLLYRIO.

Butch'ering, *n.* The act of slaughtering; killing with wanton cruelty.

—Avocation or trade of a butcher.

Butch'erliness, *n.* A cruel, brutal, savage, butcherly manner.

Butch'erly, *a.* Cruel; bloody; grossly barbarous.

Butch'er-meat, Butcher's-meat, *n.* The flesh of animals slain for human food, as distinct from game or other animal food; fresh meat bought from a butcher.

Butch'er-row, *n.* A row of shambles.

Butch'er's-broom, *n.* (*Bot.*) See RUSCUS.

Butch'er's Store, in *Virginia*, a post-office of Randolph co.

Butch'ery, *n.* The trade or business of a butcher.

—Murder; carnage; massacre; slaughter.

"If thou delight to view thy heinous deeds,
Behold the patron of thy *butcheries.*"—*Shaks.*

Bute, an island of Scotland, in the Frith of Clyde, and forming, with the island of Arran, the county or shire of Bute; it is separated from Argyleshire by a narrow, winding channel called the *Kyles of Bute*, is 5 miles W.

from the nearest point of Ayrshire, and is about 19 m. long by 4 broad. *Surface.* Hilly. *Soil.* Tolerably fertile. The entire island belongs to the Marquis of Bute, whose seat, Mount Stuart, is the chief ornament of the island. *Cap.* Rothesay. *Pop.* 7,153.

BUTE, a county of Scotland, consisting of the above island, and those of Arran, the Cumbraes, and Inchmarnock; all in the Frith of Clyde. *Area*, 171 sq. m. *Cap.* Rothesay. *Pop.* 16,977.

Bute'a, *n.* (*Bot.*) A genus of plants, order *Fabaceæ*. The most important species is *B. frondosa*, a native of India. This tree yields an astringent gum called *butea gum*, which resembles kino in its properties. The dried flowers of this species and those of *B. superba*, are known as *Tisso* and *Kessaree* flowers, and are extensively used by the Indians in the production of beautiful yellow and orange dyes. The fibres of the inner bark of *B. frondosa* are known under the name of *Pulas cordage*.

But'-end, Butt-end, *n.* The end of a plank where it unites with another; the blunt end of anything; as, the *butt-end* of a musket.

Bute'o, *n.* (*Zoöl.*) The Buzzards, a genus of birds of prey, family *Falconidæ*. There are many species. The Harlan's buzzard, *B. Harlani*, of Western N. America, which may be given as a type of the genus, has a thick heavy body, measures about twenty inches in length, and the full expansion of its wings is about 50 in. It is

Fig. 455. — HARLAN'S BUZZARD.

usually of a ferruginous brown above, and yellowish-white beneath. It breeds in extensive woods, and lays 2 or 3 eggs. The young accompany the old birds for some time; a circumstance unusual in other birds of prey, which always drive off their young as soon as they can fly. The buzzard is very sluggish and inactive, remaining perched on the same bough for the greatest part of the day, and always found at the same place. It feeds on birds, frogs, insects, moles, and mice.

Bute'ville, in *Oregon*, a post-office of Marion co.

Bu'tic Acid, *n.* (*Chem.*) A solid matter contained in cows' butter in connection with glycerin.

But'ler, *n.* [O. Fr. *bouteillier*; Fr. *boutillier*, from *bouteille*, a bottle.] A bottler; specifically, one who has charge of wine-bottles; one who has the care and management of wines and other liquors in great houses.

"*Butlers* forget to bring up their beer time enough." — *Swift.*

But'ler, JOSEPH, an English theologian and moralist, B. at Wantage in 1692. His father was a Presbyterian, and sent him to the Dissenting Academy at Gloucester. But he soon conformed to the Church of England, studied at Oxford, and in 1718 became preacher at the Rolls. In 1724 he was appointed rector of Stanhope, and two years afterwards settled there, renouncing his Rolls preachership. Through the influence of Bishop Secker, his fellow-student and friend, he became chaplain to Lord Chancellor Talbot, and clerk of the closet to Queen Caroline. In 1738 he was raised to the see of Bristol, soon after made dean of St. Paul's, and in 1750 was translated to Durham. His health soon failed him, and he only held his see two years. *B.*'s great work is the *Analogy of Religion, Natural and Revealed, to the Constitution and Course of Nature*. It was published in 1736. Its admirable argument had been foreshadowed in his volume of *Sermons*, published ten years earlier. D. at Bath, 1752.

But'ler, BENJAMIN FRANKLIN, an American politician, and major-general in the U. States army. B. at Deerfield, New Hampshire, 1818. Having been educated at Lowell High School and Waterville College, he was admitted to the bar in 1840, and became a successful advocate, especially in criminal cases. In 1857 he was appointed brigadier-general of militia, and was in 1859 an unsuccessful candidate for the post of governor of Massachusetts. In 1860 he was a delegate to the Democratic Presidential convention at Charleston, and afterwards at Baltimore. On the breaking out of the civil war, he commanded the Federal force encamped at Annapolis, his command extending to the city of Baltimore. He became commander of the Virginia department in May, 1861, was military commander at the capture of Fort Hatteras, in Aug., and organized the expedition against New Orleans, which city, having been rendered untenable by the destruction of the Confederate fleet by Farragut, surrendered April 28, 1862. *B.*'s conduct towards the citizens during the occupation has been diversely appreciated. In Nov., 1863, he was appointed to the command of the 18th army corps, relieving Gen. Foster, and in 1864 to that of the forces operating on the James River, in conjunction with Gen. Grant, against Richmond. He was relieved of the command of the army of the James River, Jan. 8, 1865; was elected a member of Congress from Massachusetts in Nov., 1866, and aided the impeachment of President Johnson. He was reëlected in Nov., 1868, and became Gov. of Mass., 1882. D. Jan. 11, 1893.

But'ler, SAMUEL, an English poet, author of *Hudibras*, B. at Strensham, 1612. He had only a scanty education in his youth, but afterwards cultivated his mind by study and reading. He held the office of secretary to several eminent persons in succession, and was acquainted with the wits and writers of the age. His witty poem was intended to throw ridicule on the Presbyterian and Independent parties. It appeared in three parts, the first in 1663, the second soon after, and the third in 1678. A subsequent edition, published in 1726–7, was rendered additionally attractive by 18 illustrations contributed by Hogarth. Though sparkling with wit, the poem is now little read, and is probably seldom obtainable. It is defaced by many objectionable passages. *B.* died at London, very poor it is said, in 1680.

But'ler, in *Alabama*, a S. county, on Sepulga River; bounded by W. fork of Conecuh River. *Prod.* Chiefly cotton and Indian corn; *surface*, uneven; *soil*, moderately fertile; *area*, 375 sq. m. Pine is abundantly found. *Cap.* Greenville.

—A post-village and cap. of Choctaw co., abt. 100 m. S. by W. of Montgomery.

Butler, in *Georgia*, a township, cap. of Taylor co., about 44 m. E. by N. of Columbus.

—A post-office of Talbot co.

Butler, in *Illinois*, a twp. and village of Montgomery co.

Butler, in *Indiana*, a twp. of Franklin co.

—A post-township in De Kalb co.

—A prosperous township in Miami co.

—A post-village of Montgomery co., 63 m. N.E. of St. Louis.

Butler, in *Iowa*, a N.E. co., has an area of 576 sq. m.; is intersected by Shell Rock River, and is drained by the W. Fork of Cedar river; *cap.* Alison.

—A township of Jackson co.

—A post-village of Keokuk co., 60 m. S.W. of Iowa city.

Butler, in *Kansas*, a S. county, washed by Walnut Creek and other streams. *Area*, 720 sq. m.; *surface*, undulating; *cap.* Eldorado.

Butler, in *Kentucky*, a S. W. co.; *cap.* Morguntown; *area*, 500 sq. m. It is intersected and drained by Greene and Barren rivers, the former navigable for steamboats; *soil*, moderately fertile; *surface*, uneven.

Butler, in *Louisiana*, a post-village of De Soto co.

Butler, in *Michigan*, a post-township in N.E. of Branch co.

Butler, in *Missouri*, a S.S.E. co., bordering on Arkansas. *Area*, 716 sq. m. Bounded on E. by St. Francis river, and intersected by the Big Black river and Cane creek. *Surface.* Level. Named in honor of Wm. O. Butler, of Kentucky. *Cap.* Poplar Bluff. *Pop.* (1898) 10,350.

—A city, cap. of Bates co., on Mo. Pac. R.R., 73 m. S. of Kansas City. Coal is abundant in the vicinity; has a large local trade. *Pop.* (1898) 3,100.

Butler, in *Nebraska*, an E. county, with an area of 576 sq. m. It is washed by the Platte and Big Blue rivers; *surface*, nearly level: *soil*, fertile.

Butler, in *New York*, a post-office of Wayne county.

Butler, in *North Carolina*, a post-office of Rutherford co.

Butler, in *Ohio*, a S.W. county bordering on Indiana, intersected by the Miami River, and drained by St. Clair's Mill and Four Mile creeks. *Surface.* Nearly level. *Soil.* Highly productive. The Trenton limestone (a good material for building) is procured from this State. *Area*, 455 sq. m. *Cap.* Hamilton.

—A township of Columbiana co.

—A township of Darke co.

—A township of Knox co.

—A township of Mercer co.

—A township of Montgomery co.

—A post-township of Richland co.

Butler, in *Pennsylvania*, a W. county, bounded N.E. and S.E. by the Alleghany River, and also watered by Slippery Rock and Conequenessing creeks. *Area*, abt. 800 sq. m. *Surface.* Undulating. *Soil*, in many parts sandy. It has very valuable mines of iron, and abounds in bituminous coal. *Cap.* Butler.

—A township of Adams co.

—A pleasant post-town, cap. of Butler co., on Conequenessing Creek, 36 m. N. of Pittsburg.

—A township of Luzerne co.

—A township of Schuylkill co.

Butler, in *South Carolina*, a P. O. of Saluda co.

Butler, in *Tennessee*, a post-office of Carter co.

—A post-office of Johnson co.

Butler, in *Wisconsin*, a post-village of Milwaukee co., 5 m. N.W. of Milwaukee City.

But'lerage, *n.* (*Old Eng. Law.*) A duty of two shillings on every tun of wine imported into England by foreigners or merchant strangers; — so called because originally paid to the king's butler for the king.

Butler Centre, in *Iowa*, a post-village of Butler co., 24 m. N.W. of Cedar Falls.

Butler's Creek, in *Georgia*, Richmond co., a fine stream flowing into the Savannah.

But'lership, *n.* The office of a butler.

Butler's Laud'ing, in *Tennessee*, a post-village of Clay co., 85 m. N. E. of Nashville.

Butler's Spring, in *Alabama*, a P. O. of Butler co.

But'lersville, in *South Carolina*, a post-office of Anderson district.

But'lerville, in *Alabama*, a P. O. of Butler co.

But'lerville, or **Butlersville,** in *Indiana*, a post-village of Jennings co., 6 m. E.N.E. from Vernon.

But'lerville, in *Ohio*, a post-office of Warren co.

But'uaw's Mills, in *Maine*, a P. O. of Penobscot co.

But'uent, *n.* (*Arch.*) The support on which the feet of arches stand; an ABUTMENT, *q. v.*

But'uent-cheeks, *n. pl.* (*Carpentry.*) The two solid sides of a mortise varying in thickness.

Butoma'ceæ, *n. pl.* (*Bot.*) An order of plants, alliance *Alismales*. DIAG. 3-petaloidous flowers, and many-seeded, netted, and parietal placentæ.—They are aquatic plants, with parallel-veined leaves, sometimes milky. Flowers perfect and showy, with inferior perianth of six pieces arranged in two whorls, the inner being colored; ovaries superior, 3 to 6 or more; ovules numerous, arranged all over the inner surface of the ovaries; fruit many-seeded, separating more or less into as many parts as there are component carpels; seeds without albumen. The *Butomaceæ* chiefly inhabit the northern parts of the world, but a few occur in tropical countries. There are four genera, and seven species.

Buto'nus, *n.* [Gr. *bous*, an ox; *temno*, I cut.] (*Bot.*) A genus of plants, order *Butomaceæ*. *B. umbellatus*, the typical species of the genus and order, is very common in ditches and ponds in Europe. The leaves, which spring from the crown of the root, are from two to three feet long, and of a triangular shape. The scape, or flowering stem, is longer than the leaves, and terminates in a large umbel of rose-colored flowers. The plant possesses acrid and bitter properties, and was at one time used in medicine. The roasted rhizome is edible. The sharp leaves of the *Butomus* were believed to cut the mouths of the cattle that cropped it—whence the name.

Butt, *n.* [Fr. *but*, a mark.] (*Gun.*) A screen, generally made of earth-work and masonry, for protecting the markers during rifle-practice at a target. — The bank, screen, or earth-work, against which the target leans is also called a butt.

Butt, But, *n.* [It. *botto*, a blow; *botta*, a thrust.] The striking end of a thing: the thick end of anything; as, the *butt* of a musket. — A mark to be shot at; the object of aim; as, an archery *butt*.

"The groom his fellow groom at *butts* defies,
And bends his bow and levels with his eyes." — *Dryden.*

—The person at whom ridicule, jests, or contempt are directed; as, he was the *butt* of the company.

"I played a sentence or two at my *butt*, which I thought very smart." — *Spectator.*

—A push or thrust given by the head of an animal; as, the *butt* of a ram.

—A stroke or thrust given in fencing.

"To prove who gave the fairer *butt*,
John shews the chalk on Robert's coat." — *Prior.*

—A mound of earth placed to receive the projectile at proof of, and practice with, fire-arms.

—A large-sized cask, sometimes called a *pipe*. A *butt* of wine contains 126 gallons; a beer *butt*, 108 ale gallons; and a *butt* of sherry, 108 imperial gallons.

(*Ship-building.*) See BUT-END.

(*Carpentry.*) See BUTT-HINGE.

—The metallic ring at the end of the hose of a fire-engine.

A butt's length. The distance between the place of shooting and the mark.

—*n. pl.* Short ridges of different lengths, which necessarily occur in the angle of a field when the direction of the ridges is not parallel to one of the sides.

Butts and bounds. The lines bounding an estate. The angles or points where these lines change their direction. See ABUTTAL.

Butt and butt, spoken of planks when they join end to end without overlapping.

Butt, *v. i.* [It. *buttare*: W. *pwtiaw*, to poke, to thrust, to butt.] To join at the butt-end; to abut.

—To thrust the head forward; to strike by thrusting the head against.

"Two harmless lambs are *butting* one another."—*Wotton.*

—*v. a.* To strike by thrusting the head or horns against, as a ram.

"A ram will *butt* with his head though he be brought up tame." *Ray.*

Buttahat'chie, a small river, which takes its rise in the N.W. of the State of Alabama, and flowing S.W., enters the Tombigbee near Hamilton, in the State of Mississippi.

Buttahat'chie, or **Buttahatchy,** in *Mississippi*, a post-office of Monroe co.

Butte, (*but,*) *n.* [Fr.] An abrupt eminence, too high to be called a hill, and not high enough to be designated a mountain: — peculiar to the U. States.

Butte, in *California*, a county in the northern part of the State: *area*, abt. 5,000 sq. m. It is watered by Sacramento River, which forms its W. boundary, and by Feather River. *Surface*, uneven, and in some parts mountainous, the county being traversed by Butte Mountains, from which it is named, and having several remarkable elevations, one of which, called *Table Mountain*, bears a strong resemblance to a castle. The county is very rich in minerals, embracing not only gold, but also platinum, silver, quicksilver, iron, and lead. *Cap.* Oroville.

Butte, in *California*, a N.E. town of Butte co., on the Sacramento River, 125 m. from San Francisco.

—, or BUTTE CITY, in *California*, a mining village of Amador co., 42 m. N.E. of Stockton.

Butte, in *California*, a twp. of Sutter co.

Butte'bar, in *California*, a mining camp of Plumas co., 8 m. from La Porte.

Butte Des Mortes, (*būt-dā-mor'*,) in *Wisconsin*, a post-village of Winnebago co.

But'ter, *n.* [A. S. *buter*: Ger. *butter*; Lat. *butyrum*; Gr. *boutyron—bous*, a bovine animal, and *tyros*, cheese, something coagulated; Fr. *beurre*.] A fatty matter aggregated from animal milk: an oily substance obtained from cream or milk by churning. Considered chemically, *B.* from cow's milk contains about two-thirds of its weight of solid fat, which consists in great part of *margarine*, but contains also *butine*, which yields *glycerine* and *butic acid* when saponified. The liquid portion consists chiefly of *oleine*. *B.* also contains small quantities of *butyrine*, *caproine*, and *caprine*, which yield, when saponified, glycerine and butyric ($HO.C_4H_7O_3$), caproic ($HO.C_{12}H_{11}O_3$), and capric ($HO.C_{20}H_{19}O_3$) acids, distinguished for their disagreeable odor. Fresh butter has very little odor, being free of those volatile acids, but if kept for some time, especially if the casein of the milk has been imperfectly separated in its preparation, spontaneous resolution of these fats into glycerine and the volatile disagreeable acids takes place. By salting the *B.*, this change is in great measure prevented. — Cow's milk is composed of three ingredients, — the cheesy portion or *curd*, the *whey* or watery part, and the *B.* Milk when examined by the microscope is found to consist of a number of fatty globules floating in the whey. These globules, which are little sacs containing the *B.*, are broken during the process of churning, which allows the liberated fatty matter to aggregate in small masses and float on the top of the whey. These are generally united by pressure against the bottom of the churn, and the remaining butter-milk is used often for beverage. The *B.* is afterwards spread out in a thin layer in a shallow pan, and washed with clear spring-water to free it from any buttermilk that may remain in its pores. It is then formed into rolls if intended to be sold as fresh, but if it is to be kept for any length of time, it is mixed with salt, in the proportion of three or four pounds of salt to half a hundredweight of butter, and packed in casks for the market. The quality and quantity of *B.* contained in cows' milk depend materially on the nature of the pasture. Rich natural meadows afford the best food for cows intended to produce *B.* Poor pastures are objectionable, not only from the quantity of *B.* contained in the milk being diminished, but from its receiving an unpleasant taste from certain plants or weeds growing on all unfertile or marshy soils. The amount of *B.* produced by a gallon of milk should be from three to four ounces. *B.* is much adulterated with water, dripping, and mutton-fat. The first may be detected by the wetness of the *B.* when squeezed, and the two last by small white particles being visible in the newly-cut surface of the *B.* — "*Philadelphia print* is known in the central cities of the U. States as butter unsurpassed for sweetness, solidity, and golden color; it always commands a fancy price. Excellent *B.* is found elsewhere, as in N. England, N. York, and the West, but inferior qualities are the rule in the dairy sections proper, which these exceptions only prove; while in a large portion of the West and South there is very little superior butter, a large amount of it being not fit to eat, of less value for cooking than good lard, and unworthy of the repute of the American farmer. Greater advances have of late been made in cheese-making than in the art of butter-making. The factory system has secured uniformity with positive progress in processes and knowledge of principles. *B.* dairies are individual and isolated, and excellence in their product is the result of peculiar care in the manager, and special adaptation to his business. It is of the utmost importance that the very best modes of manufacture should be understood; that the dairyman and the farmer's wife who cares for the smaller dairy of the ordinary farm should compare their processes (which they may now deem to be the best because they know no other better) with those of model establishments, and learn to stamp a higher excellence upon the yield of their dairies. The difficulty of obtaining really good *B* in the city markets appears to be increasing, probably from a growing fastidiousness of *B.*-eaters, as well as from the increasing disproportion in the numbers of consumers and producers. This fact gives urgent and paramount importance to efforts for improvement. The best Philadelphia *B.* comes mainly from Chester, Lancaster, and Delaware counties. See OLEOMARGARINE.

B. of Antimony, terchloride of antimony. See ANTIMONY.— *B. of Sulphur*, an obsolete name for precipitated sulphur. — *B. of Tin*, bichloride of tin. See TIN. — *B. of Zinc*, chloride of zinc. See ZINC.

B. (*Vegetable*), a name commonly given to any concrete oil of vegetable origin which at all resembles the butter obtained from animal milk, or which is employed for similar purposes. The most important solid oils or fats procured from plants are, — Butter of cacao, from *Theobroma Cacao*; of cinnamon, from *Cinnamomum zeylanicum*; of nutmeg, from *Myristica moschata*; of cocoa-nut, from *Cocos nucifera*; of laurel, from *Laurus nobilis*; Shea or Galam butter, from a species of *Bassia*; palm-oil, from *Elais guineensis*; and vegetable tallow, from *Stillingia sebifera* in China, from *Vateria indica* in India, and from *Pentadesma butyracea* in Sierra Leone. All these oils contain a large proportion of stearine, and many are used as substitutes for animal fat in candle-making. Plants yielding them are frequently termed *butter-trees*. ARTIFICIAL *B.*, see OLEOMARGARINE.

But'ter, *v. a.* To smear or spread with butter.

But'ter-bur, *n.* (*Bot.*) See TUSSILAGO.

But'ter-cup, *n.* (*Bot.*) See RANUNCULUS.

But'terfield, in *Wisconsin*, a village of Ashland co., on Lake Superior, 8 m. N. of Ashland.

But'terfly, *n.* (*Zoöl.*) The popular name of an extensive group of beautiful insects, belonging to the sub-order LEPIDOPTERA, *q. v.*

But'terfly, in *New York*, a post-office of Oswego co.

But'terfly-valve, *n.* (*Mech.*) The double valve of an air-pump's bucket, consisting of two clack-valves, having the joints opposite, and on each side of the pump-rod.

But'terfly-weed, *n.* (*Bot.*) A popular name of the plant *Asclepias tuberosa*. — See ASCLEPIAS.

But'terhill, in *New York*, an eminence in Orange co., on the W. side of the Hudson; height 1,530 ft.

Butterine. See OLEOMARGARINE.

But'teris, *n.* (*Farriery.*) An instrument of steel set in a wooden handle, used for paring the hoof of a horse.

Butte River, in *Cal.*, rises in Butte co., and after a S.S.W. course empties into the Sacramento in Sutter co.

But'termilk, *n.* The milk which is left after the butter has been separated by means of churning, or other process. *B.* contains the casein, sugar, and salts of ordinary milk, and is only deficient in oily matter. It is therefore tolerably nutritious. It may be drunk *ad libitum*, is a very agreeable, cooling beverage, and is therefore useful in certain febrile and inflammatory conditions.

But'termilk Channel, in *New York* harbor, separates Governor's Island from Long Island.

But'termilk Falls, of *New York*, a cascade on the W. bank of the Hudson, 2 m. below West Point.

Buttermilk Falls, in *Pennsylvania*, a post-village of Wyoming co., on the Susquehanna River. The water-power here is excellent.

But'ter-nut, *n.* (*Bot.*) See JUGLANS.

But'ternuts, in *New York*, a post-township of Otsego co., drained by Unadilla River, 90 m. W. by S. from Albany.

Butternut Valley, in *Minnesota*, a post-village of Blue Earth co., abt. 20 m. W. by N. of Mankato, on Little Cottonwood River.

But'ter-print, *n.* A piece of carved wood, used to mark pats of butter.

Butter-tooth, *n.* One of the broad front teeth.

Butter-tree, *n.* (*Bot.*) The gen. *Bassia*, q. v.

But'ter-wife, But'ter-woman, *n.* A woman who prepares or sells butter.

Butter-wort, *n.* (*Bot.*) See PINGUICULA.

But'tery, *a.* Having the qualities or appearance of butter.

—*n.* An apartment in a house or college, where butter, milk, provisions, and utensils are kept.

Butte Valley, in *California*, a post-village of Plumas county.

But'tevant, a town of *Ireland*, Cork co., is about 3½ m. W. of Doneraile, and on the river Awbeg: *pop.* 1,600.

But'teville, in *Oregon*, a post-village of Marion co., 28 m. N.N.E. of Salem, on the Willamette River.

Butt'-hinge, *n.* (*Carpentry.*) A hinge used in hanging doors, shutters, &c.

But'ting, *n.* A boundary of land.

But'ting-joint, *n.* (*Carpentry.*) See JOINT.

But'tock, *n.* [Fr. *bout*, the end.] The protuberant termination of the body behind: the rump.

(*Naut.*) The round part of a ship abaft, from the wing-transom to the upper water-line, or lower down.

But'ton, *n.* [Fr. *bouton*; W. *botwn*, from *bot*, a round body.] An article of dress used for the fastening of clothing or for ornament. Buttons are made of an endless variety of materials, the processes employed in the manufacture varying according to the substance used. Metal, wire, wood, bone, glass, shell, mother-of-pearl, precious stones, velvet, silk, paste-board, &c., are used. Birmingham is, in Europe, the place where they are most extensively manufactured. They are made in a great variety of shapes; but, at the present time, these may be classed under four heads: — buttons with shanks, buttons without shanks, buttons on rings or wire moulds, and buttons covered with cloth or other material. Buttons with shanks are usually made of brass, which is supplied to the manufacturer in sheets of the required thickness. By means of fly-presses and punches, circular discs, called *blanks*, are cut out of these sheets. This is mostly performed by females, who can furnish about thirty blanks per minute, or twelve gross in an hour. Hand-punching is the general mode of cutting out blanks; but more complicated machines, which cut out eight or ten blanks at a time, are in use. After being punched, the edges of the blanks are very sharp, and require to be smoothed and rounded. Their surfaces are then planished on the face by placing them separately in a die under a small stamp, and allowing them to receive a sharp blow from a polished steel hammer. In this state they are ready to receive the *shanks*, or small metal loops by which they are attached to the dress. The shank manufacture is a distinct branch of the button industry. They are made by machines in which a coil of wire is gradually advanced towards a pair of shears which cuts off short pieces. A metal finger then presses against the middle of each piece, first bending it and then pressing it into a vice, where it is compressed so as to form a loop; a hammer then strikes the two ends, spreading them into a flat surface, and the shank is pushed out of the machine ready for use. The shank is pushed out of the machine ready for use. The shanks are attached to the blanks by women, with iron wire, solder, and resin. They are then put into an oven, and, when firmly united, form plain buttons. If a crest or inscription is wanted, the button is placed in a die and stamped. After being cleaned, they can be silvered or gilt. (See GILDING.) The manufacture of gilt buttons has fallen off greatly of late years, the Florentine and silk buttons having superseded them. Wire buttons are rings of wire covered with cloth. Horn *B.* are made by pressure, the horn being previously softened by heat. *B.* are also made of India rubber, and also very largely from shell-pearl, the latter industry being important in this country when tariff conditions are favorable. Large quantities of *B.* are also made in Germany.

—The bud of a plant: as, the *button* of a daisy.

(*Assaying*) The round mass of metal collected at the bottom of a crucible after fusion, or which remains in the cupel in the process of assaying.

(*Smithery.*) A brass, china, or glass knob of a lock serving to open or shut a door.

(*Carpentry.*) A piece of wood or metal upon a nail, to keep a door closed.

To hold by the button. To detain a person in unsought-for communication: to bore: to weary.

—*v. a.* To fasten with a button or buttons: to inclose or make secure with buttons. Sometimes preceding *up*; as, he *buttoned up* his coat.

—*v. i.* To be fastened with a button or buttons; as, to *button* a garment.

But'ton-bush, *n.* (*Bot.*) See CEPHALANTHUS.

But'ton-hole, *n.* The hole or loop in which the button is caught.

—*v. o.* To take or hold a man by the button, or button-hole, so as to detain him for conversation; to bore one by wearisome talk.

But'ton-mould, *n.* The shaped material, as bone, ivory, &c., which forms a button, when covered with cloth, &c.

Fossil button-moulds, *n. pl.* (*Pal.*) See ENCRINITE.

But'ton-tree, *n.* (*Bot.*) See CONOCARPUS.

But'ton-weed, *n.* (*Bot.*) See DIODIA; SPERMACOCE.

But'ton-wood, *n.* (*Bot.*) See PLATANUS.

But'tress, *n.* [Fr. *aboutir*, to border on, to abut: from *bout*, an end, from Celt. *bod*, bottom, end.] (*Arch.*) A mass of masonry or brickwork, built to resist the horizontal thrust of another mass; though when they are on the opposite side to the thrust, and below the line of its effort, they are frequently called *counterforts*. *B.* are much used in Gothic architecture to counterbalance the outward thrust of the arches, or of the vaulting which covers the naves and aisles of cathedrals. When they are open, and carry down the thrust to a point of support at some distance from the spot where it is exercised, they are called *flying buttresses*.

Fig. 456. — A BUTTRESS. (Canterbury Cathedral.)

—*v. a.* To prop; to support by a buttress.

But'triee, *n.* (*Farriery.*) See BUTTERIS.

Butts, in *Georgia*, a central co., bounded on the E. and N.E. by the Oconee River, and drained by Tassahaw, Yellow Water, and Sandy creeks. *Area*, abt. 180 sq. m. *Surface*, generally level. *Soil*, fairly productive: granite beds are pretty numerous. *Cap.* Jackson.

Butt'-shaft, *n.* A bolt or arrow used to shoot at archery butts with.

Butts'ville, in *Missouri*, a post-office of Grundy co.

Butt-weld, *n.* (*Mech.*) See JUMP-WELD.

Bu'tyl, TETRYL, VALYL, *n.* (*Chem.*) An organic radical, discovered by Kolbe among the products obtained by electrolysis, from valerate of potash. *Form.* C_8H_9. When pure, it is a limpid oil, with an agreeable ethereal odor. It boils at 226° Fahr., and may be distilled without alteration. It is one of the lightest known fluids, its spec. grav. being only 0·694. It is the radical of a great number of very interesting organic compounds. It has been called "valyl" by certain chemists, from being formed from valeric acid, and by others "tetryl," from being *fourth* in the series of hydrocarbon radicals, as follows: 1. Methyl, C_2H_3; 2. Ethyl, C_4H_5; 3. Propyl, C_6H_7; 4. Tetryl, C_8H_9.

Bu'tylene, Bu'tyline, *n.* (*Chem.*) Butyl less an equivalent of hydrogen. *Form.* C_8H_8. This compound was discovered by Faraday amongst the products of distillation of oil, and is frequently called *oil-gas*. It is a colorless gas, burning with a white luminous flame. It is one of the principal products of the distillation of India-rubber. It was afterwards obtained by Kolbe from valerate of potash, and by Wurtz by acting on butylic alcohol with chloride of zinc. It is similar in its properties to ethyline C_4H_4, or olefiant gas, the corresponding product of ethyl.

Butyl'ic Alcohol, *n.* (*Chem.*) Hydrated oxide of butyl, discovered by Wurtz, in beetroot molasses. It is a colorless, highly refractive liquid, boiling at 228°, and has a slightly vinous odor, somewhat resembling that of amylic alcohol. It is quite similar in its properties to the other alcohols of the same group. Sp. gr. 0·803. *Form.* $C_8H_{10}O.HO$.

Butylic Ether, or Oxide of Butyl, was first described by Kolbe as a product of the voltaic decomposites of valerate of potash. *Form.* C_8H_9O.

Butyra'ceous, Bu'tyrous, *a.* [Lat. *butyrum*, butter. Having the qualities of, or resembling, butter.

Bu'tyrate of Lime, *n.* (*Chem.*) When sugar, chalk,

and cheese are mixed with sufficient water to form a solution of sp. gr. 1·070, and exposed to a temperature of 80° or 90° for some weeks, butyric fermentation ensues, the liquid becomes ropy, and gives rise to lactic acid, which unites with the lime and forms lactate of lime. The lactate of lime in turn becomes decomposed, giving rise to butyrate of lime in abundance.

Butyr'ic Acid, *n.* (*Chem.*) A liquid with a sharp, acrid taste, and a smell of rancid butter, having a spec. grav. of 0·973, and boiling at 314° Fahr. It is prepared by distilling three parts of butyrate of lime with twelve parts of water and one of hydrochloric acid. Butyric acid exists ready-formed in certain fruits, and is one of the products of oxidation of fibrin or caseine. All substances which form lactic acid may be made to yield butyric. Its salts, when dry, are inodorous, but when wetted, the strong smell of rancid butter is perceptible. *Form.* $HOC_8H_7O_3$.

Butyric Ether, a colorless inflammable liquid, with a peculiar odor and taste of pine-apple. It is a combination of ethyl and butyric acid. Dissolved in alcohol, it is used in confectionery under the name of *Pine-apple oil*. The peculiar odor of old rum is due to the presence of a small quantity of this ether. It must not be confounded with butylic ether.

Bu'tyrine, *n.* (*Chem.*) An oleaginous substance, discovered by Chevreul in butter. It is prepared by exposing purified butter to a temperature of 60° for several days. Stearine separates in grains, and an oily compound is obtained, which is mixed with alcohol and frequently shaken during twenty-four hours. The alcohol is then distilled off, carbonate of magnesia added to the oily residue, which is washed and treated with alcohol, when, on being once more distilled, it leaves the butyrine behind.

Bu'tyrone, *n.* (*Chem.*) A substance similar in properties to acetone and propione; obtained by Chevreul amongst the products of distillation of butyrate of lime.

Butz'town, in *Pennsylvania*, a post-office of Northampton co.

Bux'eous, *a.* [From Lat. *buxus*, the box-tree.] Pertaining, or relating to, the box-tree.

Buxine, (*buk'sine,*) *n.* (*Chem.*) An alkaloid obtained from the bark of box-wood, which contains nearly one per cent. of it. It has a bitter taste, is insoluble in water, but slightly soluble in alcoholic ether. It forms neutral salts with the acids.

Buxom, (*bucks'um.*) *a.* [A.S. *bocsum* — *boga*, anything curved, a bow, and termination *sum*, Eng. *some*.] Gay; lively; brisk; wanton; jolly; healthy; vigorous; corpulent; as, a *buxom* woman.

> "A daughter fair,
> So *buxom*, blithe, and debonnair."—*Milton.*

—Originally, this word signified obedient or obsequious: and in the old form of marriage, the bride promised to be faithful and *buxom* to her husband.

Bux'omly, *adv.* Briskly; lively; amorously.

Bux'omness, *n.* State or quality of being buxom; liveliness.

Bux'os, *n.* (*Bot.*) A genus of plants, order *Euphorbiaceæ*, consisting of evergreen shrubs or small trees with opposite leaves, entire at the margins, and easily split into two plates. The flowers, which are very small, grow in little axillary clusters, the male and female flowers being distinct, but borne on the same plant. There are only two species known, namely, *B. sempervirens* and *B. balearica*. The former, which is the common box, is remarkable, botanically, for being the most northern arborescent European species of *Euphorbiaceæ*. In the S. of Europe it attains frequently a height of 30 feet. It grows wild in this country only on the dry chalky hills of the south. Many varieties are known in gardens, the most remarkable of which is the dwarf-box, so much used for the edgings of walks. The wood of the arborescent *B. sempervirens* is heavier than that of any other European tree, and will sink when placed in water. It is of a beautiful pale-yellow color, and of a fine, regular, and compact texture. It is preferred to every other kind of wood for the manufacture of flutes, flageolets, and other reed-instruments; of rules and mathematical instruments; and of the handles of most small tools. For the purposes of the turner, the wood-carver, and especially the wood-engraver, box-wood is invaluable. Spain and Portugal export large quantities of it; so also do Circassia and Georgia.

Bux'ton, a town and fashionable watering-place of England, co. Derby, 150 m. N.W. by N. of London, in the middle of a romantic country. The temperature of the springs ranges from 66° to 88°. *B.* waters are much valued in cases of dyspepsia, gout, and rheumatism, and were celebrated for their medicinal virtues during the time of the Romans. *Pop.* 4,987.

Bux'ton, in *Maine*, a post-township of York co., on Saco River, 60 m. S.W. by S. of Augusta.

—A post-village of York co., 15 m. W. of Portland.

Bux'ton and Bar-Mill, in *Maine*, a village of York co., 18 m. W. of Portland, on the E. bank of Saco River; *pop.* about 400.

Buxton Centre, in *Maine*, a post-village of York co., 16 m. W. of Portland.

Buy, (*bī,*) (*imp.* and *pp.* BOUGHT.) [A.S. *bycgan*, *bygan*; Goth. *bugjan*.] To acquire, procure, or obtain by payment or purchase; to purchase; to obtain by paying a price or an equivalent in money:—used in contradistinction to *sell*.

> "They must *buy* up no corn growing within twelve miles of Geneva."—*Addison.*

—To procure by a consideration given; to bribe; as, to *buy* a vote.

> "I have *bought*
> Golden opinions from all sorts of people."—*Shaks.*

To buy out. To purchase another's interest in a property so as to become sole proprietor; to buy off.—*To buy in.* To purchase stock in any interest, fund, or property.—*To buy off.* To cause to yield or surrender, by some consideration; as, *to buy off* an opponent.—*To buy on credit.* To purchase on a given promise, or written security, to pay at a certain specified time.—*To buy the refusal.* To advance money for the right of purchasing, at a given price, on a future day.

—*v. i.* To negotiate or treat about a purchase.

> "I will *buy* with you, sell with you, talk with you."—*Shaks.*

Buyer, (*bī'er,*) *n.* One who buys; a purchaser.

Buz, a nephew of Abraham. Elihu, the Buzite, is supposed to have been of his family.

Buzançais, a town of France, dep. Indre, cap. cant., on the Indre, 14 m. N.W. of Chateauroux. It is a quaint, ill-built place, in a good situation, and has a trade in wool. *Pop.* 5,517.

Buzz, (*buz,*) *v. i.* [Formed from the sound.] To make a low humming sound, as bees; to hum: to whisper.

> "Among the *buzzing* multitude."—*Shaks.*

—*v. a.* To whisper; to spread, as report, by whispers.

> "Did you not hear
> A *buzzing* of a separation
> Between the king and Catherine?"—*Shaks.*

—To sound by buzzing.

> "Herewith arose a *buzzing* noise among them."—*Hayward.*

—*n.* The humming noise made by bees, wasps, &c.

—A whisper; a rumor; a hum of talk.

> "I found the whole outer room in a *buzz* of politics."—*Addison.*

Buzzard, (*buz'erd,*) *n.* [Fr. *busard*, from Ger. *bussaar*; said to be from the verb *to buzz*; Pers. *baaz*, a hawk.] (*Zoöl.*) The popular name of the predatory birds forming the genus BUTEO, *q. v.*

—A blockhead; a numskull; a dunce.

> "Those blind *buzzards*, who, . . . would neither learn themselves nor could teach others."—*Ascham.*

—*a.* Stupid; thickheaded. (R.)

Buz'zardet, *n.* (*Zoöl.*) A species of Buzzard.

Buz'zard's Bay, on the S. coast of Massachusetts, separated from Vineyard Sound by the Elizabeth Islands, and containing the harbors of New Bedford, Fair Haven, Rochester, and Wareham. It is 30 m. long, with a mean width of 7 m.

Buz'zardsville, in *Indiana*, a village of Madison co., 44 m. N.N.E. of Indianapolis.

Buz'zer, *n.* One who buzzes; a secret whisperer.

> "And wants not *buzzers* to infest his ear
> With petulant speeches of his father's death."—*Shaks.*

Buz'zing, *n.* A humming noise; incessant talk in an undertone.

Buz'zingly, *adv.* With a low, murmurous sound, like that of bees.

By, (*bī,*) *prep.* [A. S. *be* or *big*; Goth. *bi*; Ger. *bei*; Sansk. *abhi*.] At; near; beside; close to; not far from; in the vicinity of:—noting proximity of place; as, *by* the church.

> "Stay *by* me; thou art resolute and faithful."—*Dryden.*

—Near to in motion or passage; past; from one to the other side of; as, to sail *by* a port.

—Used to denote the instrument, agent, cause, manner, way, or means; through; with; as, *by* the aid of justice.

> "Death's what the guilty fear, the pious crave,
> Sought *by* the wretch, and vanquish'd *by* the brave."—*Garth.*

—In the above sense, as a means or instrument, it denotes the cause of any effect.

> "*By* woe the soul to daring action steals,
> *By* woe in plaintless patience it excels."—*Savage.*

—It denotes the means by which anything is performed or obtained; as, *by* the action of machinery.

> "You must think, if we give you anything, we hope to gain *by* you."—*Shaks.*

—Used to show the manner of an action: as, it was brought about *by* chance.—At or in; specifying place or position.

> "*By* land, *by* water they renew their charge."—*Pope.*

—According to;—denoting permission.

> "It is lawful both *by* the laws of nature and nations, and *by* the law divine."—*Bacon.*

—Noting the quantity had at once; at the rate of; according to the proportion of; as, eggs *by* the dozen.

> "The North *by* myriads pours her mighty sons."—*Pope.*

—In comparison, it denotes the ratio of excess, or diminution; as, older *by* ten years.

> "Her brother Rivers,
> Ere this lies shorter *by* the head at Pomfret."—*Rowe.*

—From; denoting ground, or comparison; as, *by* what has passed.

> "The son of Hercules he justly seems
> *By* his broad shoulders and gigantic limbs."—*Dryden.*

—As soon as; not later than; as, *by* four o'clock.

> "*By* this time the very foundation was removed."—*Swift.*

—Pointing to the author, contriver, inventor, or producer; as, a poem *by* Longfellow.

—At hand; on hand; in one's possession; as, he keeps much money *by* him.

—In the same direction with; as, furrowed *by* the length.

—Used in the form of adjuration, swearing, or protestation.

> "His godhead I invoke, *by* him I swear."—*Dryden.*

—According to; by direction, testimony, or authority of; as, what is the time *by* your watch?

By-and-by. Presently; shortly; in a short time; before long.

> "Now a sensible man, *by and by* a fool, and presently a beast."
> *Shaks.*

By one's self. Denoting the absence of all others; alone.—*To set by.* To esteem; to regard; as, *to set* a value *by*.—*To come by.* To gain possession of; to obtain; to realize; as, *to come by* a fortune.—*One by one, day by day, piece by piece.* Each day, piece, thing, person, &c., singly, or severally.—*To do by.* To behave or act towards; to treat; as, he has *done* nobly *by* me.—*To stand by.* To aid, support, uphold, sustain; as, I will *stand by* him to the last.—*Twenty feet by ten*, a length or distance measuring twenty feet one way and ten the other.—*By the head*, or *stern.* (*Naut.*) Said of a vessel when her head is lower in the water than the stern; or conversely.—*By the lee.* The position of a ship when going free, or, in other words, when she has fallen off so much from the wind, as to bring it round her stern, and take the sails aback on the other quarter.—*By the run.* To let go altogether, or at once; as, to let a sail go *by the run.* Opposed to *slacking*, or letting go gradually.—*Good-by*, see GOOD-BYE.—*Southwest by South.* Further South than South-west. (Used in telling off the points of a compass.)

By, *adv.* Near; beside; in presence; as, he was not *by* at the time.

> "Pris'ners and witnesses were waiting *by*,
> These had been taught to swear, and those to die."—*Roscommon.*

—Passing; going or gone past; as, the troops have passed *by*.

> "I did hear
> The galloping of horse. Who was't came *by*?"—*Shaks.*

—Aside; on one side; as, to put *by* something for future use.

By, *a.* Something out of the direct or common way; aside; anything of a collateral or incidental nature: as, a *by*-law. (Used in composition generally as a prefix.)

By, Bye, *n.* Something not directly the object of; an object by the way, or of secondary importance; as, a *bye* at cricket.

By the by. Digressively; in passing; apropos or touching the matter in view, or subject of remark.

By'ard, *n.* (*Mining.*) A piece of leather worn across the breast by those who drag the sledges in coal-pits.

By'berry, in *Pennsylvania*, a former township of Philadelphia co., 14 m. N.E. of the State-House; now included within the limits of the city.

By'-bidder, *n.* One who is engaged by an auctioneer or seller to make mock bids in order to run up the price of articles; sometimes called, in a vulgar sense, a *sweetener*.

By'-blow, *n.* A side blow; a blow incidentally given.

—An illegitimate child. (O. or R.)

By'-business, *n.* Business transacted out of the common or customary way.

By-coffeehouse, *n.* A coffee-house in an obscure situation.

> "I afterwards entered a *by-coffeehouse* that stood . . . at the end of a narrow lane."—*Addison.*

By'-concern'ment, *n.* An affair apart from the main business.

> "Our plays have underplots, or *by-concernments*."—*Dryden.*

By'-corner, *n.* A private corner.

By'-dependence, *n.* An appendage; something incidentally depending upon another.

By'-design, *n.* An incidental purpose or design.

> "And if she miss the mouse-trap line,
> They 'll serve for other *by-design*."—*Hudibras.*

Bye, By, (*bī.*) *n.* [Dan. *bye*; Icel. *bu*; Goth. *beidan*, to dwell.] A dwelling; a way out of the common road; as, a *bye*-way.

—In certain games, a station or place of an individual player.

By'-end, *n.* Private end; secret interest or advantage.

> "Fear, profit, or some other *bye-end*."—*L'Estrange.*

By'ersville, in *New York*, a post-village of Livingston co., 16 m. S. of Genesee.

By'field, in *Massachusetts*, a post-village of Essex co., 35 m. N. by E. of Boston.

By'-gone, *a.* Past; gone by; vanished; as, *by-gone* days.

—*n.* Something past or gone by; a past occurrence or event.

Let by-gones be by-gones. A phrase implying that the past should be forgotten.

Byha'lia, in *Mississippi*, a post-village of Marshall co., 18 m. N.W. of Holly Springs.

Byha'lia, in *Ohio*, a post-office of Union co.

Byington, (*bī'ing-ton,*) in *Ohio*, a P. O. of Pike co.

By-in'terest, *n.* Private interest; self-advantage.

By'-lane, *n.* A private lane, or one out of the usual road.

By'-law, *n.* (*Law.*) A private law; the local or subordinate law of a city, town, or private corporation.—The power to make by-laws is usually conferred by express terms of the charter creating the corporation; though, when not expressly granted, it is given by implication, and it is incidental to the very existence of a corporation. The Constitution of the United States, and Acts of Congress made in conformity to it, the constitution of the State in which a corporation is located, and all acts of the legislature constitutionally made, together with the common law as there accepted, are of superior force to any by-law; and such by-law, when contrary to either of them, is therefore void, whether the charter authorizes the making of such by-law, or not; because no legislature can grant power larger than it possesses.

By'ler's Mills, in *Missouri*, a village of Morgan co., 56 m. W.S.W. of Jefferson City.

By'-matter, *n.* Something incidental.

By'-name, *n.* A peculiar or incidental name; a nickname.

—*v. a.* To confer a nickname upon.

By'numville, in *Ohio*, a post-office of Pike co.

By'-passage, *n.* A by-way or passage; out of the common road.

Lord Byron

1788–1824

By'-past, *a.* Past; gone by; as, "These three hundred years *by-past*." — *Cheyne.*

By'-path, *n.* A private or obscure path; as, the *by-path* of knowledge.

By'-place, *n.* A retired or private place.

By'-play, *n.* A scene which is carried on in dumb show, in the background of the main performance.

By'-purpose, *n.* A clandestine or indirect purpose.

By'ram, in *Mississippi*, a post-village of Hinds co., on Pearl River, about 13 m. S. by W. of Jackson.

Byram, in *New Jersey*, a township of Sussex co.

By'ramghaut', a to. of Onde, 34 m. N.E. of Lucknow.

Byram River, in *Connecticut*, flowing into Long Island Sound, separating this State from New York.

Byrd, (*bird,*) in *Ohio*, a township of Brown co.

Byre, (*bīr,*) *n.* A term for a shippon or cow-house; — peculiar to Scotland and the north of England.

By'-respect, *n.* Private end or view.

Byrgnis, JUSTUS, (properly JOBST BÜRGI,) an inventor and manufacturer of "Globes of the Heavens," and astronomical instruments, B. in Lichtensteg, caut. St. Gallen, Switzerland, 1552. In 1579 he was appointed horologist to the court of William IV., Landgrave of Hesse. His first work was a globe of the heavens made of silver plate, on which the stars were indicated after his own observations. The landgrave sent this globe to the Emperor Rudolph II. of Germany, who was so pleased with it that he called *B.*, in 1604, to his own court as his mechanician. He returned to Cassel in 1622, where he D., 1633.—Before 1603, without the knowledge of Napier's work, he discovered, or calculated logarithms, which he published in the *Arithmetical and Geometrical Progression Tables*, Prague, 1620. — He also constructed a geometrical triangular instrument, which was described by his brother-in-law, Benj. Barmen, 1648.

Byrns'ville, in *Indiana*, a post-village of Harrison co., about 105 m. S. of Indianapolis.

Byrn'ville, in *New York*, a village of Schoharie co., 46 m. W. by S. of Albany.

By'-road, *n.* A private or obscure road.

"Through slipp'ry *by-roads* dark and deep."—*Swift.*

By'ron, (GEORGE GORDON NOEL BYRON,) LORD, the greatest English poet of modern times, was B. in London, 1788. He was descended from the Scandinavian Bürüns, one branch of which settled in Normandy, and came over to England at the Norman Conquest; while the other remained in France and founded the house of the dukes de Biron. *B.* was grandson of the Admiral John Byron, *q. v.*, and the son of Captain John Byron of the Guards. By his mother, the heiress of the Scottish family of Gordon of Gight (and the second wife of Captain Byron), he was descended from the royal house of Stuart. At 3 years of age, *B.* lost his father, and was brought up by his mother (a woman of weak mind and irritable temper), in the Scottish Highlands, where he early imbibed that spirit of poetry and enthusiasm for liberty, which afterwards made him famous. In 1798 he succeeded his great-uncle as *Lord Byron*, and in 1800 was sent to Harrow to begin his education. In 1803 he met with his first love, the "Mary" of his poems (Miss Mary Chaworth of Annesley Hall). In 1805 he went to Cambridge University, and in 1807 published his first volume of poems, which at once brought him into note. But it was in 1808 that the savage criticism on his *Hours of Idleness*, which appeared in the "Edinburgh Review," evoked the manifestation of the real power of his genius. His reply to it, published in 1809, is that marvellous and matchless satire — *English Bards and Scotch Reviewers.* Estranged from his mother by her peculiarities of temper and disposition, *B.* passed the first years of his early manhood lonely and solitary, even amid the vortex of brilliant society. Home he had none, nor yet a relation, excepting an only half-sister, to regard him with sympathy and affection, and open to him the quieter charms of happy domesticity. Added to this dearth of domestic influences, his estate (impoverished by the reckless careers of his father and his great-uncle) was inadequate to duly maintain the dignity of his rank. Flung on his own resources, he sought society and companionship in the fashionable world, where he, for a period, shone as a brilliant meteor, alike distinguished by his personal grace and beauty, his sparkling wit, and by the honors acquired by his genius. Tiring of, and mentally despising the fripperies and empty conventionalities of the gay world surrounding him, he repaired to the continent of Europe, and during his residence there composed the two first cantos of his great poem, *Childe Harold's Pilgrimage.* He returned to England in 1811, where he achieved, through the publication of that work, the highest literary reputation of any man of his time. This was soon followed in rapid succession by the *Giaour*, *Bride of Abydos*, and *Corsair*, and, in 1813, by *Lara.* In Jan., 1815, he married Anne Isabella, the daughter of Sir Ralph Milbanke, a lady singularly uncongenial in mind, manner, and disposition to himself. Twelve months afterwards they separated, after the birth of a daughter, the "Ada, sole daughter of my house and heart," of his exquisite verse. He was at the same time involved in serious pecuniary embarrassments. Smarting under domestic unhappiness, public scandal, and all the other calamities of his position, he quitted England never to return, and took up his abode at Geneva, where he wrote the *Prisoner of Chillon.* — He subsequently removed to Venice, where he formed his well-known *liaison* with the beautiful Countess Guiccioli, produced his *Manfred* and *Beppo*, finished *Childe Harold*, and commenced his greatest work, *Don Juan.* While here, too, he espoused the cause of the Italian "Carbonari." In 1819 he took up his residence at Ravenna, and in 1821 at Pisa. In 1822, while staying at Genoa, he forwarded money and material of war in aid of the Greeks, who were, at that time, engaged in a war of independence, and on Jan. 5, 1824, he joined their ranks in person, at Missoloughi, and was appointed commander-in-chief of an expedition intended to be sent against Lepanto. Before this could be carried into effect, however, he was seized with a fever, and, on the 19th of April, he expired, to the inexpressible grief of the Greek people, who went into

Fig. 457. — LORD BYRON.

mourning for him for a period of 21 days. His body was brought to England, and was interred in the tomb of his ancestors, at Hucknall, in Nottinghamshire, the only mourner present on the occasion, related to him by blood, being his half-sister, the Hon. Mrs. Leigh. *B.* was a man of great sensibility of feeling; he was ever morbidly sensitive in some things, most particularly so with regard to any allusion to his only personal deformity, a malformation of one of his feet, occasioned by an accident at his birth. — As a poet, Lord *B.* will take rank second only to Homer, Shakspeare, and Dante. Recent critics even assert him to be the greatest poet the English language can boast. The third and fourth cantos of *Childe Harold* alone place their author in the foremost rank of descriptive writers. But it is in *Don Juan* that the genius of *B.*, with its wonderful power to blend pathos, humor, wit, scorn, saturnine gloom, and exuberant vitality, has found its highest and richest development. *B.* was the sworn foe of cant, and in the words of Göthe, "he led the genius of Britain as on a pilgrimage throughout all Europe." The most trustworthy *Life of Byron*, is that written by his friend and fellow-poet, Moore; and a true insight into his mind and opinions will also be found in Lady Blessington's *Conversations with Lord Byron.*—*B.* had entrusted his private diary to his friend and literary executor, Moore, for publication, after his death, by his old publisher, Murray, of London; but just prior to its public appearance in print, Moore thought fit to take it back and destroy it. This strange proceeding (which has hidden forever much that would have thrown a new light on the private history of Byron's life) has ever since cast a shadow over the character of Moore; who, nevertheless, seems to have been actuated by good intentions, and in accordance with the expressed wishes of Lady Byron. — In the early part of 1869 appeared from the pen of the Countess Guiccioli, her *Recollections of Lord Byron:* a work that elicited from Mrs H. B. Stowe an article in the "Atlantic Monthly," for Sept. of the same year, entitled *The True Story of Lady Byron's Life*, in which she has alleged, against the memory of the great poet, a monstrous charge, that was received with much disfavor. See also Jaffreson's *Real Lord Byron.*

By'ron, JOHN, a British admiral and circumnavigator, grandfather of the poet Lord Byron, B. 1723. He sailed with Lord Anson, in his voyage round the world, and endured fearful sufferings: and on his return to England published a highly interesting narrative of his five years' absence. In 1764, he commanded an expedition to the South Sea, and made important discoveries. During the course of his professional career, *B.* was so singularly unlucky in meeting adverse gales and dangerous storms, that throughout the entire British navy he acquired the nick-name of *Foul-weather Jack.* D. 1786.

By'ron, in *Georgia*, a post-office of Houston co.

By'ron, in *Illinois*, a post-village and township of Ogle co., about 12 m. N. by E. of Oregon City, and 88 m. W. by N. of Chicago, on the C. and P. R. R.

By'ron, in *Indiana*, a flourishing village of La Porte co., 5 m. N.E. of La Porte.

By'ron, in *Iowa*, a township of Buchanan co.

—A post-village of Humboldt co.

By'ron, in *Maine*, a post-township of Oxford co., 56 m. N.W. of Augusta.

By'ron, in *Michigan*, a post-village of Shiawassee co., on the Shiawassee River, about 33 m. E. of Lansing.

By'ron, in *Michigan*, a prosperous township of Kent co.

By'ron, in *Minnesota*, a township in the S. of Waseca co.

By'ron, in *Missouri*, a post-office of Osage co.

By'ron, in *New York*, a flourishing post-village and township of Genesee co., 25 m. W.S.W. of Rochester. *Manf.* Flour and farming implements.

Byron, in *Ohio*, a post-village of Green co., about 11 m. E. by N. of Dayton.

Byron, in *Wisconsin*, a post-township in Fond-du-Lac co., about 10 m. S. of Fond-du-Lac.

Byron Bay, in N. America, on the N.E. coast of Labrador; Lat. 54° 40′ N., Lon. 57° 30′ W.

Byron'ic, Byronesque, (*bī-run-esk',*) *a.* Pertaining to Lord Byron, or to his poetry; after the manner of Byron; as, a *Byronic* style of expression.

Byron Island, in the Pacific Ocean, about 12 m. in length; Lat. 1° 18′ S., Lon. 173° 16′ E.

By'-room, *n.* A private room situated within another.

"I pr'ythee, do thou stand in some *by-room*." — *Shaks.*

Byr'rhus, *n.*; **Byr'rhidæ,** *pl.* (*Zoöl.*) A genus and family of Coleoptera. *B. pilula* is about the size of the common Lady-bird; its color is a dull brown: it is of an extremely convex shape, and, when disturbed, contracts its limbs and lies in an inert state, like an oval seed or pill, while thus counterfeiting death as a means of escape from danger. It is found on various plants in gardens and elsewhere.

Byrsoni'ma, *n.* (*Bot.*) A genus of plants, order MALPIGHIACEÆ, *q. v.*

By'-speech, *n.* An incidental or casual speech not exactly relating to the point.

Byssaceous, (*bis-sa'shus,*) *a.* [See BYSSUS.] (*Bot.*) Resembling byssus; composed of fine entangled threads.

Bys'sine, *a.* [See BYSSUS.] Silky; made of silk; having a silky appearance.

Bys'soid, *n.* (*Bot.*) See BYSSUS.

Bys'solite, *n.* [Gr. *bussus*, fine flax, *klados*, a branch.] (*Min.*) A name applied to fibrous varieties of amianthus, tremolite, and other minerals of a filamentous nature.

Bys'sus, *n.* [Lat., from Gr. *byssos.*] (*Physiol.*) A fasciculus of shining semi-transparent horny or silky filaments; secreted by a gland at the base of the foot of certain lamellibranchiate bivalves, and serving as an organ of adhesion to submarine rocks or other foreign bodies.

(*Bot.*) A name formerly given to all those filamentous plants which inhabit cellars and other underground close places, and on which no fructification is found: it was also applied to vegetation of a similar kind when found growing in the air. It is now ascertained that a large number of these supposed plants are merely the young state of certain kinds of fungi, or other plants of a low vegetation; and the genus is consequently exploded, the term *Byssoid* alone being retained to express a fringed structure in which the threads are of unequal lengths.

(*Scrip.*) A word variously translated "fine linen" and "silk," and supposed by some to have been cotton, and by some the asbestos fabric. There appear to have been two quite different qualities of *B.*; one, the finest, used for the habit of the priests, and the other for that of the Levites.

By'-stander, *n.* [A.S. *bigtandan*, to stand by.] One who stands by or near; a spectator; a mere looker-on.

"The *by-standers* asked him, why he ran away." — *Locke.*

By'-street, *n.* A separate, private, or obscure street.

"Bent on some mortgage, to avoid reproach,
He seeks by *by-streets*, and saves th' expensive coach." — *Gay.*

By'-stroke, *n.* An incidental or casual stroke.

By'town, in Upper Canada. See OTTAWA.

Byttneriaceæ, (*bit'ne-ri-aï'se-ē,*) *n. pl.* (*Bot.*) An order of plants, alliance *Malvales.*—DIAG. Monadelphous stamens, in most cases partly sterile, and 2-celled anthers turned inwards. They are trees, shrubs, or undershrubs, mostly tropical, sometimes climbing. They have simple alternate leaves, with usually deciduous stipules; calyx 4-5-lobed, valvate; corolla absent, or having as many petals as there are lobes to the calyx; filaments more or less united; ovary sessile or stalked, composed of 4–10 carpels, united round a central column; style single; stigmas equal in number to the carpels: ovules 2 in each cell, fruit usually capsular; embryo straight or somewhat curved, usually lying in a small quantity of fleshy albumen, the cotyledons being plaited or spiral. There are 45 genera and 400 species. In their properties they closely resemble the *Malvaceæ* and *Sterculiaceæ.* The typical gen. *Byttneria* does not include any plants remarkable for useful products.

By'-turning, *n.* An obscure path or road.

By-view, (*bī'vū,*) *n.* Private view; self-interested purpose.

By-walk, (*bī'wawk,*) *n.* A private or secluded walk.

By'-wash, *n.* The outlet of the water of a dam. (Prov. Eng.)

By'-way, *n.* A private, secluded, or obscure way.

"Thy bounteous Lord
Allows the choice of paths; take no *by-ways*."—*Herbert.*

By'-wipe, *n.* A sly, underhand stroke of irony or sarcasm.

By'-word, *n.* [A. S. *bi* or *big*, and *word.*] A passing or current word; a common saying; a proverb.

"We are become a *by-word* among the nations for our ridiculous feuds and animosities." — *Addison.*

Byz'ant, Byz'antine, *n.* (*Numis.*) See BEZANT.

Byz'antine Architecture, *n.* From the classic architecture of old Rome was derived the Romanesque, which gradually spread through Western Europe, and passed through various phases, until it attained the full extent of its development in the Gothic architecture, and became in the *B. A.* the parent stock of the Arabian. *B. A.* may be considered to have been originated by Constantine the Great, who commenced rebuilding Byzan-

tium in the year 324, and spared no expense to make his new city the most magnificent in the world. At first, the palaces, temples, churches, baths, and basilicas, which were erected, were based on the plans, and embraced all the characteristic features, of similar buildings at Rome; but, to carry out his grand designs, Constantine caused schools to be established for the study of architecture, in which men were trained for the profession, who gradually mingled new and original features with those of the style that had been introduced from the West, and formed a style of architecture peculiar in itself, and eminently adapted to the requirements of the ritual of the Greek Church, although bearing evident traces of the source from which it originally sprung. — *B. A.* has been divided, somewhat arbitrarily, into four periods:—1. From the time of Constantine to the middle of the sixth cent. 2. From the beginning of Justinian's reign down to the eleventh cent., which comprises the greater part of the existing buildings of the pure Byzantine type. 3. From the eleventh cent. to the conquest of Greece by the Turks, when the influence of the Venetian successes is apparent in the intermixture of Italian and Gothic details and characteristics.—4. The prevalent form of the churches of the second period or period of pure *B.A.*, is that of the Greek cross; the central square, formed by the intersection of the arms of the cross, is covered by a dome or cupola, and the spaces which represent the arms are also covered by semi-cupolas, or, in many cases, entire ones. The whole length of the interior, from east to west, is divided into five parts. At the E. end is the apse, in which stood the altar, divided from the next portion, called the bema, by a panelled screen richly adorned with paintings and gilded carved work, in which were three doors of communication between the bema and the apse, which was considered to be the holiest part of the church. The Roman, or semi-circular arch, is the only form of arch employed, and the great distinctive feature of the style is the constant use of the cupola or dome, which was supported on arches of a wide span, springing from massive piers at the four corners of the central space. The capitals were adorned with foliage, generally of a symmetrical pattern, in relief, on sunken panels formed in the faces. The interior was richly ornamented with sculpture, painting, and mosaic-work of most elaborate description. The cathedral of St. Sophia, now the principal mosque at Constantinople (*Fig.* 458), built by Justinian in 532, is considered to be one of the finest existing specimens of Byzantine architecture. Good examples of the style of the second period are also to be seen in the churches of St. Sergius and St. Irene, at Constantinople. The best examples of the third period are the churches of St. Mark, at Venice

Fig. 458. — THE MOSQUE OF ST. SOPHIA, (Constantinople.)

(*Fig.* 360), and St. Pantocrator, at Constantinople. At this period greater attention was paid to external decoration, but the churches were much smaller in every respect. The church of St. Anthony, at Padua, the cathedral at Aix-la-Chapelle, the churches of Ravenna and Pisa, are also Byzantine in character. In our own times, *B.A.* is the ecclesiastical form of architecture in Russia; the prevailing style of the Greek Church, as Gothic architecture, is peculiar to the cathedrals and churches of Roman Catholic and Protestant countries.

Byzantine Church, *n.* A name applied to all those churches which acknowledge the supremacy of the œcumenical patriarch of Constantinople. The adherents of this church are comprised almost entirely within the limits of Turkey, Greece, and Palestine, and are altogether estimated to number about 3,000,000.

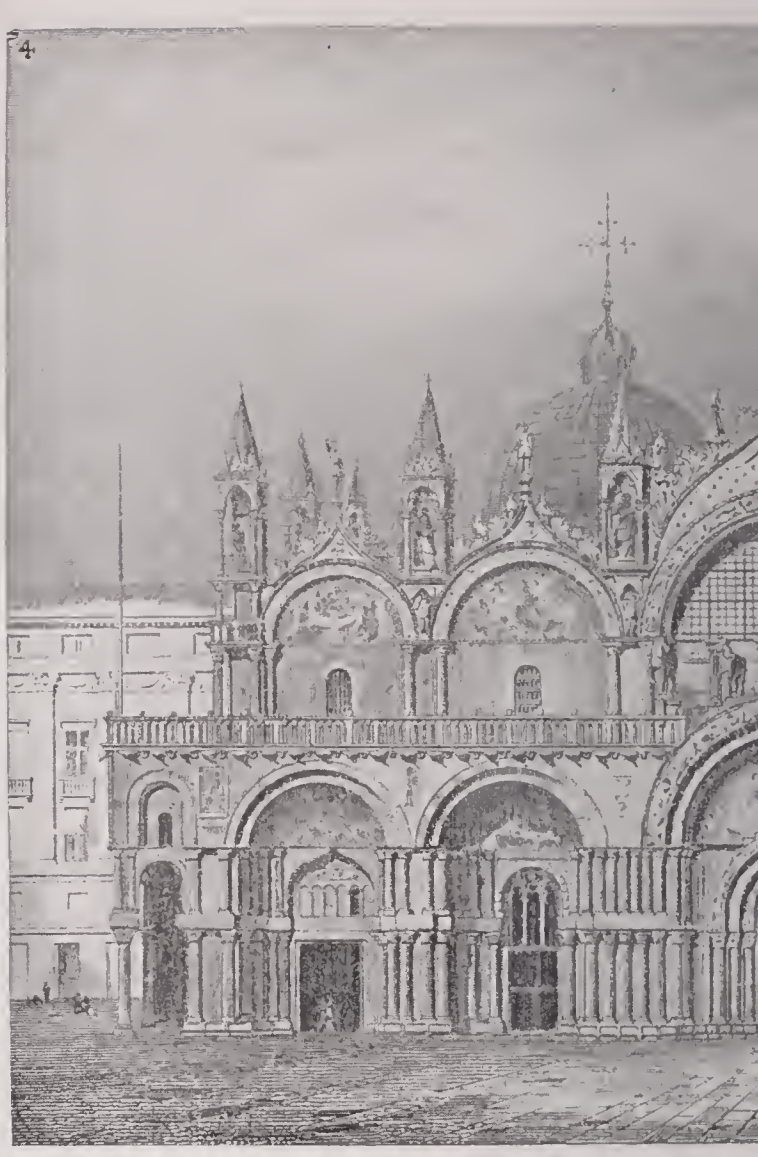
Byzantine, Eastern, or **Greek Empire.** See GREEK EMPIRE.

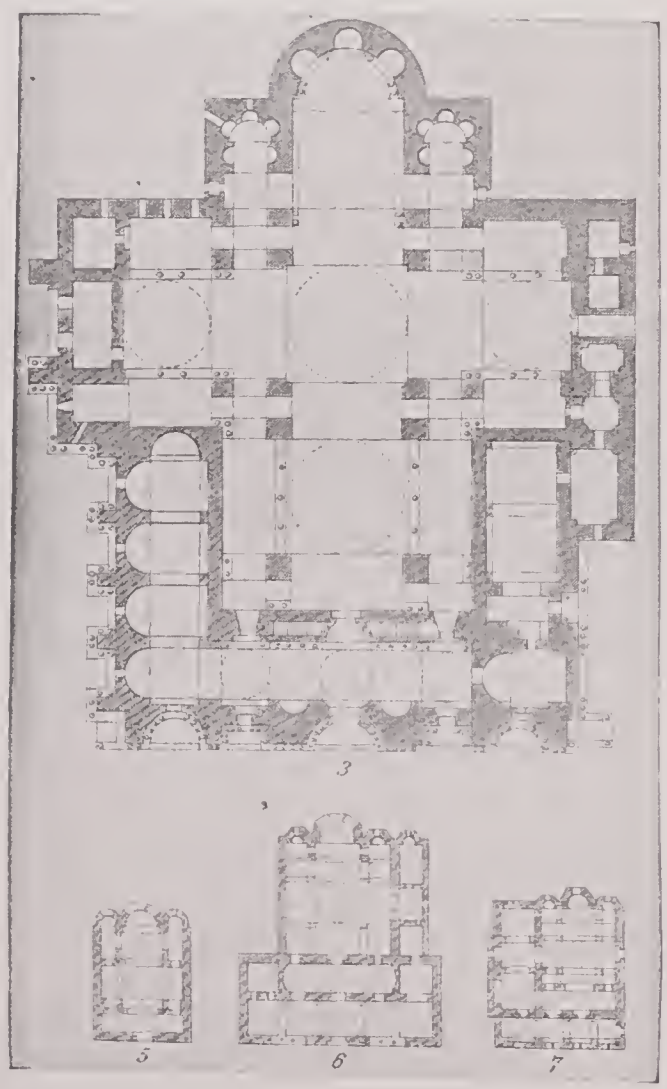
Byzantine Historians, a series of Greek historical authors who lived under the Greek empire between the 6th and 15th cent. They may be divided into three classes:—1. Historians whose works form a continuous history of the Byzantine Empire from the 4th cent. of the Christian era down to the Turkish conquest of Constantinople. They are nearly 30 in number, with various shades of literary merit; but their works constitute almost the only authentic source of the history of that eventful period. 2. General chroniclers, or historians, whose works treat chiefly of the chronography of the world from the oldest times. 3. Authors who confined their attention to the politics, statistics, antiquities, manners, &c. of the Romans. These two latter classes, combined, amount also to about 30, and their writings give an excellent illustration of the times of which they treat. The works of the Byzantine historians, &c. were collected and published by order of Louis XIV., in 36 vols. folio, Paris, 1645–1711. Another edition was published at Venice in 1729 and the following years. A more complete edition was projected by Niebuhr, the historian of Rome (*Corpus Scriptorum Historiæ Byzantinæ*). This edition was superintended by him till his death; and it has, since that time, been carried on by Becker, Dindorf, and other eminent philologists.

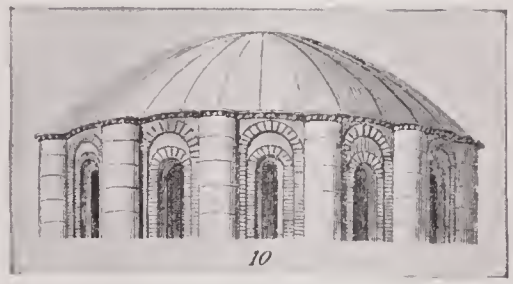
Byzantine Painting and Sculpture. See PAINTING: SCULPTURE.

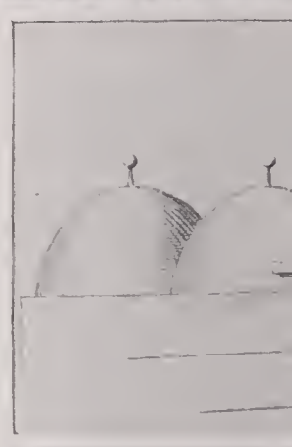
Byzantine Recen'sion, *n.* (*Eccl. Hist.*) The name given to the text of the Greek New Testament, as propagated within the limits of the patriarchate of Constantinople.

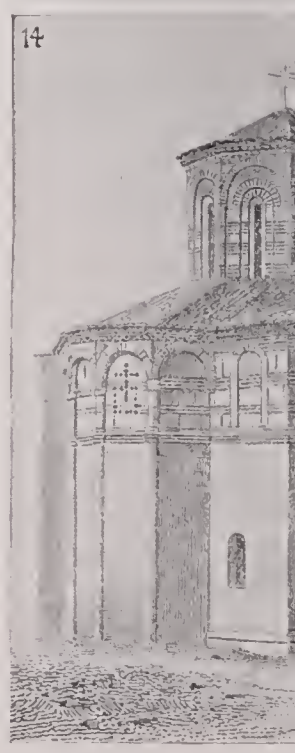
Byzantium, (*be-zan'shum,*) *n.* (*Geog.*) The ancient name of CONSTANTINOPLE, *q. v.*





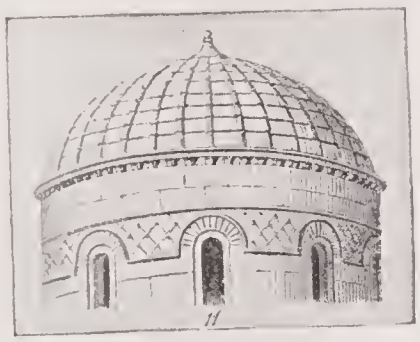


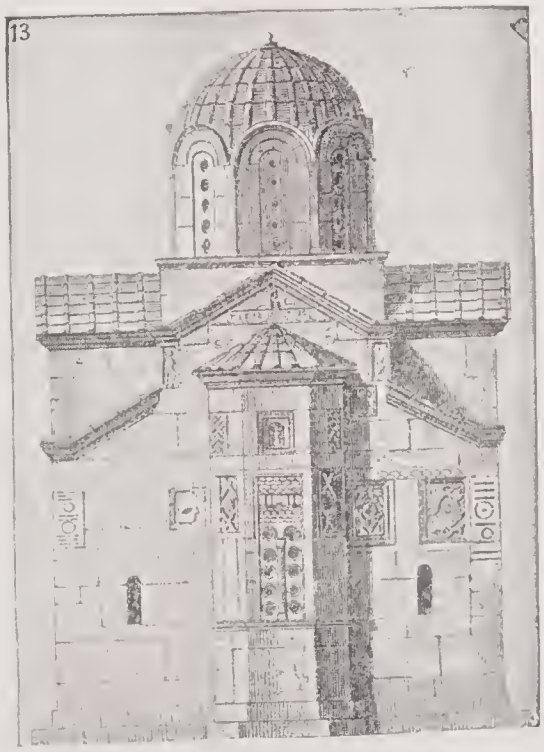


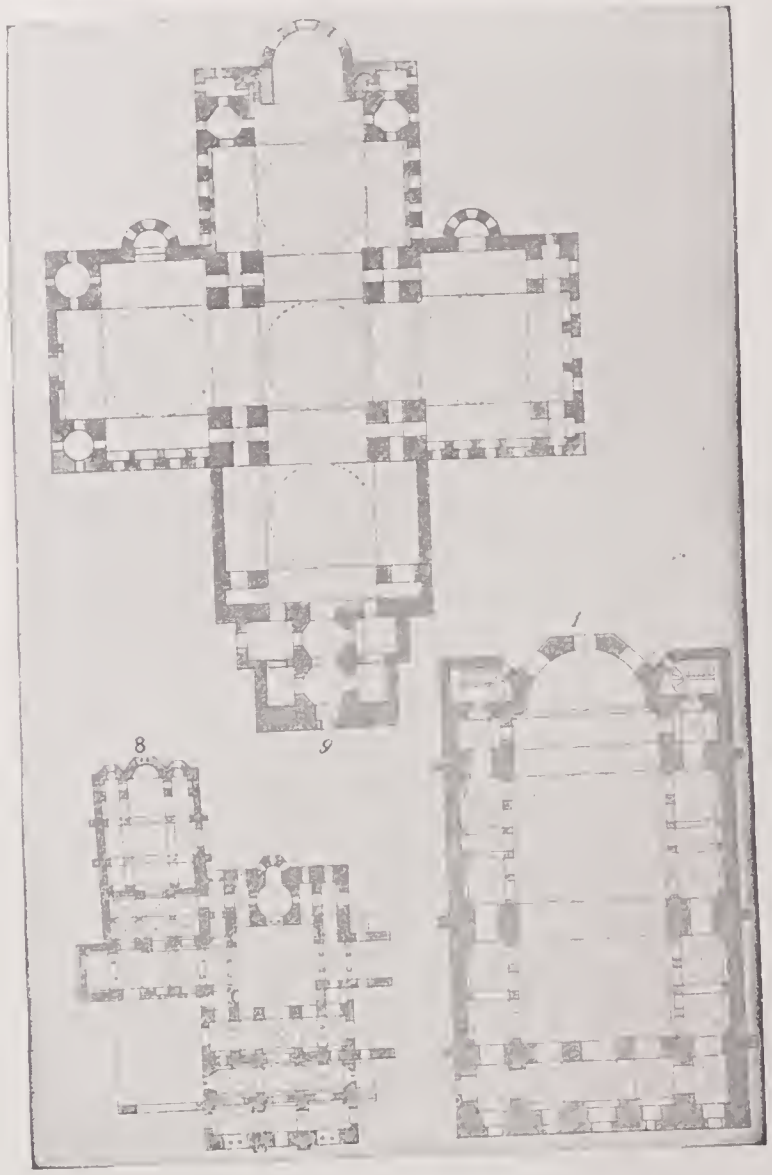


BYZANTINE ARCHITECTURE.

1. Plan of Church of Sta. Irene, Constantinople. 2. Interior of same. 3. Pl
7. Plan of the Kamnekarea, Athens. 8. Plan of Cloister Church of St. Lucas
12. West end of the Katholicon, Athens. 13. East end of same. 14. Church of St. Mary, at Semendria, Servia. 15. Interior of Church







t. Mark's, Venice. 4. Exterior of same. 5. Plan of Church of St. Elias, Athens. 6. Plan of Church of the Mother of God, Constantinople
a, Greece. 9. Plan of church at Perigieux, France. 10. Dome of church at Daphne, Syria. 11. Dome of Church of St. Taxiarchis, Athens
aria, at Palermo, Sicily. 16. Church of S. Giovanni, at Palermo, Sicily.

B.—SECTION II.

Bab'bitt, Edwin B., born in Connecticut in 1802, graduated West Point, 1826. Served in Florida 1837–8 and in Mexico, 1847–8. Brevetted brigadier-general, 1865; chief quartermaster of the Dept. of the Columbia, 1866–7; superintendent of the clothing depot of the division of the Pacific, 1867–9. Died in 1881.

Bab'bitt, Isaac, born at Taunton, Mass., in 1799. A goldsmith by trade; was the first to manufacture britannia ware in U. S. (1824), and invented (1839) the anti-friction metal which bears his name. D. in 1862.

Bab'cock, James F., a Connecticut journalist, born in 1809; in turns a prominent Whig, a Civil War Republican, and eventually a Democrat; collector of the port of New Haven under Lincoln; elected to the State Legislature as a Democrat, 1873; judge of the police court of New Haven, 1874. D. 1874.

Bab'cock, James Francis, an eminent Boston chemist, born in 1844; professor of Chemistry in the Boston University and subsequently (1881) in the Massachusetts College of Pharmacy. Invented a well-known fire-extinguisher.

Bab'cock, Orville E., an American soldier, born in 1835 at Franklin, Vt. Served in the Army of the Potomac as lieutenant-colonel and aide-de-camp to Grant; selected the meeting-place of the generals at Appomattox, for Lee's surrender; promoted colonel in the regular army, 1866; served for a time as private secretary to President Grant, who subsequently deposed in his favor and thus obtained his acquittal from an indictment for complicity in revenue frauds, 1876. Died in 1884.

Bab'cock, Rufus, a Baptist clergyman; born at North Colebrook, Conn., in 1798; president of Waterville College (Colby Univ.) Me., 1833–7; founder of the *Baptist Memorial*; a considerable writer and contributor to Sprague's *Annals of the American Pulpit.* D. in 1875.

Baby, Louis François George, born in Montreal, Canada, in 1834. A noted statesman and conservative politician; member of the privy council as minister of inland revenue, 1878.

Babylonian Exploration. The low alluvial plain, through which flow the Tigris and Euphrates in their lower courses, and the Shat-el-Arab, which results from this confluence, has long been known as the seat of two great empires of the past, the Babylonian and Assyrian, its high fertility having provided food for teeming populations, which, with their works, have disappeared as a result of savage invasion and barbarous neglect. Some few historical records of these peoples remained, but their cities, their irrigating canals, the fertility of their soil had disappeared, and nothing was left but the wide, flat plain, whose level surface was here and there broken by a hill or a mound of clay, in which occasional evidences of brickwork

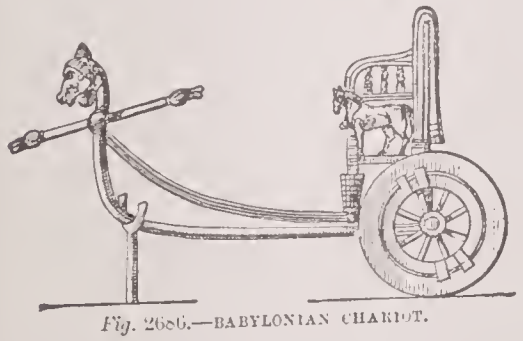


Fig. 2686.—BABYLONIAN CHARIOT.

appeared. Such was the condition of affairs half a century ago. To-day, in consequence of active research and diligent study, the history of the vanished empires has been in considerable part recovered, and modern museums are full of works of art and written records, obtained from the ruins of palaces and cities which long lay safely hidden under shapeless mounds of clay. This work began in the mounds of the northern empire of Assyria, the ruins of the great city of Nineveh being excavated by Layard and others, and yielding results of remarkable interest and value. See Assyrian Exploration. One important lesson was learned from the study of Assyrian inscriptions, viz., that Babylonia was a much more ancient centre of civilization, and the original source of the literature and culture of the Assyrian people. Research accordingly extended to the mounds of this vanished realms of the far past, a research which in late years has been attended with almost magical results, the pick and spade of the explorers having exhumed a great lost civilization, possessed of numerous populous cities, and reaching much farther back into the past than was deemed possible as late as twenty years ago. England led the way in this great work of exploration. Hormuzd Rassam, who had aided Layard in his excavations, and had himself discovered the great palace of Sardanapalus, was sent in 1876, by the British Museum, to conduct explorations in the southern Mesopotamian region, and continued his fertile labors there until 1882, discovering the cities of Kuthah and Sepharvaim or Sippara. In the latter, the ancient city of the Babylonian sun-god, he exhumed the library of the ancient temple, which proved to be richly supplied with those inscribed clay tablets which formed the books of the Babylonians. A library had formerly been found in the palace of the Assyrian King Sardanapalus, from which an abundant store of early lore had been obtained. This useful idea of forming libraries proved to be not confined to Assyria, each of the large Babylonian cities having its richly supplied temple library. Several of these have been found, and a steady stream of inscriptions has reached

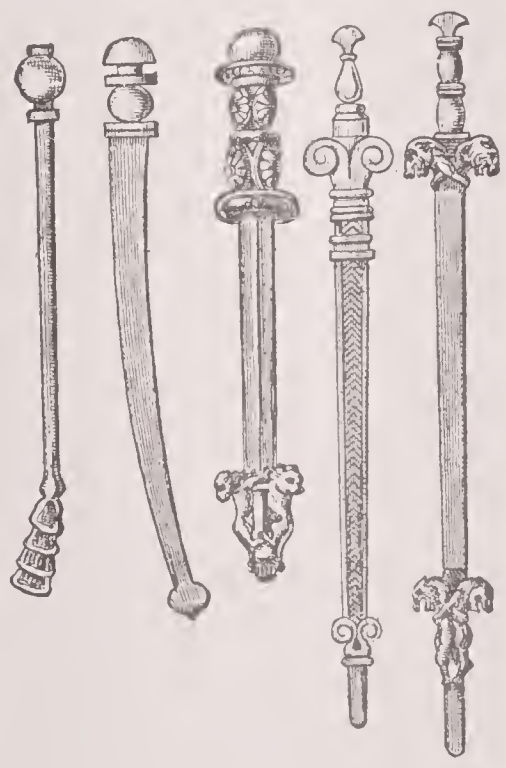


Fig. 2687.—ORNAMENTED SWORDS AND STAFF FROM BABYLON.

the British and other museums, whose perusal has added immensely to our knowledge of the far past. These clay books were principally deeds and contracts, but the study of these has thrown a flood of light on the social life and customs of the Babylonians, giving us a knowledge of their doings and dealings little less full than that which we possess of the customs of the ancient Greeks.—*German Explorations.* The British were followed by German explorers, who opened two cemeteries near Shatra, and for the first time taught us how the Babylonians disposed of their dead. This was done by burning, not only the corpses, but the objects buried with them, being consumed; so that those graves, while adding their share to our acquaintance with Babylonian customs, have yielded no treasures for museums or monuments of ancient art. It is interesting to learn, from the earlier researches of Loftus, that the Assyrians disposed of their dead in quite a different manner, burying them in slipper-shaped coffins of clay, and using the ruined cities of Babylonia as cemeteries. They seem never to have forgotten that their fathers came from this southern land, which continued holy ground to them, while its ancient literature was diligently studied, translated and faithfully preserved by their scholars and bibliographers.—*French Explorations.* During the very long period of Babylonian civilization many new dynasties rose into power, new cities became the seats of empire, each in its turn sinking into insignificance and decay, and adding its quota to the multitude of ruins which dot that historic plain. Babylonia seems to have been separated into two fixed divisions—Sumar (Shinar) and Akkad—the former in the north, the latter in the south. One of the capital cities of Akkad was named Erech, and in its vicinity, at a locality named Telloh, in the extreme south of Babylonia, was a more ancient city, whose ruins have been thoroughly explored by M. de Sarzac, French consul at Basra, who worked with diligent enthusiasm among its ruins, and brought to light hosts of important relics. Telloh was not one of the chief cities of the land. It was rather a provincial town; yet it has yielded immense numbers of monuments, including some highly interesting statuettes of the very hard mineral diorite, which are now in the Louvre. But the most valuable of its treasures are the remains of its library, discovered during 1888–96, and containing not less than 33,000 day tablets, which are believed to be nearly 5000 years old. These very archaic books are written in the ancient Sumerian dialect, which preceded that of the Semitic conquerors of Babylonia. Most of them are now at Constantinople, the Turkish government, having perceived the value placed by European scholars on these relics, no longer permitting them to be removed from the kingdom except in the way of gifts from the Sultan. Assyriologists are actively at work in their perusal, but they have been too short a time in hand for their contents to be yet largely

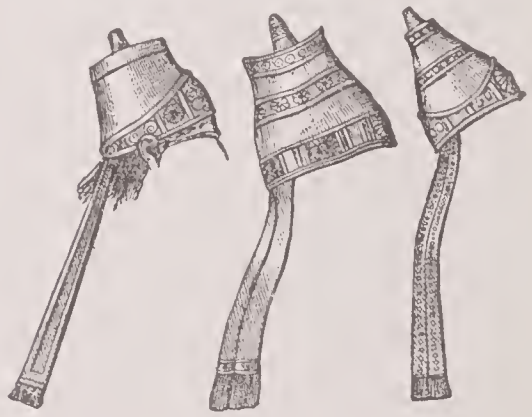


Fig. 2688.—ROYAL HEAD DRESSES, BABYLON.

deciphered.—*American Explorations.* Still more interesting have been the results attained by an American expedition, sent out by the University of Pennsylvania, and choosing as the site of its labors the ruins of Niffer or Nuffer (anciently Nippur), in northern Babylonia. This city has proved to be one of the oldest seats of human civilization, its great temple, dedicated to Mul-lil or El-lil, going back to the beginning of Babylonian history. This god at a later date became the Bel of the Semite conquerors, and was eventually replaced by the Bel Merodach, of Babylon, a younger deity. It was in the ruins of the temple of this very ancient Bel that the American explorers worked, pursuing their labors with a systematic care that leaves little or nothing to be done after them, they having sunk their shafts through the various strata of the city's history, and cleared away all the valuable relics of each stage before descending to a lower level. The work began in 1888 under Dr. Peters, who continued his labors till 1890, obtaining in all about 10,000 tablets and inscribed fragments. In 1893 the work was resumed under Mr. J. H. Haynes and carried on for three years, ending in 1896. The task was performed under the greatest difficulties and dangers, arising largely from the insect plagues and enervating heat of the region, the fever-breeding airs which arose from the pestilential neighboring swamps, and the hostile treachery of the Arabs. Yet it was persevered in until more than 32,000 inscribed tablets had been found, and the city excavated to its original foundations. As to the value and interesting results of this exploration we cannot do better than to quote from a published paper by Prof. A. H. Sayce, the dis-

tinguished philologist and oriental antiquarian: "The history of civilization has been taken into ages which a short while since were still undreamed of. Professor Hilprecht, the historian of the expedition, upon whom has fallen the work of copying, publishing and translating the multitudinous texts discovered in the course of it, declares that we can no longer 'hesitate to date the founding of the temple of Bel and the first settlements in Nippur somewhere between 6000 and 7000 B. C., possibly even earlier.' At any rate, the oldest monuments which have been disinterred there belong to the fifth or sixth millennium before the Christian era. Hitherto, we have been accustomed to regard Egypt as the land which has preserved for us the earliest written monuments of mankind, but Babylonia now bids fair to outrival Egypt. The earliest fixed date in Babylonian history is that of Sargon of Akkad and his son Naram-Sin. It has been fixed for us by Nabonidos, the royal antiquarian of Babylonia. In one of his inscriptions he describes the excavations he made in order to discover the memorial cylinders of Naram-Sin, who had lived '3,200 years' before his own time. In my Hibbert lectures I gave reasons for accepting this date as approximately correct. The recent

Fig. 2689.—BABYLONIAN WARRIORS—FROM AN ANCIENT BAS-RELIEF.

discoveries at Niffer, Telloh and other places, have shown that my conclusion was justified. We now find that the Babylonians from the earliest times kept a register of the successive years of each king's reign, marked by the chief event or events which had characterized them, so that it was easy for future historians to draw up chronological lists of the Babylonian kings and determine the number of years they each had reigned. It was also usual on the death of a king to devote a single tablet in this way to the chronology of his reign, and at times, when one dynasty was succeeded by another, a chronological record of the fallen dynasty was compiled, the years being reckoned by the events which had occurred in them, and the whole number of years during which the dynasty had reigned being summed up at the end. These lists can be tested by the contract tablets, of which we now possess many thousands, and which are dated in the way I have just described. What particular event should be considered as characterizing a particular year must have been determined by official authority. Take, for example, one of the chronological tablets found at Niffer, which was written immediately after the death of Pur-Sin II., one of the last kings of the third dynasty of Ur. This was the dynasty which preceded that to which Amraphel, the contemporary of Abraham, belonged. The tablet begins as follows: (1) 'The year when Pur-Sin became king; (2) The year when Pur-Sin the king invaded the land of Urbillum; (3) The year when the great throne of Bel was made.' And so the tablet continues down to the end, where we read: 'The year when Gimil-Sin became king of Ur and devastated the land of Zabsali' in the Lebanon. In the contract-tablets which have come from the excavations at Niffer and Telloh we find these self-same dates expressed in precisely the same words. We can, therefore, no longer refuse to believe that Nabonidos had quite sufficient chronological materials for assigning a date to Sargon of Akkad and his son. We may henceforth tranquilly accept the fact that the date of these two kings is as far back as 3800 B.C."—*Antiquity of Nippur.* As regards the actual antiquity of Nippur we possess still another means of estimation. In the excavations at the site of this city a pavement was found, composed of enormous bricks—some of which bore the name of Sargon, others of Naram-sin—on which these monarchs had rebuilt the temple of the god. Above this pavement debris had accumulated 11 metres in thickness, representing about 4,000 years of history, as its top was coeval with the beginning of the Christian era. Below this pavement Haynes found 9.25 metres of the debris of older buildings, while much had doubtless been cleared away in making a level space for the temple of Sargon. Thus we can well conceive an antiquity of some 4,000 years more. As deep as research has gone, evidences of civilization have appeared. The cuneiform characters were in use at that early date, but they were ruder in shape and resemble pictorial forms, indicating their origin in an older hieroglyphic method of writing. How much farther back the beginnings of this civilization reach, and to what race of people they are due, we may perhaps always remain in ignorance. Possibly they extend still other thousands of years into early time. Prof. Hilprecht believes that the temple of Mul-lil was founded fully 6,000 years before Christ, and that the golden age of Babylonian history arose at least 4000 B. C. Sayce accepts this view, basing it on the fine and delicate finish of works of art executed in the reign of Sargon and Naram-Sin, which represent "the highest point attained by the gem-cutter in the ancient oriental world. And along with this perfection of art went a similar perfection in the cuneiform system of writing."

Babylonian History. A brief review of the history of Babylonia, so far as it has yet been revealed by the monuments and inscriptions, will be of interest. The earliest king whose name we yet possess, who reigned at the beginning of the history of Nippur, perhaps earlier than 7000 B. C., was En-sag-ana, who has had himself recorded as "Lord of Kengi" and conqueror of Kis "the Wicked." At a later date Kis the Wicked became conqnerer of Nippur, whose king, and the old kingdom of Kengi, passed away. The conqueror, Lugal-zuggi-si, "King of Erech," told the story of his exploits in a long and interesting inscription, which, fortunately, is still extant. He claims to have founded an extensive empire, reaching "from the rising to the setting of the sun," and, so far as we now know, may have been the earliest of the great warriors and conquerors of mankind. At perhaps a considerably later date a new supreme city arose at Ur, in the southern region, the city of the Moon-god, and the first home of Abraham, now represented by the mound of Mughair, on the west bank of the Emphrates. This, in Hilprecht's view, took place about 4000 B. C. Up to this date the Sumerian people had continued the ruling race. Of what origin they were we do not well know, but the character of their language seems to assimilate them with the people of northern Asia, the so-called Turanian stock. But now the Semites of the South were rising into conquering strength, and about 3800 B. C., Sargan, a Semitic conqueror, overran the land of Akkad, and by his military energy and that of his son, established another great empire, which seems to have reached as far as Cyprus, in the Mediterranean. In the new kingdom, the Sumerians continued the literary and cultured classes, and their language long remained that of religion and the law, though in more ordinary neatness the cuneiform characters were adapted to Semitic words. After the period of Sargon and his son, the empire seems to have broken into fragments, in which the cities of Larsa, Telloh, Nippur, and others were the seats of local rulers. Those were again gathered into a single kingdom by Urbagas, about 2700 B. C., who restored temples in all the cities named, and placed over them "priest viceroys." His son, Dungi, who succeeded him, has left us a large number of inscriptions. These monarchs take the title, not only of "King of Ur," but also of King of Sumer and Akkad, and seem to have extended their rule widely over Babylonia. In the succeeding centuries Ur declined in importance, and other cities became seats of power. This was followed by a return of Ur to supremacy, its new rulers styling themselves "Kings of the Four Regions." The dynasty finally fell before an invasion from Elam, led by Rim-Sin, who sacked the city of Erech, and established himself in power. He did not, however, succeed in forming a dynasty, for a new power was now rising at Babylon in the north, whose king, Khammurabia, repulsed the Elamites, and made himself lord of all Babylonia. The rule of this king began about 2700 B. C., and for several centuries the kingdom remained peaceful under his successors. The supremacy at Babylon continued to the end, no less than nine dynasties succeeding each other, and having to contend with the Elamites of the East and the Chaldeans of the South, while their wars extended to the nations of the West as Babylon the Great grew in power. We approach the end of this long story in the reigns of the powerful kings, Nabopolassar and Nebucadrezzar, and reach its termination in the overthrow of Babylon by Cyrus the Persian and the establishment of the great Persian Empire. Babylon continued a great city until the days of Alexander the Great, but afterwards so utterly passed away that its very site became unknown, and remained to be discovered in our own days.

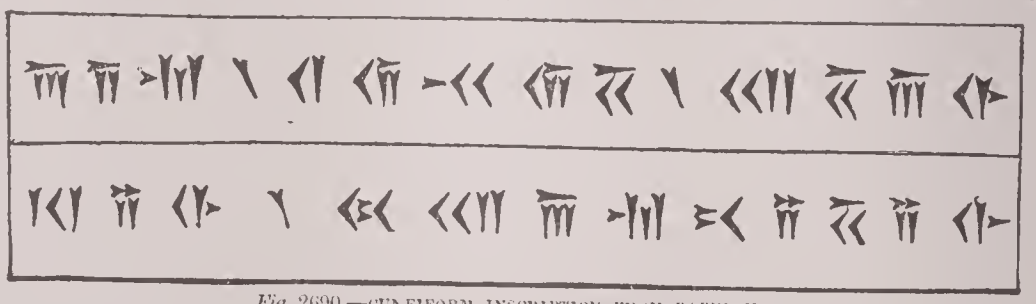


Fig. 2690.—CUNEIFORM INSCRIPTION FROM BABYLON.

Babylonian Literature. Babylonia, so far as we at present know, was the original land of books. In the very earliest days of its civilization, possibly 10,000 years ago, it had its authors and scribes, and books or inscriptions written in that remote age are still extant. These books differ essentially from those of the present day. They are not written on paper, but stamped on clay, the most abundant material of that alluvial land. Babylonia was a land of bricks. Its edifices were built, its books made, of brick, sun-dried or burnt. The plastic clay was moulded into thin, brick-shaped tablets, which had the words or syllables of the language impressed on them by an instrument whose point was in the form of a wedge, or a very acute triangle; hence these characters are called cuneiform, or wedge-shaped. The letters are often minute in size, so that a considerable inscription may exist on a small tablet. These soft clay tablets were then hardened by baking, and stored carefully away in what were the earliest libraries of mankind. It is probable that each of the principal cities of Assyria and Babylonia had at least one of these libraries, in which the clay books were kept for use, and seem to have even been loaned out to students, like those of a circulating library of the present day. We learn from the catalogue of Sargon's library that each was numbered, and that the student had only to write down the number of the tablet he wanted and it was given him by the librarian. A number of these libraries have been found by excavation, some of them with their tablets much broken, yet yielding a vast amount of curious information to modern students.—*Language.* The language of these old authors of Sumer and Akkad was of the agglutinative type, such as is still used by the Mongolian populations of northern and central Asia. Hence, they are believed to have originally come from the north and developed their civilization in the fertile Euphrates plain. At a later date the Semites of the south became the dominant power, and adopted the cuneiform characters to their language, so that books were written in Semitic, though the Sumerian continued the learned language, much as Latin long continued the learned language of Europe. Cuneiform writing was also, in later times, adopted by the Medes and Persians, and an inscription on a rock face at Behistun, in Persia, in which all three languages are used, served the important office of first giving scholars a clue to the mystery of the unknown languages of Assyria and Babylonia.—*Literature.* The subjects with which this archaic literature deals are various. Many of the inscriptions found are annalistic, detailing historical events. Hosts of contracts and other business documents have been found, which yield us abundant information concerning the ordinary life conditions of these ancient peoples. The literary products, properly so called, are numerous, one of their most interesting forms being that of hymns to the gods. These bear a striking resemblance to the Hebrew hymns, alike in substance and form, while their expression and feeling assimilate them closely to the poetry of the Hebrew race. Of an older date is a collection of magical formulæ and charms, doubtless in use by the Sumerian priests and people ages before the Semitic replaced the older gods. There seems to have been an extensive legal literature, while a collection of very ancient fables has been met with. But what has attracted most attention in the Babylonian literature is the recovery of considerable part of a very ancient epic poem, originally in twelve books, though only two have been preserved intact, with parts of others. One of these two is of special interest, in that it tells of a great deluge, bearing in several particulars a close resemblance to the story of the deluge in Genesis, and probably being the original form of the latter. Inscriptions descriptive of the creation are also extant. The literature of this land continued essentially Sumerian, the Semites being more inclined to war than to works of thought. Assyria possessed little native literature, It was not until the late reign of Assur-bani-pal that any attempt of importance at literary composition was made, and this was largely devoted to the study of the old works. Works were written by Assyrian scholars in the dead language of Akkad, much as some of our scholars still write works in Latin. Syllabaries, grammars, dictionaries and reading books of Assyrian and

Akkadian were drawn up, the purpose apparently being to provide students with the means of reading the classic literature of the land. We cannot go more fully into the story of the multitudinous inscriptions and works of literature which have been exhumed from the dead cities of the Mesopotamian plain, and it must suffice to say that they have brought back to the light of day the history and character of a great and long continued civilization of the far past, of whose character, a century ago, almost nothing was known and scarcely a suspicion of its former existence entertained.

Baca, Luis, a Mexican operatic composer, born in 1826; wrote *Leonor, Giovanna di Castiglia, Ave Maria,* &c. Died in 1855.

Bache, Hartmann, born in Philadelphia, Pa., in 1797; son of journalist Benjamin Franklin *B.* [1769–1799], and grandson of Richard *B.* An engineer, continuously employed by the War Dept. for 47 years, 1820–67; brevetted brigadier-general, 1865; constructed the Delaware breakwater and was first to use iron-screw piles in the foundations of lighthouses. Died in 1872.

Bach'mann, Gottlob Ludwig Ernst, born at Leipzig, Germany, in 1792. A noted professor of classical philology at the University of Rostock, 1833–65. Wrote *Lycophronis Alexandria, Scholia vetusta in Lycophronis Alexandram,* &c. Died in 1881.

Bacil'li, *n. pl.* (sing. *bacillus.*) [From Lat. *bacillus,* a little rod.] (*Biol.*) Rod-shaped microbes, a genus of the *Bacteria,* having various microscopic shapes, and found practically everywhere. They are thought to be the cause of very many diseases, and specific forms have been identified with splenic fever, diphtheria, consumption, typhoid fever, erysipelas, cholera, &c. See Bacteriology, Germ Theory of Disease, &c.

Bacon, Delia, born at Tallmadge, O., in 1811; a sister of Leonard Bacon. Wrote *The Philosophy of the Plays of Shakespeare Unfolded* (1857) in which she originated the theory of the Baconian authorship of Shakespeare's plays; *Tales of the Puritan,* &c. Died in 1859.

Bacon, Leonard, born at Detroit, Mich., in 1802. A Congregational clergyman, for 57 years (1825–82) pastor of First Church in New Haven, Conn. A copious contributor to *The Christian Spectator* and *The New Englander;* one of the founders of the N. Y. *Independent,* and a prolific writer of pamphlets and reviews. Died in 1881.

Bacon, Leonard Woolsey, born at New Haven, Conn., in 1830; son of Leonard Bacon. Served as pastor of Congregational or Presbyterian churches in New York, Connecticut, Maryland and Pennsylvania; a prolific writer for the periodicals, and the author of numerous pamphlets, musical compositions and translations.

Bacte'ria, *n. pl.* See Bacterium, in Section I, and Bacteriology.

Bacteriol'ogy, *n.* (*Biol.*) Nowhere, during the last quarter century, have such startling and far-reaching discoveries been made as in the domain of the smallest of living organisms, the bacteria—the "germs," "microorganisms" or "microbes" of common parlance. The study of these lowly but ubiquitous plants has developed, under the leadership of Louis Pasteur, Ferdinand Cohn, and an army of investigators of lesser note, into one of the most important departments of modern biological science—bacteriology. The lower cryptogamic or flowerless plants, owing to the absence of any well-defined root, stem or leaves, are termed thallophytes; the entire vegetative system consisting of an undifferentiated plant-body, the thallus. The thallophytes consist of three more or less closely related groups—the *Algæ,* the *Fungi,* and the *Protophyta;* the latter group including all the lowest forms of vegetable life, whether containing chlorophyll or not. The bacteria, while classified by some among the protophytes, are by others regarded as fungi. In short, their exact position is still unsettled. Owing to this fact, the term *Bacteria* is preferable to the term *Schizomycetes* or *Fission-fungi,* which indicates a closer relationship to the fungi than

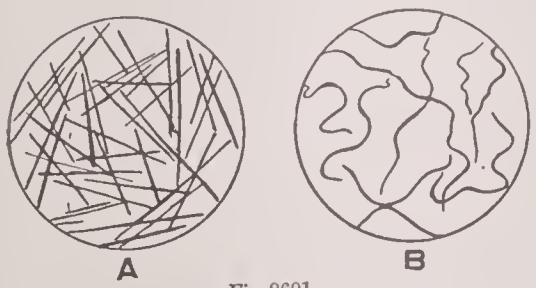


Fig. 2691.

A.—Bacillus tuberculosis, the bacillus of consumption. *B.—Spirillum obermeieri,* the spirillum of recurrent fever.

really exists, since certain bacteria contain chlorophyll, and even those destitute of chlorophyll show very close affinity with certain algæ. The word bacteria (Gr. *baktērion,* a little stick or rod) is therefore used to designate collectively all those primitive vegetal organisms which constitute the lower extreme of organic existence; the invisible agents by whose means the inorganic materials of the earth and air are made available to higher forms of life, and by which the elements of the most highly organized plants and animals are in turn dissociated and restored to the soil. In the bacteria we see vital activity reduced to the simplest and lowest terms, and beyond them life does not exist. It is difficult to gain any conception of the extreme minuteness of bacteria, and their measurements, stated in microns (the one-thousandth part of a millimeter, or the twenty-five thousandth of an inch), convey little or no idea of their almost infinitely small structure. Of bacteria of the average size, a population over five times greater than that of the United States could find ample room in a single layer covering an area of one square inch. Under the best modern objectives the most minute bacteria appear as mere dots, although magnified to a degree which if applied to man would cause him to appear to rival in height the highest mountains.—Arthur and Bolley have calculated for the *Bacterium dianthi*—the cause of bacteriosis of carnations—that one individual may become two within a half hour, and these two increase to four in the second half hour, and so on. At this rate there would be sixteen at the end of two hours, sixty-four at the end of three hours, two hundred and fifty-six at the end of four hours, over sixteen millions at the end of twelve hours, and over two hundred and eighty billions at the end of one day. Although the individuals in this case are very minute, requiring over fifteen hundred of them placed side by side to extend the sixteenth of inch, yet the direct product of the multiplication of a single germ for one day would occupy a cubic inch of space. The minute character of bacteria renders it difficult to acquire exact knowledge of the intimate construction of the cells, but by means of basic coloring matters, such as the brilliant aniline dyes, it is possible to stain the bacteria strongly while leaving the surrounding matter colorless. It is thus possible to render them sufficiently opaque and well defined in outline to allow of the use of photography in their delineation. Owing to the varying density of the different parts of the cell, and the selective action of dyes, it is possible to differentiate the bacteria cell proper from its surrounding envelope, its flagella, and the minute spores produced

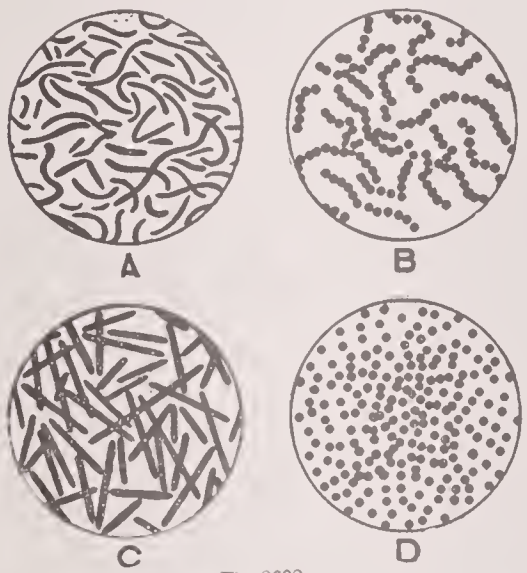


Fig. 2692.

A.—Spirillum choleræ-asiaticæ, the bacillus of cholera. *B.—Streptococcus erysipelatis,* the bacillus of erysipelas. *C.—Bacillus typhosus,* the bacterium of typhoid fever. *D.—Micrococcus pyogenes,* a common spheroidal bacterium.

within certain species. Thus it is ascertained that bacteria agree in their chief characteristics with the larger cells of other organisms. It is owing to the fact that most species of bacteria are destitute of chlorophyll and analogous coloring matters that the name of fungi has been given them, but Van Tieghem and Engleman have found several species colored green throughout by chlorophyll. (*Bacterium viride, Bacillus virens, and Bacterium chlorinum.* See *Bulletin Soc. bot. de France,* 27 (1880) p. 174, and *Bot. Ztg.* (1882) p. 323). There are certain other species, termed chromogenic, in which the protoplasm or the limiting membrane of the cell is intensely tinged with red, blue, yellow or other tint, and when these forms occur in sufficient numbers, they produce gelatinous accumulations of characteristic color, or impart their color to the fluids in which they abound. The appearance of growths of the red *Bacillus prodigiosus* upon substances containing starch has given rise to the legends of showers of blood, while the cause of the development of a blue color in milk is to be sought for in *Bacillus cyanogenus.* Certain species exhibit within the cell distinct little granules (*microsomata*) the nature of which is not well understood, while species of the genus *Beggiatoa,* found in sulphur springs, contain highly refringent granules of sulphur, arising from the decomposition of the sulphates by the plants. Other species found in water, or on fish or other aquatic animals, exhibit a striking luminosity or phosphorescence, which in the case of the *Bacillus phosphorescence indicus* was sufficiently intense to enable the discoverer, Fischer, to make photographs not only of the growth itself, but of a watch-dial placed between two cultures.—Bacteria seem to be omnipresent; they have been found in the ice of Norwegian glaciers and the waters of hot springs, in the highest strata of the atmosphere reached by aëronauts, and in the water and mud of the most profound depths of the oceanic abyss. The bacteria of fluids are found under the microscope in many instances to possess the power of independent motion, which in some cases is accomplished by means of locomotor organs or flagella (the bacillus of typhoid fever). In other cases the motion is a gliding one analogous to that of diatoms; in others it is the twisting of the cork-screw like cell, or the undulating of a slender filament. When cultivated in previously sterilized media—bouillon, potato, nutrient gelatin or other suitable material—pure cultures may be obtained by repeated dilutions brought about by the transfer of minute portions of successive cultures, each time to fresh uncontaminated media. Having thus isolated a given form, its life history and peculiarities may be studied. Such studies go to show that any classification

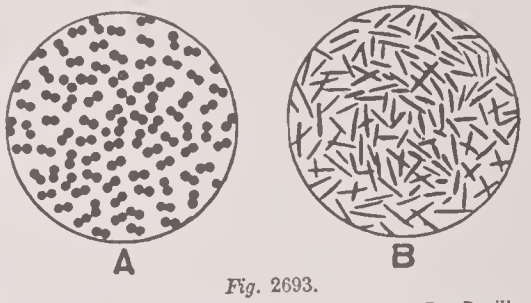


Fig. 2693.

A.—Diplococcus, spheroidal bacteria in pairs. *B.—Bacillus diphtheriæ,* the bacterium of diphtheria.

based upon morphological characters alone is misleading, inasmuch as we frequently find pleiomorphism or variations in shape among individuals of the same species, or in the same individual at different stages of growth, or under varying conditions; while species of similar form and size may vary greatly in physiological characters. The identification of species is therefore based largely upon biological characters, such as peculiarities of behavior in given culture media, the production or absence of color, ability to develop when deprived of free oxygen, or dependence upon the presence of that gas in a free state. The power of giving rise to the phenomena of fermentation and putrefaction when added to organic matter, or of producing given pathological symptoms when introduced into healthy organisms, furnishes additional and conclusive evidence of the nature of the forms under consideration. As the result of metabolism in bacteria, we may have foul smelling gases given off by the cultures, or, as in the case of the bacillus of Asiatic cholera, the exhalation may have an agreeable aromatic odor. Certain bacteria have the power of peptonizing the albuminoid substances in which they are growing, gelatin cultures being liquefied by many forms. When introduced into the healthy organism, certain bacteria give rise to products which act as violent poisons, and the morbid processes which invariably follow inoculation with a given species determine its pathogenic

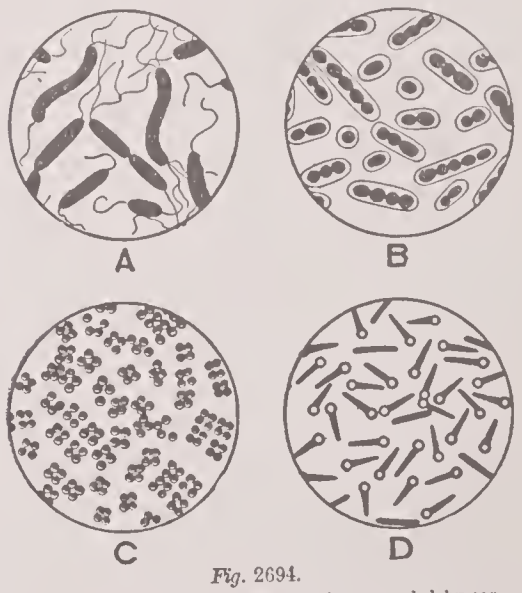


Fig. 2694.

A.—Bacilli with cilia. *B.—Diplococci,* surrounded by capsules. *C.*—Spheroidal bacteria grouped in cuboidal form. *D.—Bacilli tetanei* (with spores), the bacterium of tetanus.

nature. These poisons, or toxins, as they are termed, may be procured by the culture of bacteria in artificial media, and it is found in certain cases that when they are injected in small quantities into animals, these acquire a certain degree of immunity from infection by the corresponding bacterium.—In organic matters, changes are brought about by the metabolism of bacteria which are in certain cases desirable. Thus Hansen and Conn have isolated forms which, used for "ripening" cream, insure in the butter made from it a pleasant nutty flavor; on the other hand highly poisonous alkaloids, termed ptomains, may arise from bacterial contamination of milk or meat, resulting in the not infrequent cases of milk or sausage poisoning. Recent investigation goes to show that the power of many plants to fix the nitrogen of the air depends upon the presence in the soil or in their roots of nitrifying bacteria. The

study of bacteria as noxious and beneficial agents promises to be of untold value to man in the control of nature and natural resources, and, more than any other department of research, promises to furnish him with the means of preventing and combatting disease, not only in man and the useful animals, but in our common cultivated plants. See TOXIN, ANTI-TOXIN, GERM THEORY OF DISEASE, and NITRIFICATION.

Badeau (*bă-dō'*), ADAM, born in New York in 1831; captain and brevet brigadier-general U. S. army; served in Louisiana on the staff of Brig.-gen. Thos. W. Shermau, 1862–63; military secretary to Gen. Grant during the Wilderness and Appomattox campaigns; consul-general at London 1870–81, and at Havana, 1882–84. Wrote *Conspiracy: A Cuban Romance*, 1885; *Aristocracy in England*, 1886; *Grant in Peace*, 1886. D. in 1895.

Ba'den-Pow'ell, SIR GEORGE SMYTH, born at Oxford, Eng., in 1847. A politician and publicist. Member of the Commission on British West India Colonies, 1882, and of that on the new Malta constitution, 1887; visited Canada and the United States, 1886–87, to investigate the Fishery dispute; British Commissioner in the Bering Sea inquiry, 1891; British member of the Joint Commission in Washington, 1892. An industrious author and frequent contributor to the British press.

Badg'er, GEORGE EDMUND, born at Newbern, N. C., in 1795; judge of one of the Superior courts of N. C.; Secretary of the Navy, 1841; U. S. Senator, 1846–55; an able defender of the Union at the Secession Convention, 1861. Died in 1866.

Badg'er, OSCAR C., born at Windham, Conn., in 1823. Midshipman, 1841; lieutenant, 1855 (commanding the party that destroyed Vutia, Fiji Islands); in command of the *Anascotia* of the Potomac flotilla, 1861–62; engaged in the siege of Yorktown, Virginia, and defences at Gloucester Point; lieutenant-commander, 1862; in command of the iron-clads *Patapsco* and *Montauk*, in Charleston harbor, 1863; acting fleet captain on the flagship *Weehawken*, and there severely wounded, Sept., 1863; Commander, 1866; received vote of thanks from the legislative assemblies of Antigua and St. Kitts for services rendered at the time of the great fire, 1867; captain, 1872; commodore, 1881; retired, 1885.

Badinguet, *alias* BADOT, a mason employed on the repairs of the Ham fortress at the time of Louis Bonaparte's incarceration therein, 1846, and in whose disguise the future emperor made his escape. Hence the nicknames, *Badinguet, la Badinque*, &c., applied to the late Napoleon III, by his unwilling subjects. Died in 1883.

Bad Lands. An extensive region in South Dakota, extending into Nebraska, and so called from the French *Mauvaises Terres*, given them from the difficulty which they presented to travelers. This region is composed of hills of sedimentary materials, supposed to have been old, silted-up lake beds, which were subsequently uplifted and have been cut by rains and streams into innumerable ravines. The worn and fissured hills present a remarkable appearance upon approach, they being often cut into forms resembling those of architecture, so that a distance one seems to gaze on the temples, fortresses and palaces of a great city in ruins. During the wars of the Sioux Indians with the U. S., the Bad Lands served them as a useful natural fortress. More recently they have proved of great service to science, through the researches of Professors Cope, Marsh and others, who have found therein a great number and variety of the fossilized forms of animals whose remains had become buried in the sediment of the old lakes. The term *B. L.* is applied to other similar formations in the arid regions of the West. These have arisen from the same cause and are often equally rich in fossils, access to which is greatly favored by the ravines which cut through the mass in every direction.

Ba'ez, BUENAVENTURA, a mulatto, born at Azua, Hayti, in 1820; worked hard for the independence of the Republic of San Domingo; was four times elected its president and twice expelled from the country. It was with *B.* that President Grant negotiated for a perpetual lease of the Bay of Samana (to be used as a U. S. Naval Station), and subsequently for the sale of St. Domingo to the U. S. government, both of which schemes were rejected by the U. S. Senate. Died in 1884.

Bae'yer, ADOLF, born at Berlin, Germany, in 1835, son of JOHANN JAKOB *B.* [1794–1885] the late president of the Geodetic Institute of Berlin. A distinguished professor of chemistry at Strasburg, 1872, and at Munich, 1875. Discovered cerulein, cosin and indol. A frequent contributor to the publications of the German Chemical Society, and to Liebig's *Annals of Chemistry;* elected corresponding member of the Institute of France, 1896.

Bae'deker, KARL, a German publisher, born in 1801, who settled in Coblenz in 1827, and there brought out the *Rheinführer*, the first of the many *Reisehandbücher* that have, since then, made his name familiar to the touring world. Died in 1859.

Bai'kie, WILLIAM BALFOUR, born at Kirkwall, Orkney, in 1825, a surgeon of the British navy who ascended the river Niger in Africa (1854), 250 miles farther than any preceding explorer, and commanded another expedition to the same river in 1857. Wrote a *Narrative* of this last voyage. Died in 1864.

Bai'ley, JOSEPH, born at Salem, O., in 1827. Military engineer; in early life a farmer in Wisconsin; received the thanks of Congress and the brevet rank of brigadier-general for conceiving, and constructing in twelve days, the dam which saved Admiral Porter's fleet in the Red river expedition, 1864; promoted brigadier-general of volunteers, November, 1864; was assassinated three years later in the discharge of his duty as Sheriff of Newton co., Mo.

Bai'ley, GAMALIEL, born at Mt. Holly, N. J., in 1807. A journalist and abolitionist. Published (1836–44) the *Cincinnati Philanthropist*, and (1847–59) the Washington *National Era*, in which *Uncle Tom's Cabin* first appeared. Died in 1859.

Bai'ly's Beads, the name given to a phenomenon which is observed at the beginning and end of a solar eclipse. When the moon is passing on or off the disk of the sun the irregular, mountainous edge of the moon breaks up the thin ends of the crescent of the sun into separate spots of light, which look something like a row of beads. It obtained its name by being first observed by the astronomer Baily. The spots are really irregular in shape, but seem round to the eye.

Baird, ABSALOM, born at Washington, Pa., in 1824. Graduated at West Point, 1849; brigadier-general of volunteers, 1862; commanded a division at Chattanooga and in the Atlanta campaign; brevet major-general, 1865; inspector-general at various Dept. and Division Headquarters until his retirement in 1888.

Baird, HENRY MARTYN, born at Philadelphia, Pa., in 1832; son of theologian ROBERT B. [1798–1863]; professor of Greek at Princeton College, 1859, and later in the University of the city of New York. Wrote *Modern Greece*, 1856; *History of the Rise of the Huguenots of France*, 1879; *The Huguenots and Henry of Navarre*, 1883; *The Huguenots and the Revocation of the Edict of Nantes*, 1895.

Baird, SPENCER FULLERTON, LL.D., a very eminent American scientist, born in 1823, at Reading, Penna. After holding the professorship of Natural Science at Dickinson College for some years, he became, in 1855, Assistant Secretary at the Smithsonian Institute, Washington. As a contributor to natural history, Dr. *B.'s* services were important and numerous. Besides publishing, in conjunction with the late distinguished naturalist, John Cassin, a valuable work on *The Birds of North America and The Animals of North America*, he edited the *Phonographic Encyclopedia*, as well as furnished able reports on the natural history collections made by Capts. Stansbury and Marcy, and Lieut. Gillies during the U. S. and Mexico Boundary and Pacific Railroad surveys. He also published in various scientific periodicals numerous papers upon the mammals, birds and fishes of North America. He was elected Secretary of the Smithsonian Institution, at Washington, on May 17, 1878, succeeding Prof. Joseph Henry. As a member of the U. S. Fish Commission, his labors were invaluable. Died Aug. 19, 1887.

Ba'ker, EDWARD D., born in England, in 1811; was U. S. Senator from Oregon, 1860; commanded "Baker's California Regiment" at the beginning of the Civil War, and was killed at Ball's Bluff, October 21, 1861. See BALL'S BLUFF in SECTION I.

Ba'ker, WILLIAM MUMFORD (pen-name George F. Harrington), a Presbyterian clergyman and novelist, born in Washington, D. C., in 1825. While pastor in Galveston, 1850–65, he wrote, in secret, *Inside: a Chronicle of Secession*, and subsequently published *The New Timothy* (1870), *His Majesty Myself* (1879), *Blessed Saint Certainty* (1881), *The Ten Theophanies*, 1883, etc. Pastor in South Boston (1874–83). Died in 1883.

Ba'kersfield, in *California*, a town, cap. of Kern co. It has a considerable general trade and is surrounded by a fruit growing district. *Pop.* 1890, 2,626.

Ba'king Pow'ders, substances used for bread making in place of yeast, and, like the latter, giving off carbon dioxide or carbonic acid gas, whose effect is to expand or puff up the mass of dough. *B. P.* are usually composed of tartaric acid and bicarbonate of soda. By the action upon these of the water and the dough a chemical change takes place, the result being tartrate of soda and carbon dioxide. The tartaric acid is often replaced by cream of tartar, or acid potassium tartrate, the reaction in this case yielding carbon dioxide and rochelle salts. Bicarbonate of ammonia is occasionally used instead of that of soda, while other substances are at times employed to replace the more expensive tartaric acid. Alum is one of the most common of these, though much objection to its use has been made, it and its products being considered as possibly injurious to health. Most baking powders contain acid phosphate of calcium, which causes the formation of some compounds in addition to those named, though none of a harmful nature. Baking powders have in great measure replaced yeast in household bread-making, and their use has grown to enormous proportions.

Ba'kou.—*Continued from* SEC. 1.

The growth of the Russian oil metropolis of Bakou has been phenomenal. Thirty years ago it was a sleepy town of some 1,400 inhabitants, its principal reason for existence being its possession of the ancient temple of Zoroaster, which for many centuries had made it a sacred resort for pilgrimages of the fire-worshipers of Asia. It is now a flourishing city of over 100,000 inhabitants, and is rapidly increasing. This growth has two causes. The first is the magnificent harbor which it presents on the Caspian. The second and principal is the fact of its being the commercial centre of the great petroleum industry of Southern Russia. The existence of naphtha deposits in this region has long been known, and attempts were made to establish refineries here as early as 1823, but the first success was attained in 1859, and the first in *B.* was built in 1865. Since then the industry has had a phenomenal development and the town has prospered in accordance therewith. The great petroleum wells are about 8 miles northeast of *B.*, and although there are many other important oil fields in Russia, *B.* almost monopolizes the industry. Formerly, it was so enveloped in dense clouds of black smoke that it became known as the "black city." This has been overcome by the process of burning the smoke and the removal of the refineries beyond the city limits; but the soil is so saturated with oil that danger of fire from gaseous emanations is constant, and many serious conflagrations have occurred. As a result, *B.* is not a desirable place of residence, and is largely given over to a commercial population. The crude naphtha is carried from the reservoirs at the wells (the largest of which can hold 600,000 poods—216,000 pounds) in pipes to the city, whose workshops and refineries extend far along the shores of the Caspian. The latest statement gives the annual yield of the wells at about 40,000,000 barrels, which is not greatly less than that of the American wells. The oil from *B.* is transported 400 miles by rail to Batoum, on the Black Sea, where is constantly a large fleet of vessels to convey it to its various markets.

Baku'nin, MIKHAIL, born at Torshok, Russia, in 1814; the reputed founder of Nihilism. Exiled to Siberia, 1851, he escaped to Japan and thence to England, where he founded the Alliance of the Social Democracy, 1869, immediately absorbed by the International Workmen's Association. Died in 1876.

Bal'ance Wheel. (*Horol.*) The wheel which controls the movement of a watch. Connected with it is an escapement and a balance spring, whose action is to convert its rotary into a vibratory motion. The balance spring consists of a coil of very fine steel wire, so delicate that 4,000 of these springs weigh little more than an ounce. One end of this spring is attached to the *B. W.* near its axis, the other to an independent point. When an impulse is given the *B. W.* by the escapement apparatus, it swings round just so far as the elastic resistance of the spring will permit, and is then brought back to receive another impulse. The result is a very delicate and exact controlling influence over the rate of movement of the watch. The existing danger of magnetization from electric dynamos and motors has made it necessary to construct the *B. W.* and springs of watches out of non-magnetic metal. Alloys of palladium have recently been used for this purpose, which it is claimed also overcomes the disturbing effects of change of temperature.

Balch, GEORGE B., an American naval officer, born in 1821, whose exploits in the Mexican War and throughout the Civil War fill a brilliant page in the annals of our navy. A midshipman, 1837; lieutenant, 1850; commander, 1862; captain, 1866; commodore, 1872; admiral, 1872; rear-admiral, 1878; superintendent of Naval Academy, 1879–81; commanding Pacific Station until retirement, 1881.

Bal'four, RT. HON. ARTHUR J., born in 1848, a prominent leader of the British Conservative party, nephew of the Marquis of Salisbury. Secretary for Scotland, 1886–87; Chief Secretary for Ireland, 1887–91, during which session he carried the Crimes Act through Parliament; First Lord of the Treasury, 1891, &c. Wrote *A Defence of Philosophic Doubt*, 1879; *Essays and Addresses*, 1893; *The Foundations of Belief*, 1895, &c.

Ball, SIR ROBT. STAWELL, an Irish astronomer, born in 1840, formerly Royal Astronomer of Ireland; appointed Lowndean Prof. of Astronomy at Cambridge, Eng., 1892. Wrote *Starland; The Story of the Sun; In the High Heavens*, 1893; *Great Astronomers*, 1895.

Ball, THOS., born at Charlestown, Mass., in 1819, the noted sculptor of the group *Emancipation* (Washington, D. C.), and of the statues of Webster (Central Park, N. Y.), Washington, Sumner, Forrest, and almost all the public men of this country.

Ball Bear'ing. An axle-bearing in which the shaft rests at its point of support, not on a cylindrical surface, but on a number of small balls which turn freely

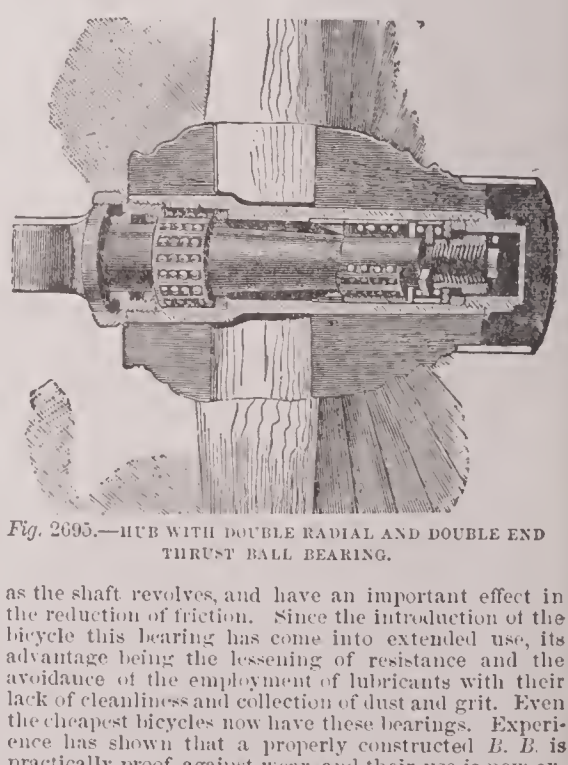


Fig. 2695.—HUB WITH DOUBLE RADIAL AND DOUBLE END THRUST BALL BEARING.

as the shaft revolves, and have an important effect in the reduction of friction. Since the introduction of the bicycle this bearing has come into extended use, its advantage being the lessening of resistance and the avoidance of the employment of lubricants with their lack of cleanliness and collection of dust and grit. Even the cheapest bicycles now have these bearings. Experience has shown that a properly constructed *B. B.* is practically proof against wear, and their use is now extending to wagon wheels and machinery shafts, various

methods for their application having been devised. Figure 2695 represents one of the new bearings for a carriage hub, which may be thus described:—A hardened steel sleeve is thrust upon and tightly fits the shaft. Over this goes a cage—shown in the figure on the left hand side of the axle. This cage—made of brass—contains the balls, the brass not touching the sleeve outside the cage. Resting upon the exterior surface of the balls is a second sleeve termed the "facing." The cage, with its balls and facing, is fastened in the hub of the wheel by washers. When it is thus constructed, the cage touches nothing but the balls, simply holding them in place, while the outer and inner sleeves rest upon the outside and inside of the balls respectively. A wheel thus mounted turns almost without friction and with no evident wear of the balls. These have some lateral play in the cage, so that they can move backward and forward, and thus avoid the wearing of grooves in the shaft.

Ball Noz'zle. (*Hydraulics.*) The name of a newly-invented nozzle for fire hose, sprinkling hose, &c., which first attracted general attention in 1895, from the remarkable physical principle it displays and from its useful properties. The hose ends in a cup-shaped nozzle, within which is placed a ball in size to nearly fill the cavity. This ball rests free in the cup, its only support being a guard to prevent its falling out by the effect of gravity when not in use, but which does not touch

Fig. 2696.—BALL NOZZLE FOR FIRE HOSE.

the ball when in action. The result, when water is driven through the hose, is extraordinary. Instead of the loose ball being driven out against the ring by the pressure of the water, it settles back into the cavity as if attracted, the effect being to break up the single stream of water into a circular sheet of spray, which spreads completely over the area described by the circle. The hose is thus converted into a sprinkling machine of very efficient action. The *B. N.* has been applied to various purposes, in which a wide distribution of water is of advantage, and seems likely to prove of great value as applied to fire hose, for which it has been adopted by the fire departments of various cities. Its particular advantage in this direction is the broad spread of the sheet of water which, instead of rushing out in a single cylindrical mass, is made to spread over an area of many square feet and thus to attack a large space of conflagration at once. Further, the broad, circular sheet of water acts as a screen to protect the firemen from the heat. In addition to its utility in a burning building, it promises to be very useful in the protection of adjoining structures, since, at a proper distance, the whole wall of a building may be kept wet by a single stream of water. The principle involved in this discovery has excited much attention, and various theories have been offered in explanation. No amount

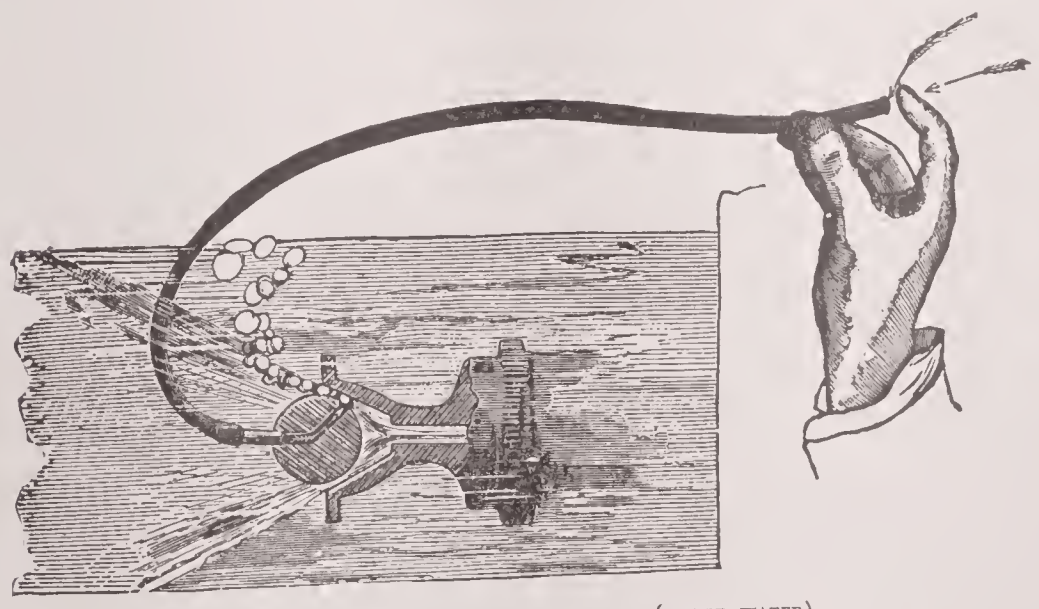


Fig. 2697.—EXPERIMENT WITH BALL NOZZLE (UNDER WATER)

of force applied to the ball has succeeded in driving it from the cavity of the nozzle, though as much as 100 lbs. pressure to the square inch has been employed. On the contrary, the heavier the water pressure, the more firmly the ball settles back into the socket, the sheet of water being more forcibly ejected and more widely spread. It is generally held that atmospheric pressure on the outer surface of the ball, together with an air vacuum produced behind the ball by the outpouring stream of water, is the agent at work. Experiments have been made to test this theory, the ball being bored and a stream of air driven into the stream of water, the effect being simply an outgushing stream of bubbles and the retention of the ball in its cup. (See Fig. 2697.) It is interesting also to find that by blowing through a small tube equipped with a ball nozzle, the ball is retained in the cavity, although in this instance it is surrounded by air only. Yet it is possible that this stream blown from the lungs may not exert atmospheric pressure, and there is no known physical force other than the pressure of the atmosphere to which we can as yet ascribe the observed effects.

Ballis'tic Pen'dulum, an instrument employed for the purpose of estimating the velocity of projectiles. As most simply constructed, a large block of wood is suspended as the bob of a pendulum at that point in the path of the projectile at which it is desired to measure its speed. The shot lodges in the wood and sets it swinging, and the velocity is calculated from the width of swing in connection with its centres of suspension and oscillation. In some cases the gun is made to act as a *B. P.*, it being suspended like a pendulum, and its degree of recoil measured. Electrical devices have now superseded this method of estimation.

Bal'lot Reform'. Among the various measures of reform of recent years, that in methods of voting has not been overlooked, and various changes have been adopted with the purpose of securing the secrecy of the ballot and for the prevention of fraud at the polls or in the count. Under the old system of voting in the U. S., the voter found it very difficult to keep his vote secret, while the opportunities for the purchase of votes, "stuffing the ballot box," or depositing illegal votes, and other fraudulent operations were so easy that it was almost impossible to prevent dishonesty at the polls. To guard against "repeating," or voting by parties without legal right to the ballot cast, the system of a previous registration has been adopted in many States, no person being permitted to vote whose name does not appear on the registration list and who cannot prove his claim to the name if challenged.—*Australian ballot.* As regards secrecy at the polls, an efficient system has been adopted in Australia, and within recent years introduced into Great Britain and nearly all the States of this country, which goes far to do away with the imperfections of the old system. By no means all of our States, however, have adopted the system it its original form, many of them making some modification in it, and in every such case detracting from its degree of security. In the original Australian system the names of the candidates for each office are printed in alphabetical order on the ballot, with some mark or word to distinguish their party or to give some necessary information concerning them. The voter, being given a blank ballot, enters a screened-off booth in the voting room, so that he may prepare his ballot unobserved. He does this by making a mark beside the names of the persons he desires to vote for, after which he folds the ballot, and, leaving the booth, places it in the hands of the officer whose duty it is to deposit it in the box. This is the method in use in Massachusetts, and perhaps in a majority of the States, a small blank space being left opposite each name in which the voter may make or stamp a cross. All the names for all the offices are grouped together upon one large "blanket ballot." In a number of other States each party is given its separate column on the blanket ballot, with the party title at the head and the names of all the candidates of that party given below. For those who wish to vote the whole party ticket a space is reserved at the top, in which a single cross serves to vote for all the candidates, or they can be indicated separately if desired. Where there are many parties such a ballot often becomes of unwieldy size. In still other States other methods are in use. One of the chief difficulties yet met with in this system of voting is in regard to the illiterate voter, or one who from physical disability cannot prepare his ballot. Provision is made that some official may accompany him into the booth to aid him in preparing his ballot, and this has been in many cases used to avoid the injunction to secrecy, voters falsely claiming that they need aid in preparing their ballots.—*Ballot machines.* As a still further assurance of security against fraud a number of voting machines have been invented, and such machines have been adopted in some States. In voting with these machines the voter, alone in the booth, has simply to touch a knob for each candidate for whom he desires to vote, the particular knob connected with each candidate's name being in some plain manner indicated. The machine is so constructed and arranged that it will not record two votes for any one candidate or votes for two candidates for the same office, the pressing of the knob locking those of all competing candidates. The voter may vote a straight or a split ticket as he wishes, but in no way can he duplicate his vote; and when he has voted for the full number of candidates the machine is completely locked. As he leaves the booth, the closing of the door unlocks the machine in readiness for the next voter. One special advantage of these machines is that they count the votes. When the election officials eventually unlock the machine they find the vote for each candidate recorded upon the dial opposite his name, so that within a few minutes after the polls close the result is known. As for ballot-box stuffing and false counting, these evils are quite done away with, the machine telling the unquestionable truth as to the vote given. Machines of this character were used in New York in the 1896 election, and proved highly satisfactory. It is likely that before many years they will be widely adopted. Other measures to prevent corruption or fraud in connection with elections have been devised, and the time seems near at hand when ballot reform will be a thing accomplished, and the given results of an election will truthfully represent the preferences of the voters concerned.

Ballou, MATURIN MURRAY, born at Boston, Mass., in 1820; a great-grandnephew of Hosea *B.* A journalist, in turns proprietor of *Ballou's Monthly,* editor of the *Boston Daily Globe* and other journals. Wrote *Due West, Due South, The New Eldorado,* and *Due North: or Glimpses of Scandinavia and Russia,* 1887.

Balmace'da, JOSÉ MANUEL, born in 1840; a Chilean statesman, and President 1886–91. After instituting numerous reforms, he shot himself, in a fit of desperation over his ill-success in a war brought about between himself and Congress through dissensions in his own party, in 1891.

Balmes (*bahl'mez*), JAMEL LUCIO, an eminent Spanish theologian and publicist, b. in Catalonia, 1810. He early evinced an extraordinary scholastic aptitude, and after graduating at the University of Cervera, and being ordained as priest, entered upon professional duties at Cervera, and, in 1840, became known as a writer of mark by the publication of his *Political Considerations on the Situation of Spain.* Eight years later, he attracted a European fame by his masterly reply to M. Guizot, entitled *Protestantism Compared with Catholicism in its Relations to European Civilization,* in which he asserted that the chief hope and guarantee for the future of the world lay in the unity between Catholicity and the great principle of political liberty and modern civilization. His later work, *Fundamental Philosophy,* was translated into English, and published in New York, in 1857, in 2 vols. Died in 1848.

Balu'chi, (also BELOO'CHEE, BILU'CHI), the language spoken in Baluchistan. It is a branch of the Iranian division of Aryan speech, and bears a close resemblance to modern Persian. There are two, strongly separated, dialects. Baluchi has very little written literature, but there is a rich store of popular songs and stories, collections of which have been recently made.

Bancroft, HUBERT HOWE, born at Granville, O., in 1832. Author of a *History of the Pacific States of North America,* compiled from some 60,000 cognate works which he began to gather as early as 1852; this 34th volume appeared in 1890.

Banjoemas (*bān-jo-mahs'*), a flourishing commercial town of the island of Java, *cap.* of a prov. of same name, in S. Lat. 7° 33′, E. Lon. 109° 20′. It is occupied by a garrison, and is the residence of a Dutch governor.

Banks, National. The National Bank system of the United States was largely an outgrowth of the Civil War, and had its origin in February, 1863, during the incumbency of Hon. Salmon P. Chase, Secretary of the Treasury under President Lincoln. The National Bank act, as finally perfected, was passed and became a law on June 3, 1864, and, with various amendments and modifications, still remains in force. This act provided for the establishment in the Treasury Department of a separate bureau, which shall be charged with the execution of all laws which may be passed by Congress respecting the issue and regulation of a national currency; the chief officer of said bureau to be denominated the Comptroller of the Currency, who is to act under the general direction of the Secretary of the Treasury, on whose recommendation he is to be appointed by the President and Senate. It further enacts that associations for carrying on the business of banking may be formed in any part of the country, and by any number of persons not less than five; and that each association, under their hands, shall make an Organization Certificate which shall specify the name assumed by the association, the place where the banking business is to be transacted, the amount of capital stock, the number of shares into which it is divided, the names and places of residence of the stockholders, and the number of shares held by each of them, said certificate to be acknowleged and transmitted to the Comptroller; that no association shall be organized with a less capital than $100,000, nor in a city whose population exceeds 50,000 with a less capital than $200,000, except that banks with a capital of not less than $50,000 may, with the approval of the Secretary of the Treasury, be organized in any place the population of which does not exceed 6,000; that the capital stock shall be divided

into shares of $100 each; that the shareholders are held individually responsible, equally and ratably, and with one another, for all contracts, debts, and engagements of such association to the extent of the amount of their stock in addition to the amount invested in such shares; that every association, preliminary to the commencement of banking business, shall deposit in the Treasury Department United States bonds to an amount not less than $30,000, and not less than one third of the capital stock paid in, whereupon, the proper examination being made into the affairs of the proposed institution, it shall be entitled to receive from the Comptroller of the Currency circulating notes equal in amount to 90 per cent. of the current market value of the bonds deposited, but not exceeding 90 per cent. of their par value. The act also required that the national banks in the city of New York should at all times hold a reserve fund in lawful money, for the redemption of national bank notes of not less than 25 per cent. of their deposits and circulation combined. The banks in other cities of redemption were required to hold the same amount of reserve, one-half of which, however, they were permitted to carry in New York as cash deposits. The banks in other places were required to maintain a reserve of 15 per cent., of which three-fifths was allowed to consist of cash deposits in, or balances due from, approved banks in the cities of redemption. The banks were required to pay a half-yearly tax (Jan. and July) of ½ of 1 per cent. on their average circulation during each period of six months, except when the amount of such circulation shall have fallen below 5 per cent. of their capital, or when a bank, having ceased to issue notes, shall have deposited in the Treasury an amount of lawful money equal to its notes yet outstanding. The payment on this tax on circulation exempts the banks from all other taxes, on capital, &c.—The act of March 3, 1865, placed a prohibitive tax of 10 per cent. on all notes issued by the State banks, private corporations, &c., which had the natural effect of driving all such notes out of circulation.—Notes of national banks are not legal tender, but are receivable at par in all government transactions, except duties on imports, interest on the public debt, and redemption of the national currency. Being practically issues of the government, they circulate quite as freely as any other form of paper money, without the slightest reference to the standing of the bank of issue.—By the original act, *N. B.* circulation to the amount of $300,000,000 was authorized, which figure was subsequently advanced to $354,000,000; and later the limit was entirely removed, subject to the restrictions of the statutes, with the proviso that U. S. legal tender notes should be retired to the amount of 80 per cent. of the new issues until the total sum of legal tender notes extant should be reduced to $300,000,000. The privilege thus given has not been largely exercised. The aggregate circulation of the national banks reached its maximum on October 13, 1882,—$363,407,474; after which there was a gradual diminution until it reached a minimum of $167,927,574 on July 1, 1891. From that time there was a gradual increase until, by the end of 1896, the amount was nearly $235,000,000, with every prospect of going higher. The accompanying table is interesting as showing the variations in circulation, by half decades from 1875 to 1890, and by years since the latter date, the figures given being those for July 1 of each year, as reported by the Comptroller of the Currency:

Date.	*Authorized capital stock.*	*U. S. Bonds on deposit to secure circulation.*	*Circulation secured by U. S. Bonds.*	*Lawful money on deposit to secure circulation.*	*Total national bank notes outstanding.*
1875	$509,386,283	$376,314,500	$334,698,341	$19,709,667	$354,408,008
1880	465,205,185	361,652,050	324,242,730	20,262,697	344,505,427
1885	531,540,465	312,145,200	279,528,175	39,541,757	319,069,932
1890	646,937,865	145,228,300	129,767,150	56,203,625	185,970,775
1891	676,247,865	142,508,900	127,221,301	40,706,183	167,927,574
1892	692,123,665	163,190,050	145,683,023	27,000,827	172,683,850
1893	698,824,665	176,588,250	151,900,919	20,812,773	178,713,692
1894	678,023,165	201,691,750	180,662,521	26,690,723	207,353,244
1895	666,363,265	207,680,800	186,062,098	25,628,937	211,691,035
1896 (July 1)	659,106,915	228,915,950	205,538,929	20,461,618	226,000,547
1898 (Mar. 7)	670,304,915	213,414,650	191,056,818	33,690,214	224,747,032

Various reasons have been assigned for the decline in circulation which culminated in 1891, the most probable being the growing scarcity of U. S. bonds and their relatively high premium. It is also alleged that improved banking facilities, allowing a more extensive use of checks, reduced the demand for currency. Furthermore, the large increase in silver money, both coin and certificates, following the acts of 1878 and 1886, and of Treasury notes following the Sherman act of 1890, probably had the effect of reducing the demand for notes of the national banks, even in the face of a rapidly growing commerce. It will be noted that the suspension of silver purchases in 1893, and the ensuing bond issues, were immediately followed by an increase in the national bank note circulation, notwithstanding the unprecedented business depression then prevailing. —*Profits.* It has been generally supposed that the national banks are able to make large profits, especially on their circulation; and this belief is still quite generally held, although somewhat laborious efforts have been made to prove the contrary. It has been said that the high market price of the bonds makes it unprofitable to hypothecate them for bank notes at only 90 per cent. of their face. In this connection it should be remembered that the market price of U. S. bonds reflects their current value as estimated by intelligent investors who select securities with reference to the amount of interest returned thereon; and an investment which is regarded as profitable, *per se*, by the ordinary investor, ought to be considered equally profitable to a banking corporation, which loses no interest by reason of having its bonds deposited in the Treasury. True, the banks pay a tax on circulation amounting to one per cent. per annum, which payment exempts them from other taxes; but it is fair to assume that their revenues from the same notes are not less than six per cent. per annum, and in many cases even more. It is also claimed that the 15 to 25 per cent. obligatory reserve of lawful money ties up too much of the bank's funds, and thus reduces profits below a satisfactory figure; but no well-ordered bank would presume to do business on much less reserve, and besides, the national banks (as per table above) have used lawful money exteusively to secure circulation, in lieu of bonds. In regard to the argument that several important national banks have constantly abstained from issuing notes in considerable amounts, thus presumptively showing that circulation is unprofitable, it need only be said that this is probably in accordance with the true science of banking, which should aim to prevent a "redundancy" of currency, such as was so freely complained of during portions of 1893–96—meaning, of course, an unprofitable accumulation of currency in the bank vaults, and not an uncomfortable plethora in the channels of trade and industry. Scarce money means high interest rates.—In indulging our customary admiration for our national banking system, we should clearly understand that the uniformity and stability of our national currency—a welcome change from the old State bank notes—is due entirely to the fact that these issues are essentially those of the United States Government, the banks being, at best, mere jobbers of our national credit so far as their circulating notes are concerned.

Bank Shot, a term used in billiards to denote a shot in which the cue-ball strikes a cushion before hitting the object ball.

Bank Swallow, *n.* (*Ornith.*) A small bird of the northern hemisphere (*Cotyle riparia*), which builds its nests in the banks along the rivers. It is frequently termed, locally, the "mud swallow."

Banswarra (*bănz-wŏr'rah*), a state of Hindostan, in Rajpootana, between N. Lat. 23° 10′–23° 48′, E. Lon. 74° 2′–74° 41′, bounded E by Malwa and W. by Guzerat. *Area,* 1,440 sq. m. *Cap.* Banswarra. This state, formerly subject to the Mahrattas, has been under British protectorate since 1818. *Pop.* (1895) 104,000.

Banting, William, a London (Eng.) undertaker, born in 1797, who, in 1864, gave publicity to an anti-fat diet which had been recommended to him for his own use by William Harvey, the designer, and which shortly became known under his name. *B.* had previously acquired a certain notoriety as the builder of the Duke of Wellington's funeral car, in 1852. Died in 1878.

Bantu, an African family of mankind, including the tribes of Zulus, Kaffirs, Bechuanas, Basutos, and numerous others, whose range extends, on the west coast, as far north as the Camaroons. They are of dark skin, but not always black, in many of them, as the Kaffirs, the Negro characteristics being so modified that they are often called Negroid instead of Negro. They are joined into one family by the similarity of their languages. Their words are harmonious in sound, each syllable beginning with a consonant and ending with a vowel, while there is a great capacity for inflexion, both initial and final. In consequence, those languages are very euphonious and have wide capacity for expression.

Banville, Théodore Faullain de, a French poet, novelist and playwright, born in 1823. *Les Cariatides, Les Odelettes, Les Odes Funambulesques,* were the best of the best of his early productions; among the latest were *Mes Souvenirs,* 1882; *Socrate et sa femme,* 1885; a series of *Contes,* 1881–85; a series of *Scènes,* 1886–88. Died in 1891.

Baptista, Mariano, a South American statesman, who was President of the Republic of Bolivia, 1892–96.

Baptists.—*Continued from* Sec. I.

having become Unitarian. The *Scotch* Baptists are often regarded as a separate denomination, as they have certain peculiar practices—weekly celebration of the communion, the love-feasts, the kiss of charity, and abstaining from blood and things strangled. From the beginning of their history, many of the English Baptist churches, having been formed out of older Separatist churches, practised "open" communion. During the present century that practice has gained ground rapidly, and now perhaps the majority of the churches are "open." Some even tolerate mixed membership, *i.e.,* admit without baptism those sprinkled in infancy.

The statistics of the Baptists of Great Britain, given in the Baptist Handbook for 1896, are:

	Churches.	*Members.*
England	1,704	216,650
Wales and Monmouthshire	776	99,627
Scotland	105	14,907
Ireland	27	2,491
Channel Islands	4	292
Isle of Man	1	.....
Totals	2,617	333,967

Estimates of non-reporting churches raise the number of churches to 2,917 and of members to 353,967.—The first Baptist church in the U. S. was established in Providence, in 1639, when Roger Williams was baptized by Ezekiel Holliman, and then baptized Holliman and eleven others. Another church was established soon after at Newport. These had increased to ten churches by 1700. Baptists were severely persecuted in the New England colonies during this period, except in Rhode Island, where they were instrumental in procuring the adoption of the principle of religious liberty, whence it has spread to every State in the Union. Baptist churches were founded in New Jersey and near Philadelphia from 1688 onward, and began at once to hold "yearly meetings," which in 1707 were changed to an Association composed of delegates from the churches. This is now known as the Philadelphia Association—the oldest body of the kind in the U. S., and through all its history the most influential. Baptists soon spread to the other colonies, and in most of them were persecuted, especially in Virginia and Georgia, until the Revolution. They did not gain equal rights in New England until 1833, when Massachusetts adopted a constitutional amendment securing equal religious liberty to all her citizens. At the beginning of the present century the most careful estimates make the number of Baptist churches about 1,500 and the membership 100,000. The period of their most rapid increase was the years from 1820 to 1850. They were foremost among the religious bodies of the U. S. in mission work in the newly-settled West, in many cases their preachers being the first to enter a new State and establish a Christian church. The organization of the American Baptist Home Mission Society, in 1832, made this work systematic and insured its permanence. This society maintains missions in all the States and territories and in Mexico, who labor among seventeen different nationalities. In 1896 it supported, in whole or in part, 1,147 such workers. It assists churches in the West to build houses of worship; maintains schools among the negroes and Indians, with a total enrollment of 5,220 pupils; and expends about $500,000 annually. In 1812, Adoniram Judson and his wife and Luther Rice, missionaries sent out to India by the American Board of Commissioners for Foreign Missions, became Baptists through study of the Scriptures on shipboard. The result was the formation of the Baptist General Convention in 1814, and the vigorous prosecution of foreign missions by American Baptists. In 1844 differences on the question of slavery induced Southern Baptists to withdraw and organize a Southern Baptist Convention, which has since carried on both home and foreign missions in behalf of the Southern churches. It has missions in China, Japan, West Africa, Italy, Mexico, Cuba and Brazil. In its various operations it raises and expends about $400,000 annually. After the withdrawal of the Southern Baptists, the name of the Northern organization was changed to the American Baptist Missionary Union, which now maintains missions in Burmah, Assam, India, China, Japan, Africa and several countries of Europe. In 1896 it reported 2,208 missionary workers, 1,724 churches, 11,552 baptisms and 195,018 members. Its annual expenditure in this work is over $800,000. The American Baptist Publication Society is the third of the great organizations of the denomination. Established in 1824 as a tract society, it gradually expanded into a general publication house of religious literature. It has a capital of about a million dollars, a list of 374 books, and a large number of tracts and periodicals. Its manufacturing department and offices are in Philadelphia, but it has branches in six principal cities. It maintains a missionary department for Sunday-schools, colporteur and chapel-car work, at an annual cost of over $100,000. It is the denominational agency for Bible printing and distribution, and expends annually $10,000 or more in this work. —The Baptist women have two auxiliary organizations. The Home Mission Societies (East and West) have a training school at Chicago and raise $100,000 annually for missionary work. The Foreign Mission Societies (East and West) raise annually $150,000, and have a Candidates' Home for instruction of missionaries.—The Baptist Young People's Union of America, organized in 1891, represents the young *B.* of the U. S. and Canada. Its headquarters are in Chicago. Its work is largely educational.—American Baptists have been especially active in educational work. Their first institution (1794) was established through the efforts of the Philadelphia Association, in Rhode Island, the only colony that would give a liberal charter to Baptists, and was known as Rhode Island College, until 1804, when the name was changed to Brown University, in honor of a generous benefactor, Nicholas Brown. In 1820 an institution was opened at Hamilton, N. Y., for the education of ministers, that has developed into Colgate University. Columbian University, of Washington, D. C., was the child of the Baptist General Convention, and

was established in 1821. The denomination has now 7 theological seminaries, 35 institutions of collegiate rank, and 159 schools in all, in which nearly 5,000 men and women are receiving an education, with property and endowments aggregating not far from $40,000,000. Eleven distinct Baptist bodies (counting as one the Northern, Southern, and Colored organizations of "regular" Baptists), appear in the U. S. census, as appears in the table below, revised to 1897.—Only the following bodies demand additional description: *Freewill* or Freo Baptists are Arminian in theology and "open" communion in practice. Their history dates from the formation of their first church in New Hampshire, in 1780. The *Original Freewill* Baptists had their rise about 1729, in North Carolina; their practices of feet washing and anointing the sick with oil are about all that separate them from the Freewill body. *Separate* Baptists originated during the great Whitefield revival of the last century; the "Regular" Baptists of that day objected to the "new measures" and the new organization was the result. Most of the Separates long ago united with the "Regular" churches. A few who thus united retain the name of *United* Baptists and a separate organization. They should probably be counted with the "Regulars" now. The *Baptist Church of Christ* dates from 1825, in the State of Tennessee, where they claim to be the oldest Baptist body. Nothing but extreme conservatism keeps them a separate body. The *Primitive* (or Old School or Anti-Mission, sometimes derisively called Hard-Shell) Baptists separated from the "regular" Baptists from 1835–40 because they opposed missionary societies, Sunday-schools and other modern organizations as unauthorized by the New Testament. They are strong in Georgia and other Southern States, but nearly extinct in the North. *Two-seed-in-the-spirit* Baptists hold a peculiar doctrine of predestination, viz.: Among the offspring of Adam and Eve were two classes: the seed of God and the seed of Satan. The former are the elect, chosen to salvation; the latter are predestined to the eternal kingdom of darkness.—Following are the latest statistics (to Jan. 1, 1897) as to the *B.* of the U. S., to which is added the latest available figures for other countries:

Bodies.	*Ministers.*	*Churches.*	*Members.*
Regular	29,493	41,190	3,860.666
Six Principle	14	18	937
Seventh Day	117	105	9.173
Freewill	1,335	1.514	86.668
Origiual Freewill	120	167	12.000
General	360	430	22.500
Separate	19	24	1,599
United	25	204	13.209
Baptist Church of Christ	80	152	8.254
Primitive	2,130	3,530	126,000
Old Two-Seed-in-the-Spirit Predestinarian	300	473	12,851
Total Baptists in the U. S.	33,993	47,807	4,153,857
Baptists in Canada, &c.		829	85,111
" " South America		16	648
" " Europe		3,855	445.020
" " Asia		895	111.010
" " Africa		65	5.511
" " Australasia		209	17,928
Grand Totals of Baptists in the world		53,676	4,819,085

—*Literature:* Armitage, *History of the Baptists* (New York, 1887); Vedder, *Short History of the Baptists* (Philadelphia, 1891); Cathcart, *Baptist Encyclopedia* (Philadelphia, 1891); Newman, *History of the Baptists in the United States* (Vol. II in "American Church History" Series, New York, 1894); Hiscox, *New Directory for Baptist Churches* (Philadelphia, 1894); Burrage, *History of the Baptists of New England* (Philadelphia, 1894); Goadby, *Bye Paths in Baptist History* (London, 1871); Hervey, *Story of Baptist Missions* (St. Louis, 1885); *Adoniram Judson*, by his son, Edward Judson (New York, 1883); Smith's *William Carey*, (London, 1887).

Barcel'lona, an Italian town in Sicily, Province of Messina, which, with the neighboring town of Pozzo di Goto, had a population of about 15,000 in 1895.

Bardoux (*bär-doo'*), AGÉNOR, a French politician, born in 1829; minister under President McMahon; life senator (1882); wrote *Les Légistes et leur Influence sur la Société Française*, 1878; *Dix Années de vie Politique*, 1882; *La Bourgeoisie Française*, 1886; *Etudes d'un Autre Temps*, 1889.

Barge. In addition to the definitions of this term, as given on page 257, there are two uses of the word peculiar to the U. S. It is commonly employed to designate a double deck passenger or freight boat, without motor power, but intended to be drawn by a tow boat. It is used to transport bulky produce, such as hay or straw, or to convey passengers for short distances in smooth water, on pleasure excursions. The word is also applied to a lapstreak boat, resembling a shell, but better adapted to rough water, and used by racing crews when training.

Bar Harbor, a noted summer resort on Mt. Desert Island, coast of Maine. It is situated on Frenchman's Bay on the east side of the island, where the coolness of the summer temperature, and the combined beauties of sea and mountain scenery, attract large numbers of visitors annually. Population of the town of Mt. Desert, in 1890, 1,355.

Baring-Gould, SABINE, born at Exeter, Eng., in 1834. An English clergyman and author, rector of Lew-Trenchard, Devonshire. His earlier productions comprise *Paths of the Just*, 1854; *Iceland, its Scenes and Sagas*, 1861; *Post-mediæval Preachers*, 1861; *Curious Myths of the Middle Ages*, 1866; *The Origin and Development of Religious Belief*, 1869; and among his latest may be mentioned *A Book of Fairy Tales*, 1894; *Cheap Jack Zita*, 1894; *A Book of Nursery Songs and Rhymes*, 1895; *Curiosities of Olden Times*, 1895; *English Minstrelsy*, 1895; *The Broom Squire*, 1896; *Dartmoor Idylls*, 1896; *The Golden Gate*, 1896; *The Life of Napoleon Bonaparte*, 1897.

Bark. (*Med.* and *Com.*) The official name given to the cortical layers of various plants, used chiefly for medicinal or tanning purposes. The name is, *par excellence*, applied to the several varieties of Peruvian or Cinchona barks, the source of quinine. The following barks, however, are also employed officinally and economically:—*B.*, ALCORNOCO or ALCORNOQUE. The astringent bark of several species of *Byrsonima*; or, according to some authorities, of *Bowdichia virgilioides*.—*B.*, ANGOSTURA. The febrifugal bark of *Galipea Cusparia* or *G. officinalis*.—*B.*, BABUL. The astringent bark of *Acacia arabica*.—*B.*, BASTARD CABBAGE. The bark of *Andira inermis*: same as Worm Bark.—*B.*, BASTARD JESUIT'S. The bark of *Ica frutescens*.—*B.*, BONACE. The bark of *Daphne tinifolia*.—*B.*, CANELLA. The stimulant aromatic bark of *Canella alba*.—*B.*, CARIBÆAN. The astringent bark of *Exostemma caribæum*.—*B.*, CASCARILLA or SWEET WOOD. The aromatic bark of *Croton Cascarilla* and *C. pseudochina*.—*B.*, CHINA. The febrifugal bark of *Buena hexandra*.—*B.*, CONESSI. The astringent bark of *Wrightia antidysenterica*.—*B.*, CULI LAWAN. The aromatic stimulant bark of *Cinnamomum Culilawan*.—*B.*, ELEUTHERA. The aromatic bark of *Croton Cascarilla*.—*B.*, FALSE ANGOSTURA. The bark of *Strychnos nux-vomica*.—*B.*, FRENCH GUIANA. The febrifugal bark of *Portlandia hexandra*.—*B.*, JESUIT'S. The same as Peruvian Bark.—*B.*, JURIBALI. An astringent bark of Demerara, supposed to be the produce of some cedrelaceous plant.—*B.*, MELAMBO. The aromatic febrifugal bark of some species of *Galipea*, or one of its allies.—*B.*, MEZEREUM. The acrid irritant bark of *Daphne Mezereon*.—*B.*, MONESIA. The bark of some S. American *Sapotaceæ*.—*B.*, MURUXI. The astringent bark of *Byrsonima spicata*, used by the Brazilian tanners.—*B.*, NIEPA. The febrifugal bark of *Samadera indica*.—*B.*, PANOCOCCO. The sudorific bark of *Swartzia tomentosa*.—*B.* QUERCITRON. The yellow-dye bark of *Quercus tinctoria*.—*B.*, QUILLAI. The bark of *Quillaia saponaria*, used as a substitute for soap.—*B.*, STRINGY, of Tasmania. *Eucalyptus robusta*.—*B.*, SWEET WOOD. The same as Cascarilla Bark.—*B.*, NINE. An American name for *Spiræa opulifolia*.—*B.*, WHITE WOOD. The same as Canella Bark.—*B.*, WINTER'S. The tonic aromatic bark of *Drymis Winteri*.—*B.*, WORM. The bark of *Andira inermis*, formerly used as an anthelmintic.

Barker, GEO. F., an American scientist, b. in Mass., 1835. He received his early education in the public schools of his native State, and was apprenticed to a maker of philosophical instruments, where he remained until he obtained his majority, in 1856. He then entered the Yale scientific school and graduated from there in 1858. He became connected successively with several colleges as lecturer and professor, and entered the army as asst. surg. of vols. In 1866 he edited a new edition of Silliman's Chemistry, in which the new nomenclature and notation first appeared in a text-book in this country. In 1867 he was appointed Prof. of Physiological Chemistry and Toxicology in the Medical Institution of Yale College. In 1870 he published *A Text-Book of Elementary Chemistry*. This achieved an immediate success. In 1873 he accepted the chair of Physics in the University of Pennsylvania. He left immediately for Europe upon his third trip, this time to select suitable apparatus for proper illustrations of his lectures. The result is that this University has a collection of physical apparatus unsurpassed in this country. In 1876 he was elected a member of the National Acad. of Sciences, and in 1879 president of the American Asso. for the Advancement of Science. A copious contributor to the *American Journal of Science and Arts*, the *Proceedings* of the American Philosophical Society, &c. Wrote *Physics: an Advanced Course*, 1892.

Barley. (*Agric.*) See CEREALS.

Barlow, FRANCIS CHANNING, born at Brooklyn, N. Y., in 1834. A lawyer and soldier; brigadier-general, 1862; major-general, 1865; distinguished himself at Fair Oaks, Antietam, Chancellorsville, Gettysburg, Spottsylvania Court-House, &c.; Secretary (1865) and Attorney-General (1872–73) of New York, &c. Died Feb. 11, 1896.

Barnard, EDWARD EMERSON, born in 1857 at Nashville, Tenn. An eminent astronomer, graduated from Vanderbilt University; made a number of discoveries, among others that of the fifth satellite of Jupiter (Sept. 9, 1892).

Barnard (*bär'nurd*), FREDERICK AUGUSTUS PORTER, a distinguished American divine and educationalist, b. at Sheffield, Mass., 1809, graduated at Yale Coll. in 1828, and after some time passed in school tuition, became, in 1831, chief instructor in the New York Institution for the Deaf and Dumb, and author of some excellent text-books for the instruction of deaf-mutes. In 1838 he was appointed Professor of Mathematics and Natural Philosophy in the University of Alabama, and, ten years later, Professor of Chemistry also. In 1854 he became Professor of Mathematics and Astronomy, and in 1856, president and chancellor of the University of the State of Mississippi. During the whole of this period his labors had been unceasingly directed towards the diffusion of popular education, both in its primary and higher departments, through the southern section of the Union, contributing to that end not only by oral instruction, but also by means of various periodicals placed under his editorial charge. In his *Letter on College Government* in particular, he produced the ablest treatise on higher education that had till then appeared in the U. S. In 1861, Dr. *B.* repaired to New York City, and there was elected to the presidency of Columbia College. He was for some time president of the National Academy of Science, and of the American Association for the Advancement of Science. Besides his works on educational matters, he wrote some admirable essays on scientific topics. D. April 27, 1889.

Barnard, JOHN CROSS, born at Sheffield, Mass., in 1815. Military engineer and writer; served in the Mexican War; brevetted major, 1848, and major-general at the close of the Civil War; chief engineer of the Army of the Potomac, 1862–63; superintendent U. S. Military Academy, 1855–65, &c. Wrote *Survey of the Isthmus of Tehuantepec; Dangers and Defences of New York*, &c. Died in 1882.

Barnburners. (*Am. Polit.*) A New York section of the Democratic party who supported Van Buren against Cass for President in 1848. They opposed further work on the State canals, and the extension of public debts and corporate privileges. They received their name from the application to them of the story of a farmer, who was so annoyed by rats devouring his grain that he burned his barn to get rid of them.

Barn'by, JOSEPH, an English composer and organist, born at York, in 1838; was organist at St. Andrews, London, 1863–71; choirmaster at St. Ann's, Soho, 1871; musical instructor in Eton College, 1875. Was knighted in 1892. His compositions embrace many excellent and popular church services, anthems and hymn tunes, besides several short cantatas. Died Jan. 28, 1896.

Barnes, JAMES, born at Springfield, Mass., in 1809. A major-general of volunteers (1865); fought at Fredericksburg, Chancellorsville and Gettysburg, at which latter he commanded a division. Mustered out, 1866, disabled by his wounds and impaired health from engaging in any regular business. Died in 1869.

Barnes, JOSEPH K, b. at Philadelphia in 1817; Surgeon-general U. S. Army, 1863–82; brigadier-general, 1865; founder of the Army Medical Museum, and of the library of the Surgeon-general's office. Had the painful honor of attending on Lincoln, Seward, and Garfield in the calamities which befell them respectively. Died in 1883.

Barnesville, in *Minnesota*, a city of Clay Co. *Pop.* in 1897, about 1,600.

Barnett, JOHN, b. in 1802; was for fifty years a voice-trainer at Cheltenham, Eng. Composed operas (*The Mountain Sylph*, *Farinelli*, &c.), and a number of songs and operettas. His father was a Prussian (Bernhard Beer), and his mother a Hungarian. Died in 1890.

Barnett, JOHN FRANCIS, an English composer, b. in 1837, nephew of JOHN A. Author of cantatas and oratorios; *The Ancient Mariner*, *Paradise and the Peri*, *The Raising of Lazarus*, *The Good Shepherd*, *The Building of the Ship*, *The Harvest Festival*, and others.

Barnum, WILLIAM H., b. at Boston Corners, N. Y., in 1818. Member of Congress from Conn., 1867–76; U. S. Senator, 1876–79; Chairman Democratic National Committee, 1880 and 1884. Died in 1889.

Barr, MRS. AMELIA EDITH, *née* HUDDLESTON, born in 1831, at Ulverston, Lancashire, Eng. Came to the United States in 1854, and after losing her husband and three sons from yellow fever at Galveston, removed to New York and began, with *Romance and Reality*, 1872, the long list of novels that have made her name familiar. Among the latest are *Bernicia*, 1895; *The Flower of Gala Water*, 1895; *A Knight of the Nets*, 1896.

Barrett, LAWRENCE, born in 1838, at Paterson, N. J. An American actor of Irish parentage, closely associated with Edwin Booth, whose life he published. His long career, interrupted only by his service during the Civil War, extended from 1853 to the time of his death, in 1891.

Barrie, JAMES M., born in 1860, at Kirriemuir, Forfarshire, Scotland. Journalist, novelist and playwright. Wrote *Better Dead*, 1887; *When a Man's Single*, 1888; *A Window in Thrums*, 1889; *My Lady Nicotine*, 1890; *The Little Minister*, 1891; *Sentimental Tommy*, 1896. His *Professor's Love Story* was first played on the American stage; his *Walker, London* and also *Jane Annie* (written in conjunction with Conan Doyle) are among the best known of his other plays.

Barrios, JOSÉ MARIA REINA, a South American statesman, born in 1853; was elected president of Guatemala for six years in 1892. Assassinated Feb. 8, 1898.

Barrios, JUSTO RUFINO, a Guatemalan statesman, born in 1834, president of the Republic 1873–86; invaded Salvador to compel it to join a confederation of the Central American States, and was killed in an assault on Chalchuapa in 1886.

Barron, JAMES, born in Virginia in 1769; was commodore U. S. N.; in command of the *Chesapeake* when she was unexpectedly attached (in time of peace 1807) and captured by Captain Humphreys of the British ship *Leopard*. Was court-martialed, found guilty of negligence in preparation and suspended for five years. Killed, in a duel, Commodore Stephen Decatur, whom he blamed for his being refused an active command at the expiration of his suspension. Died in 1851.

Barrow, MRS. (FRANCIS ELIZABETH MEASE), born in 1822 at Charleston, S. C.; pen name AUNT FANNY. Wrote numerous juvenile books—*Little Pet Books*; *Good Little Hearts*; *Nightcap Series*; *Popgun Stories*; *Six Written Books*, &c.

Barrow-in-Furness, a seaport and manufacturing town of Lancashire, England, noted for its large iron and steel, jute and flax works, extensive docks and immense iron and ship-building yards; ten mammoth ocean steamers can be laid down here at one time. The

population has riseu from 18,000 in 1871 to about 55,000 in 1897.

Barruu'dia, José M., a Guatemalan revolutionist, killed in 1890 by the Gnatemalan authorities in an attempt to arrest him on board an American merchant vessel at San José, Gnatem. For non-interference on *B.*'s behalf, Commander Reiter, U. S. N., was censured by the Navy Department.

Bar'ry, John Wolfe, born in 1836, son of Sir Chas. *B.* [1795–1860] who designed the Houses of Parliament, London, Eng. A civil engineer; member of the Royal Commissions on Irish Public Works, 1886, and on Western Highlands and Islands, 1889. Wrote *Railway Appliances; Details of Railway Construction; Railways and Locomotives*, &c.

Barry, William Farquhar, born in New York city in 1818. Graduated at West Point, 1838; chief of artillery in the army of the Potomac, 1861–62; fought at Yorktown, Gaines's Mill, Mechanicsville, Malvern Hill, Harrison's Landing, at Atlanta, and in the northern Georgia, Alabama and Carolina campaigns; brevetted major-general, 1865; commander of Fort McHenry, 1877. Died in 1879.

Barry, William Taylor, born at Lunenburg, Va., in 1785. A politician and jurist. Served in the war of 1812; U. S. Senator 1815–16; judge of the Kentucky Supreme Court, 1816; postmaster-general under Jackson, 1829–35 (first postmaster-general to have a seat in the Cabinet); U. S. Minister Plenipotentiary to Spain at the time of his death in Liverpool, Eng., in 1835.

Barthol'di, Frédéric Auguste, a French artist, especially distinguished for his colossal statues, notably, *le Lion de Belfort*, and *la Liberté eclairant le Monde*—Liberty Enlightening the World—the latter erected in New York harbor, and unveiled October 28, 1886. *B.* was born 1834, at Colmar, Alsace; entered the studio of Ary Scheffer (*q. v.*). He soon abandoned the life of a painter for that of a sculptor. At the breaking out of the war with Prussia, he entered the army, and served upon the staff of Garibaldi in the Vosges. His busts of Erckmann-Chatrian, the statue of Vauban and the group of *la Malédiction d' Alsace*, are among his best productions; but he has immortalized himself by the colossal figure of Liberty, the largest statue ever made, exceeding the Colossus of Rhodes (*q. v.*) by some 16 ft. This immense statue was a voluntary gift of the French people to this country, and was entirely the conception of this eminent artist. The dimensions are: statue proper, base to top of torch, 151 ft.; pedestal, 150 ft.; total height, 301 ft.; length of hand, 16 ft.; index finger, 8 ft.; total weight, 225 tons; total cost of statue, $250,000; pedestal and erection, $350,000; total, $600,000. It is made of copper, moulded by blows from mallets upon wooden models. This lofty production is lighted at night by electricity, and serves the purpose of a lighthouse for the harbor of New York. *B.* was present at its unveiling, and has since been promoted to the rank of commander in the Legion of Honor.

Bart'lett, William Francis, born in 1840 at Haverhill, Mass. Left Harvard to enlist in the Massachusetts volunteers, 1861; was wounded at Yorktown, 1862, and suffered amputation of one of his legs. Made colonel in spite of his physical disability, he went to Louisiana with Gen. Banks; wounded again at Port Hudson; promoted brigadier-general; joined the field again as soon as he could sit on his horse; captured at Petersburg, 1864; breveted major-general, 1865. One of the most brilliant careers on record. Died in 1876.

Bar'ton, Clara, born in 1830 at Oxford, Mass. A world-known philanthropist. Bore an important part in the caring for the wounded on the battlefields of the Civil War and on those of the Franco-German War, as well as in the relief of the destitute both in France and Germany in 1871–72. Organizer and president of the American Red Cross Society, 1881; represented the U. S. government at the Geneva Red Cross conference, 1884; superintended the expedition of relief to the sufferers from the Ohio and Mississippi disasters, 1884, to the scene of the South Atlantic coast cyclone of 1893, and to Armenia, 1895–96.

Barton, William Paul Crillon, b. in 1786, at Philadelphia, Pa., a nephew of the physician and ethnologist Benjamin Smith *B.* [1766–1815]. A botanist. Author of *Flora of North America; Lectures on Materia Medica and Botany; Medical Botany; Hints to Naval Officers Cruising in the West Indies*, &c. Died in 1856.

Bartow, in *Florida*, a town, capital of Polk Co. *Pop.*, 1890, 1,386.

Bartsh, Karl, a distinguished German philologist, b. in 1832. Professor of German and romance philology at Rostock, 1858, and at Heidelberg, 1871. Wrote *Chrestomathie de L'ancien Francaise, Altfranzösische Romanzen und Pastourellen*, and a number of others. Died in 1888.

Base-Level. The lowest level to which a stream is capable of eroding the land, the height of its point of discharge preventing any deeper erosion. A region is said to be reduced to a base-level, or to have become a base-level plain, when it has been so worn down by the erosive power of flowing water that its slopes are very gentle and the erosive power upon it of rains and streams has practically ceased.

Basket ball. (*Games.*) An indoor game, in many respects resembling foot ball, in which it doubtless had its origin. The game is played upon a circumscribed space on the floor of a hall or gymnasium, usually by 5 or 7 players on each side. At either end of this playing space a basket is suspended at a height of about ten feet, corresponding to the goal in foot ball. The ball is round, somewhat lighter in construction than an ordinary foot ball, and is passed from one player to another by throwing, or striking with the hands only: the ultimate object being to lodge it in the opponent's basket, which action counts one point. The rules as to interference, playing out of bounds, &c., are adapted from those of foot ball. This game has rapidly grown in popularity since 1896, especially in the East, where it is now extensively employed as an indoor winter amusement.

Bas'tian, Adolph, born in 1826, at Bremen, Prussia; an eminent ethnologist. After extensive travels in both hemispheres, 1851–66, was appointed professor of Ethnology, and administrator of the Ethnological Museum, at Berlin; president of the Berlin Anthropological Society, &c. Wrote *Der Mensch in der Geschichte, Sprachvergleichende Studien, Die Culturländer des Alten Amerika zur Kentniss Hawaïs*, 1883; *Der Fetisch an der Küste Guineas*, 1885, &c. Founded, with Hartmann, *Die Zeitschrift für Ethnologie.*

Bastian, Henry Charlton, born in 1837 at Truro, Cornwall, Eng. A biologist and neuropathologist, noted as a defender of the doctrine of spontaneous generation. Wrote *Origin of Lowest Organisms, Beginnings of Life, Evolution and the Origin of Life, The Brain as an Organ of Mind.*

Bastien-Lepage, Jules, born in 1848 at Damvillers, Mense, France. A noted painter; pupil of Alexander Cabanel. Best known works, *La Première Communion, Jeanne d' Arc* (now in the Metropolitan Museum of Art, New York City), portraits of Sarah Bernhardt, André Theuriet, &c. Died in 1884.

Basu'toland. (*Geog.*) A crown colony of Great Britain, N. E. of Cape Colony, and near the E. Coast of South Africa. It is bounded on the N. by the Orange Free State and Natal, on the E. by Kaffraria. *Area*, 10,293 sq. m., its size being nearly equal to that of Belgium. In shape it is an irregular oval, about 160 miles long by 100 broad. Its surface is a continuous rugged plateau, has admirable pasture and the best grain land in South Africa. The climate is considered delightful. The productions are wool, wheat, mealies and Kaffir corn, while cattle are kept in immense herds. *B.* was annexed to Cape Colony in 1868, but separated from it and made a crown colony in 1884. The population in 1891 comprised 218,324 and 578 Europeans. European settlement is now prohibited.—*Basutos.* The Basutos are a division of the Bantu family (*q. v.*), and closely allied to the Bechuanas. They are superior to the Kaffirs in industry and intelligence, but have less warlike energy. For many years they resisted the aggressions of the English and Boers, and were not subdued until 1868, after 40 years of war. A rebellion in 1878 led to the placing them under the direct authority of the British crown.

Bat.—*Continued from* Sec. I.

rigid thorax. In a few genera the thorax is almost entirely fixed by bony union. The thoracic vertebræ are apt to anchylose. The neck vertebræ and those of the loin, on the other hand, are mobile, and in the last named region enable the animal to flex this part of the body. The clavicles are powerful. The enormous development of the front legs is offset by small hind legs; yet the feet, relatively to the size of the body, are large, and are often as long as the distance from the ankle to the knee. The innominate bones are, as a rule, not joined in the female.—*Teeth.* The teeth of bats are adapted to animal and to fruit diet. The first adaptation is ancestral, and is found in the great majority of the order. The second is confined to the genera of fox bats, of the tropical parts of the Old World; and the *Stenodermina* of sub-tropical and tropical parts of the New World. The fruit-eating bats, though widely separated geographically and historically, often closely resemble one another in the details of the teeth. These, in the main, are negative, and are doubtless the results of

Fig. 2698.—HEAD OF PTEROPUS PERSONATUS.

transitions from a carnivorous to a carpophagus diet. The number of teeth in the bat never exceeds thirty-eight (*Vespertilio*) or falls below twenty (*Desmodus* and *Diphylla*). The two genera last named do not use their lancet-like teeth for mastication, but for puncturing the skin of their victims. The blood flowing from the wound is probably lapped up by the tongue.—*Mammæ.* Bats have two pectoral mammary glands. These are placed well off toward the arm pit, a position in which the young would receive the greatest amount of warmth and protection. The mammæ are reduced greatly in size when the female is not lactating. The young are carried about on the front of the trunk of the mother. The claws are early developed, and these, together with the sharp, curved milk teeth, enable them to secure firm hold of the hairs of the breast. In the horse-shoe bats a pair of teat-like processes are found just above the pubes. They are of unknown use.—*Hair.* In common with all mammals, bats are more or less provided with hair. As a rule, this richly covers the body, and is velvety, or long and silky. The colors tend to sombre shades—black, brown, and grey predominating. It is uniform—that is to say, without intermingling with coarser growths, as so often is the case in other groups—and might be compared, in a general way, to that of moles, shrews, or mice. The German name for bats—*Fledermäuser* (flying mice)—gives a general impression of the appearance of the fur of the more common species. But many bats are quite differently colored from the above. In the African and Asian *megadermids* the long silky fur is slate-colored, indicating a distinct shade of blue; some *vespertilionine* bats in Africa are greenish. One of the most brilliantly hued species is the common red bat of America. Pale tints are found on the under surface of numerous species, and occasionally a form is found which, as in *Diclidurus albus* and *Ectophylla alba*, is almost entirely white. The head and neck is, as a rule, differently colored from the rest of the body. This is seen, on close inspection, to be evident in forms which at first glance appear to be unicolored. In the Old World fox bats, the head and neck may be buff or red while the body is black. Shoulder tufts of pure white are common; and, in South American forms, the head and back may be streaked with bold lines of white on a dark ash or chestnut-colored ground. Under the microscope the hair of bats is seen to possess whorl-like spicules at regular intervals, and many details by which the various groups can be distinguished. Abundant growth of hair on the under surface would interfere with locomotion when the wings are folded and the body prone. It is found, therefore, that the group *Molossi*—in which these traits are conspicuous—possess short, scant fur; and in one remarkable form (*Cheiromeles*) from Borneo, the hair is almost entirely absent. As in other nearly naked animals, fat is abundantly deposited under the skin. This sustains the impression,

Fig. 2699.—MEGADERMA GIGAS.

already received, that the use of both hair and fat is to retain and economize the animal heat.—*Special Outgrowths.* Bats possess tactile sensibility in a remarkable degree. The skin elsewhere than on the body is provided with nerves and great numbers of specially developed touch-corpuscles. Not only is this the case, but the skin is disposed on the wings, between the legs, and in many other locations, to form processes, flanges, and membranes, which doubtless tend to increase the surface on which special growths of hair, already alluded to, can be distributed. The ears, for the same reason, are well developed. The tendency for skin outgrowths is always well marked about the head, and the nose-leaves, as they are called, form offshoots from the muzzle; chin plate and warts aggregate about the lower lips; while lappets of skin in varying degrees extend across the head, uniting the ears, or reach downward to those about the chin. The eyes are small in the forms in which the outgrowths are the most numerous; and it is probably true that they are not much needed, in the presence of an extensive armament designed to awaken consciousness by the sense of touch. On the contrary, when the structures named are rudimental or absent, as in the fox bats, the eyes are large and resemble those found in noctural animals generally.—*Size.* Bats are comparatively small animals; the largest (*Pteropus edulis*), a fox bat from southeastern Asia, has a body a foot long, a forearm eight inches long, and a wing-expanse of five feet. Among the smallest is an African bat (*Vesperugo nanus*) resembling our common brown bat, which has a length of body of an inch, a forearm the same, and a wing-expanse of but six inches.—*Food.* The majority of bats are insect feeders, though in many so classified the food is really mixed. In temperate countries it may be said that bats are insectivorous. The character of the insects which constitute the food is not known to be especially distinguishable, though *neuropterus* and *dipterous* varieties largely prevail. Beetles and grasshoppers enter into the diet of some of the heavy, tree-haunting species. Many bats are fond of skimming

over the water, feeding upon the abundant insect life found there, and occasionally even dipping the surface as swallows do. It is not surprising, therefore, to learn that *Noctilio*, a genus of tropical America, consumes shrimps and small fish. In the stomach of *Megaderma*, remains of frogs have been found. Some of the bats devour small mammals, and even others of their own kind. Two South American forms, *Desmodus* and *Diphylla*, live entirely upon blood. The damage done to herds and horses from these animals is so great in some portions of Central and South America as to interfere seriously with raising of stock. The fruit-eating bats live on palm-cabbage, figs, and, indeed, any sweet, succulent fruit. The species of India inflict great damage upon gardens, and the trees have to be protected by netting to save the crops. In America the fruit-eating bats devour a great variety of fruits.—*Habits.* With the exception of a few African species, bats fly about in search of food in the twilight or early hours of the evening, and spend the days in retirement. As a rule solitary in their wanderings, they may, as in the fox bats, form flocks and fly in regular order to and from

Fig. 2700.—HEAD OF CHŒRONYCTERIS MEXICANA, SHOWING FIBRILLATED TONGUE.

their feeding grounds. Bats rest in almost any place which can protect them. Some varieties are particularly adapted to tree-life, though those whose habitat is natural in caves can, of course, as readily live in hollow trees, belfries, house attics, &c. In the tropics they often infest dwellings, and by the unpleasant odors they emit, and the scratching and squeaking they indulge in, become great nuisances. They are uniformly gregarious while at rest, though it is known that in some species the sexes are at certain seasons separated. As already noted, they are specially fond of water-courses, and drink with eagerness, even in captivity. The breeding season is early spring, when one to two young are brought forth. Bats hibernate in cold and temperate countries. The lethargy is light and can be disturbed by artificial warmth. Those living in the attics of large buildings which are heated in winter, are known to remain quite active, showing that hibernation is enforced by the reduction of temperature and is not a necessity of organization. In mild days, in midwinter, bats have been seen flying about and even entering our houses. The horse-shoe bats, however, are much more sensitive to cold than would appear from the above statement, and do not come out from their haunts until spring is well advanced. Bats are animals of low intelligence. The common brown bat, however, has been tamed and been known to take food from the hand of its master, and even permit itself to be carried about in the pocket without attempting to escape. Instances have been recorded to show

Fig. 2701.—HEAD OF HARPYIA MAJOR.

that the maternal instinct is well developed; the mother fluttering about the cage containing the captured young, and attempting to get access to it. Among themselves, they appear to be quarrelsome. In cold retreats they keep close together, more for retention of heat than for any purpose of support or defense. Bats have but a slight place in the regard of man. Africans and East Indians eat bats—the large fox bats being held by them to be excellent food. The droppings of bats in caves often form large masses, known as bat guano. This substance is rich in nitrogenous elements, and has been used as a fertilizer.—*Folk-lore.* Associated with images of night, bats have been accepted as symbols of mystery and of evil. The construction of tombs in eastern countries enables bats to secure easy access, and they aid the imagination in connecting their dusky forms with the abodes of death. The spirits to whom there is no joy in the hope of resurrection are represented with bat-wings. The vampire is a mediæval conception of a bat-like monster having human attributes. Oddly enough, among the zoölogical discoveries in the New World are two bats already named which devour human blood, though the species called vampire by Linnæus is to be acquitted of living up to its name.—*Distribution.* Bats are found in all countries, a few small islands excepted. They have been collected on the border of the Arctic circle, are abundant in the temperate zone, though most numerous both in individuals and species in the tropics. They are found at high altitudes as well as low. Islands are favorite places for them, though in some islands, as New Zealand and the Sandwich Islands, they are almost entirely absent, while they range freely over continents. Some of the genera are cosmopolitan, and the species may differ but slightly over extensive regions; others are strictly limited to small localities. There are forms peculiar to certain of the Antilles and islands in the South Seas, thus showing that the facilities of flight do not necessarily imply wide fields of distribution. Over four hundred species of bats are known to science.

Fig. 2702.—HEAD OF MOLOSSUS GLAUCINUS.

These are distributed among fifty genera.—*Classification.* The order yields seven great types arranged as follows:

The Fox Bats (*Pteropodidæ*).—They possess for the most part, elongated jaws, which give the group its common name, naked muzzles, large eyes, small ears without tragus, and ordinarily in addition to the claw on the thumb, a second on the index finger. They are strictly arboreal. They are fruit-eating and are peculiar to Africa, Southern Asia, Australia and the western groups of islands in the South Seas. Relatively, all the fox bats are of large size.

The Horse-shoe Bats (*Rhinolophidæ*).—They have short jaws and leaved muzzles, whose lower margins are rounded and give a fancied resemblance to horse-shoes. The eyes are small; the ears are without tragus. All the species are insectivorous and are generally distributed in the eastern hemisphere. They live in the main in caves, cavities in trunks, &c.

The *Nycteridæ*.—A small group of Old World, tropical, insectivorous bats, which resemble the horse-shoe forms in the foliated muzzle, but possesses a tragus. The eyes are medium in size. The *Nycteridæ* are arboreal, and in some examples diurnal.

The *Vespertilionidæ*.—This family includes all the more common bats in both hemispheres. They are without nose-leaves, and the ears possess a well defined tragus. The eyes are medium in size. All the forms are insectivorous; they are both arboreal and cave-dwelling.

The *Molossi*.—The bats here embraced are without nose leaves, possess a rudimental tragus, and are best adapted of any of the order for terrestrial progression. They are closely allied to the *Vespertilionidæ*, a fact of some significance, since few traces of relationship can be shown to exist between the other families above mentioned. They are found in both hemispheres, though some members of the family are restricted.

The *Emballonuridæ*.—The bats here included are naked-nosed and tragus-bearing. Unlike the preceding, with which most writers include them, the *Emballonuridæ* have large eyes. They are not adapted to terrestrial progression. Little is known of their habits.

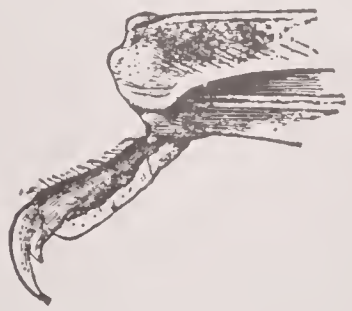


Fig. 2703.
THUMB OF MYSTACINA TUBERCULATA, ENLARGED.

Some are cave-dwellers; others are arboreal, and have short, feeble flight among shrubs and small trees. They are found in both hemispheres, but the several genera have restricted distributions.

The *Phyllostomidæ*.—The nose leaf with five exceptions (*Natalus*, *Thyroptera*, *Noctilio*, *Chilonycteris* and *Mormops*) is present. The eyes are ordinarily large and the ears possess a tragus. The group is the most plastic of any in the order, and remarkable contrasts are met with in form and function of the superficial characters. They are in the main carnivorous, though all the forms except two (*Desmodus* and *Diphylla*—the true vampires) can partake of fruit, while a large group of the genera—the *Stenodermina*—are specially adapted for fruit diet.

Thirty species of bats are found in the U. S., representing fourteen genera and three families. The best known species in both East and West are the common brown bat, the little brown bat, and the red bat, all members of the *Vespertilionidæ*. The common brown bat (*Adelonycteris fusca*) is the largest of this series. It is of a dark brown above and gray beneath. The muzzle is short, wide and naked. The tragus does not come to a sharp point. It has two pairs of front teeth; there are four teeth in the upper jaw back of the canine or eye tooth, and five in the lower jaw back of the canine or stomach tooth. This bat lives in caves, attics, &c., and often enters our dwellings. The little brown bat (*Vespertilio gryphus*) is smaller than the two preceding, and much more variable. It constitutes, indeed, with its nine related species, one of the most difficult studies in zoölogy. It has hair on the upper part of the muzzle and long bristles on the sides. The tragus is tapering, often markedly so. The colors are much the same as in *A. fusca*. It lives in forests and caves, rarely if ever entering dwellings. It has, like the preceding species, two pairs of front teeth, and six back of the canines above and below. The red bat (*Atalapha noveboracensis*) is common in country districts. It is of a bright red, or chocolate red, and is remarkable for the back surface of the interfemoral membrane being covered with hair. The front teeth are confined to a single pair, and there are five teeth back of the canines above and below. The red bat is arboreal, and

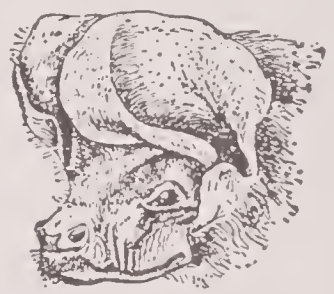


Fig. 2704.—HEAD OF NYCTINOMUS MACROTIS.

is sometimes captured asleep, hanging by its legs on a shrub. The other bats in this country, named in the order of their frequency, are the following: *Nyctinomus brasiliensis*, common in Florida, Texas, southern part of California, and extending into Mexico; *Antrozous pallidus*, common in California and ranging thence into Mexico; *Macrotus californicus*, found in California and Mexico; *Vesperugo carolinensis*, of the Atlantic slope and Mississippi valley; *Vesperugo hesperus*, found in California and the Colorado valley; *Lasionycteris noctivagans*, or silvery bat, found on the Atlantic slope; *Atalapha cinera*, or hoary bat, found in the main in the eastern U. S. and Canada, though sparsely distributed as far west as the Red River country; *Atalpha teliotis*, *Euderma maculata*, *Nyctinomus nevadensis*, *Corynorhinus townsendi*, *Promops perotis*, are all western; *Dasypterus intermedius* and *Nycticejus humeralis* are found in the southern belt of the States in the Mississippi valley and ranging thence through Texas to Mexico; and *Artibeus perspicillatus* is wanderer from the Antilles into Florida.

Literature: The reader may consult, for additional information on the general subject, G. E. Dobson, *Catalogue of the Chiroptera*, in the collection of the British Museum, London, 1878; and for the North America fauna, Harrison Allen, *A Monograph of the Bats of North America*, Bulletin No. 43, U. S. National Museum, 1893.

Bateman, Kate Josephine, an actress, b. in Baltimore, 1842, early exhibited dramatic ability; at the age of nine made her debut in London in conjunction with her sister. *B.* appeared in 1859 in the U. S. In 1863 she revisited London, and in the *role* of "Leah," an impersonation adapted from the German play of "Deborah," achieved a striking success.

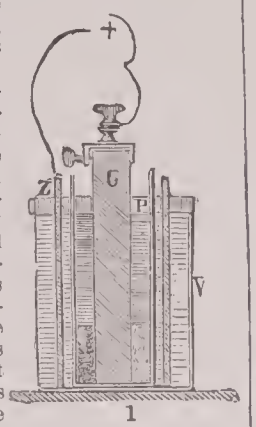
Baths of Lucca (*look'kah*) **The.** [It. *Bagni di Lucca.*] A town and fashionable watering-place of N. Italy, 13 m. N. of the city of Lucca. It is a favorite spa, having hot springs containing sulphate of lime, sulphate of magnesia, muriate of magnesia, and other salts, and at various temperatures from 96° to 136°. *Pop.* in 1897 about 10,000.

Bathyb'ius. (*Biol.*) A name given by Huxley to a supposed form of life found at the bottom of some parts of the deep sea. It consisted of formless masses of albuminous slime, containing curious living concretions. Its existence is now generally doubted, some scientists regarding it as the protoplasmic debris of the protozoa which sink to the bottom as they die, and deposit this slimy material.

Bathym'eter, *n.* An instrument used for taking soundings in the deep sea; especially applied to an apparatus by which depth is inferred from force of gravity.

Bat'tery, Galvan'ic. (*Phys.*) Besides the batteries described in the body of this work (see Galvanic Battery), there are many others of recent invention, among which the most generally adopted are perhaps the three forms figured in the accompanying diagrams. 1. The *Sulphate of Mercury Battery*, devised by M. Marié Davy. It is essentially a zinc-carbon element, but of smaller dimensions than those elements usually are. In the outer vessel ordinary water or brine is placed, and in the porous vessel sulphate of mercury. This salt is agitated with about three times its volume of water, in which it is not easily soluble, and the liquid poured off from the pasty mass. The carbon being placed in the porous vessel, the spaces are filled with the

residue and then the decanted liquid poured into it. Chemical action takes place only when the pile is closed. The zinc then decomposes the water, liberating hydrogen, which traversing the porous vessel reduces the sulphate of mercury, forming metallic mercury, which collects at the bottom of the vessel, while the sulphuric acid formed at the same time traverses the diaphragm to act on the zinc and thus increase the action. The mercury which is deposited may be used to prepare a quantity of sulphate equal to that which has been consumed. A small quantity of the solution of sulphate of mercury may also pass through the diaphragm; but this is rather advantageous, as its effect is to amalgamate the



1

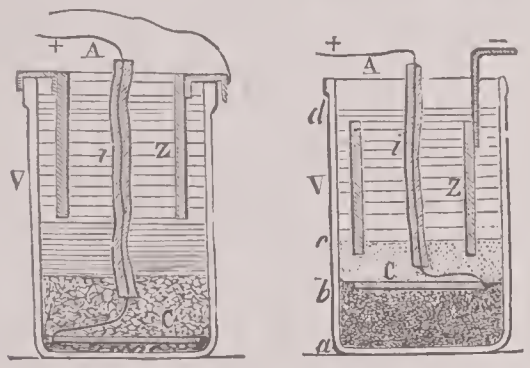


Fig. 2705.

zinc. The electro-motive force of this element is about a quarter greater than that of Daniell's element, but it has greater resistance; it is rapidly exhausted when continuously worked, though it appears well suited for discontinuous work, as with the telegraph, and with alarums.—2. *Gravity Batteries.* The use of porous vessels is liable to many objections, more especially in the case of Daniell's battery, in which they gradually become encrusted with copper, which destroys them. A kind of battery has been devised in which the porous vessel is entirely dispensed with, and the separation of the liquids is effected by their difference of density. Such batteries are called *gravity batteries.* The form represented has been devised by M. Calland of Nantes. V is a glass or earthenware vessel in which is a copper plate soldered to a wire insulated by gutta-percha. On the plate is a layer of crystals of sulphate of copper C; the whole is then filled with water, and the zinc cylinder Z is immersed in it. The lower part of the liquid becomes saturated with sulphate of copper; the action of the battery is that of a Daniell, and the sulphate of zinc which gradually forms floats on the solution of sulphate of copper owing to its lower density. This battery is easily manipulated, the consumption of sulphate of copper is economical, and when not agitated it works constantly for some months, provided care be taken to replace the water lost by evaporation.—3. *Menotti's Battery.* This may be described as a Daniell's element, in which the porous vessel is replaced by a layer of sawdust or of sand. At the bottom of an earthenware vessel is placed a layer of coarsely-powdered sulphate of copper *a*, and on this a copper plate provided with an insulated copper wire *i*. On this there is a layer of saud or of sawdust *bc*, and then the whole is filled with water in which rests a zinc cylinder *Z*. The action is just that of a Daniell; the sand prevents the mixture of the liquids, but it also offers great resistance, which increases with its thickness.

Bat'tleship, *n.* (*Navy.*) This term, in modern usage, refers exclusively to a war-vessel that might be properly designated as a floating fortress. Its place was formerly held by the "line of battle" ship, a class of vessels carrying 60 guns or more, and next above the old-style frigate in the matter of size and armament. The *B.* of to-day is distinguished from the cruiser (*q. v.*) by its heavier plating, its more powerful batteries, and lesser speed. It differs from the monitor (*q. v.*) in having, as a rule, higher speed and better sea-going qualities, and in carrying a larger number of guns, especially in the secondary battery.—The smallest of our *B.* is the *Texas*, which was launched on June 28, 1892, at the Norfolk Navy Yard. The original plans for this vessel were made by English designers, but these were afterward considerably altered. The *Texas* is a twin screw, steel-armored vessel of 6,335 tons normal displacement. It is driven by two sets of triple expansion engines capable of developing 5,800 horse-power with natural draught, and 8,600 horse-power with forced draught. The vessel is 290 feet in length, and 64 feet 1 inch wide. It has a mean draught of 22 feet, 6 inches, and will carry about 950 tons of coal. The main armament consists of two 12-inch breech-loading guns, each weighing 46¼ tons, mounted in two turrets, one on either side of the forward deck. A secondary battery consists of four 6-pounder, and four 3-pounder rapid-firing guns, with four 47-mm. Hotchkiss guns. All of these are mounted on the gun deck, with a 1½-inch plating to protect them. There are besides two gatling guns, and two 37-mm. Hotchkiss guns mounted on the bridge. The military tops and the flying bridge are provided with similar equipments. The turrets are armored with 12 inches of steel, and their bases are inclosed by a diagonal redoubt armored with 12-inch steel plates, which will also serve to protect the hydraulic machinery used for operating the guns, and the smoke pipe casings. The boilers and engines are protected by a belt of armor 12 inches thick, extending 2 feet above the designed water line, and 4½ feet below it, having a length of 116 feet. There is a protective deck built of steel above the armor plate. The hull of the *Texas* is built on the cellular system, and is constructed throughout of steel. A double bottom extends under the engines, boilers, and magazines, and is divided into numerous water-tight compartments by longitudinal and transverse partitions. There are in all 129 of these compartments, and all are connected to steam- and hand-pumps by an extensive drainage system. The boilers and engines are in water-tight compartments, and the ship is lighted throughout with electricity.—Next in size was the *Maine*, launched at Brooklyn Navy Yard, Nov. 18, 1890, sunk in Havana Harbor on Feb. 15, 1898; a twin-screw steel vessel whose dimensions were: length on water line, 318 feet; breadth, 57 feet; mean draught, 21·6 feet; displacement, 6,648 tons. Her vertical, triple-expansion engines developed 9,293 horse-power, with a record of 17·4 knots per hour. In the main battery were four 10-inch rifles, two in each of the turrets, which were arranged diagonally amidships. These were plated with 8-inch steel, and revolved within barbettes covered with 12-inch steel armor; the plating extended downward to a level with the side armor of 12 inches, thus giving an unbroken wall of protection from the guns to the water-line. The turrets being arranged *en echelon*, all four of the big guns could be fired at once on either broadside, ahead, or astern. The secondary battery was made up of six 6-inch rapid-fire rifles in 2-inch shields. There were also eight 6-pounders, eight 1-pounders, four gatlings, and four torpedo tubes. The side armor of 12-inch steel extended 180 feet on the water-line. By some the *Maine* was considered the most effective warship in our navy, considering her high speed and ready handling in connection with a full complement of four guns of large caliber.—There are three *B.* in the class next above the *Texas*, viz: the *Indiana*, *Oregon*, and *Massachusetts*. These are sister ships, being practically identical in every essential detail; therefore a description of one will answer for all. The completion of these magnificent warships, known technically as *Coast-Defense B.*, gave the U. S. for the first time in recent years an equal footing with the leading foreign nations in the matter of naval construction, if, indeed, it did not place us far in the lead. It is true that the displacement of the *Indiana* (for example) is only 10,500 tons, while that of the great British *B.*, *Royal Sovereign*, is 14,150 tons, and of the *Prince George*, 14,900 tons; it may even be admitted that the records of the best English *B.* have shown a somewhat higher rate of speed on trial. But any superiority that may exist in this respect is fully offset by the greater weight and more effective disposition of the armament of our vessels of the *Indiana* type. The dimensions of these warships are as follows: length, 348 feet; breadth, 69.3 feet; mean draught, 24 feet (26 feet when fully loaded). The accompanying illustration (Fig. 2706) shows the arrangement of armor. A belt of 18-inch steel protects their sides amidships, extending 3.6 feet above, and four feet below, the water-line, this belt being worked inward to a point fore and aft, thus completely surrounding the engines, boilers, magazines, &c. A flat steel deck, 2¾ inches thick, forms the covering of this huge inverted box, which protects the "vitals" of the ship. At either end of this armored box, and resting upon the deck of

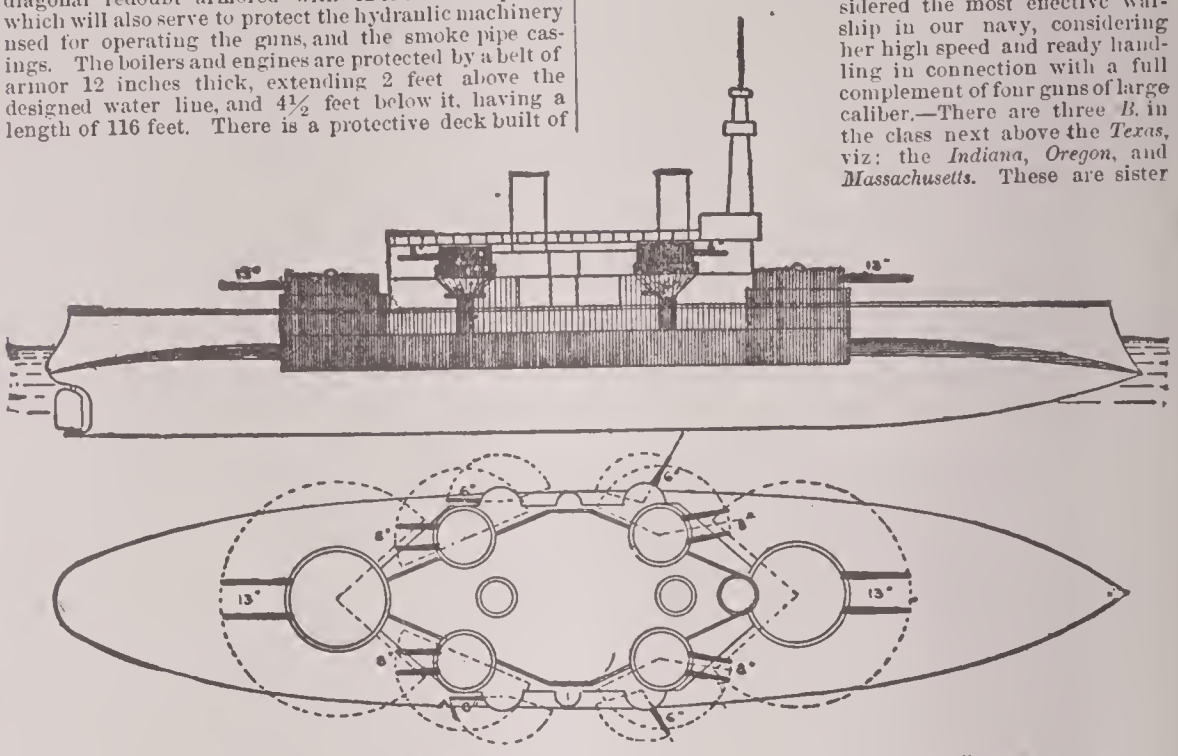


Fig. 2706.—SECTION (SHOWING ARMOR) AND DECK PLAN, BATTLESHIP OF "INDIANA" TYPE.

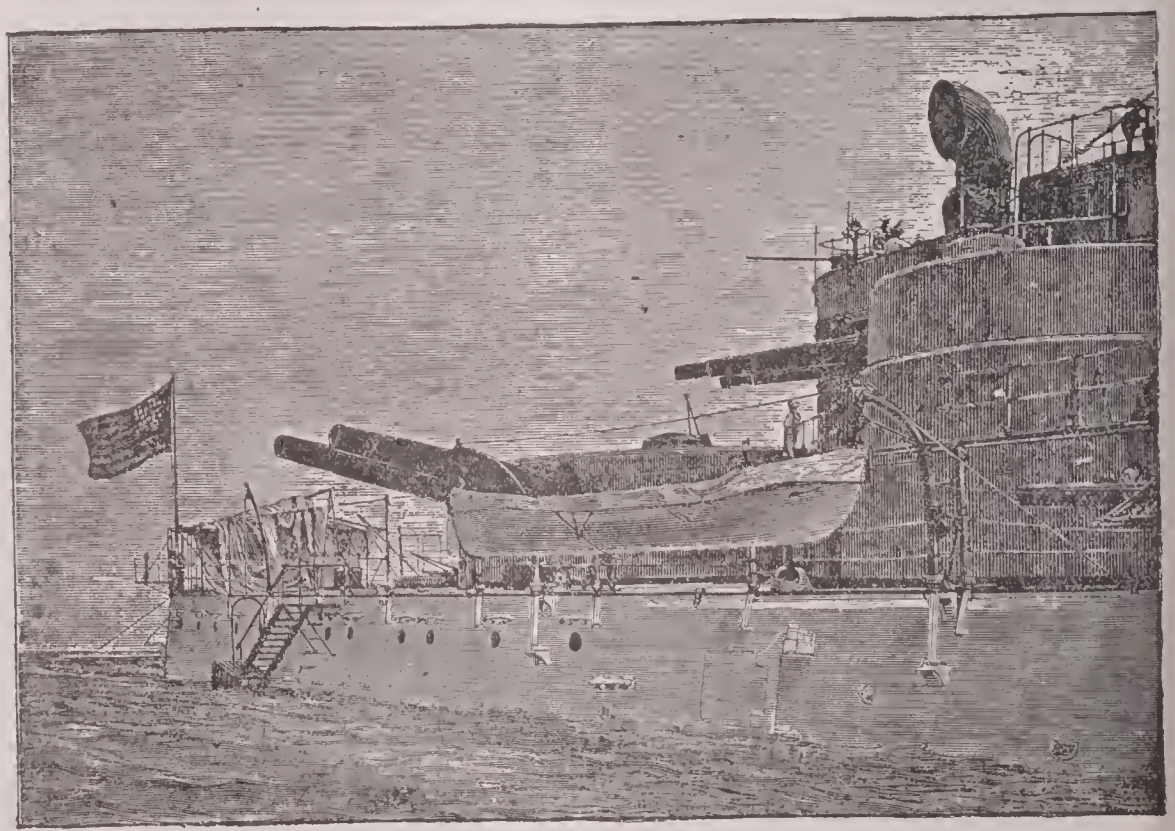
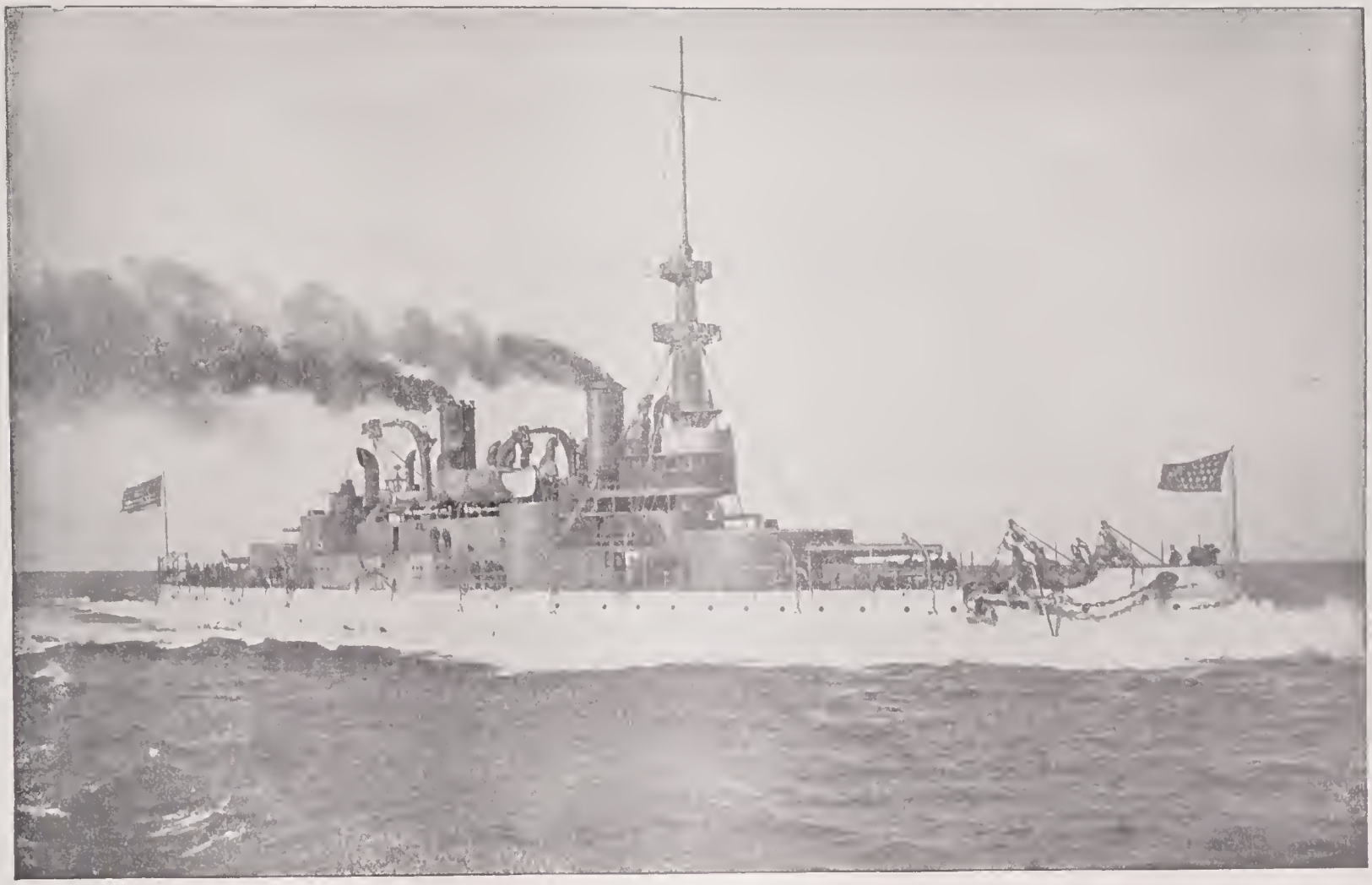


Fig. 2707.—BATTLESHIP "MASSACHUSETTS"—STARBOARD QUARTER, SHOWING TURRETS AND DISPOSITION OF THE 13-INCH AND 8-INCH GUNS.



Under full speed, on Government trial off Cape Porpoise, Me. (FROM OFFICIAL PHOTOGRAPH.)

Deck view, looking aft. In foreground, two 13-inch rifles; on the right, two 8-inch rifles; in centre, military-mast with military-top, etc

UNITED STATES BATTLESHIP INDIANA.

steel, rises a large round tower, or barbette, built of toughened steel 17 inches thick, in which revolve the great turrets, also made of 15-inch steel, and having an internal diameter of 20 feet. Each turret contains a pair of 13-inch rifles, 40 feet in length, and weighing 50 tons apiece. These mammoth instruments of war can throw a 1,100-pound shell with reasonable accuracy a distance of 12 miles, or pierce a 22-inch steel plate at a range of one mile. Behind, above, and to the side of the main turrets are 4 6-inch steel towers protected by steel barbettes 8 inches in thickness, one on each quarter of the "armored box." Each one contains 2 8-inch rifles of exceedingly high power, which throw armor-piercing shells that the best modern plate could not long resist at reasonably close quarters. These guns probably constitute the most effective part of the *Indiana's* armament, and give her great superiority over other *B.* of the first class, whose 6-inch rifles are not capable of piercing heavy armor even at close range. The eight 8-in. guns are carried some 26 feet above the water line, and may thus be worked with efficacy in any weather. Behind and adjoining each of these steel towers is placed, upon the steel deck, a 6-inch rifle, capable of doing fast and effective work. In addition to these heavy guns are no less than 20 6-pounder and 6 1-pounder rapid-firing guns, and 6 torpedo tubes. The following table shows the enormous offensive power of our coast-defense vessels of the *Indiana* type:

No. Guns.	*Caliber, Inches.*	*Weight of shot, Pounds.*	*Muzzle velocity, Feet.*	*Muzzle energy, Tons.*	*Muzzle penetration of iron, Inches.*
4	13	1,100	2,100	36,627	34.6
8	8	250	2,150	8,011	21.6
4	6	100	2,150	3,204	15.6

By reference to the deck-plan, showing the range of the larger guns, (Fig. 2706), it will be seen that the 4 13-inch, 4 of the 8-inch, and 2 of the 6-inch rifles may all be trained, as a broadside, upon a given point, the 10 projectiles having a total weight of 5,600 pounds and an aggregate muzzle energy of 184,690 tons. It is not at all likely that such a terrific broadside will ever be attempted, or that it could be delivered without great destruction from the recoil; but the figures give a vivid idea of the tremendous power of the battery.—Another type is the so-called *Sea-Going B.*, of which the *Iowa* is our only example afloat up to 1897. This vessel has the following dimensions: length, 360 feet; breadth, 72.2½ feet; mean draught, 24 feet; displacement, 11,296 tons; horse-power, 11,000; speed, 17·4 knots; coal capacity, about 2,000 tons. Her main battery comprises 4 12-inch, and 8 8-inch rifles, disposed very much as in the *Indiana* type. The secondary battery is made up of 6 4-inch rapid-fire rifles in sponsons, throwing a shell that weighs 36 pounds, and capable of being fired ten times a minute. Light armor protects these guns against machine-gun fire, and they have a very wide range. In the auxiliary battery there are 20 6-pounders and 9 1-pounders, with 6 torpedo tubes. The heavy side armor consists of a steel belt of 14 inches maximum thickness, covering 196 feet on each side and extending 4.6 feet above and 3 feet below the water line. This belt has a wood backing of 12 inches. Across the ship are 12-inch belts of steel, connecting the ends of the side armor, and the flat protective deck is 2¾ inches thick. Amidships, at either end of this armored structure, barbettes are established, with 16-inch armor, inside of which are the main turrets, with 14-inch armor, each carrying 2 12-inch guns. Above the heavy armor belt a second citadel is raised, having 4-inch steel walls, and extending 100 feet fore and aft, its diagonal segments connecting with the main barbettes. Each corner of this upper citadel presents an 8-inch steel barbette containing a revolving turret covered with steel plate 5½ inches thick. It is predicted that the 4-inch steel walls will cause projectiles charged with high explosives to be destroyed by their own impact before penetrating to the inside. A special feature in the construction is the use of belts of cellulose (*q. v.*) between the armor and the inside work, to prevent an inrush of water in case of injury. The hull is built on the cellular principle, with numerous water-tight compartments, each furnished with its own pumping and draining apparatus. The *Iowa* has twin screws, driven by engines of the direct-acting, triple expansion type. The smoke funnels tower 100 feet above the grate bars, thus ensuing good results from the boilers under natural draught. Stout torpedo nettings, reaching from water-line to keel, are a defensive feature of probable value. The conning tower is 8 feet in diameter, with 7.4 feet head room, and 7½-inch steel armor. The single mast has 3 military tops. Differing from the *Indiana* and her sister ships, the great 12-inch guns in the forward main turret and the 8-inch guns in the upper turrets are all upon the same level, viz: 25 feet above the water line; while the 12-inch guns in the after main turret are lower—only 18 feet above the water.—A later type of *B.* is represented by the *Kearsarge* and *Kentucky*, which were constructed during 1896-98, at Newport News, Va., and by the *Alabama*, *Illinois* and *Wisconsin*, for which the contracts were awarded in September, 1896. The general dimensions of the *Kearsarge* type are as follows: length, 368 feet; breadth, 72.2 feet; freeboard, (forward) 14.3 feet, (aft) 12.3 feet; displacement, 11,500 tons; mean draught, 23.6 feet; horse-power, (estimated) 10,000; speed, 16 knots. These vessels are extremely formidable, offensively and defensively, and are remarkable for the thickness and effective distribution of armor protection. The main armor belt, 4 feet below and 3.6 feet above the water line, extends from the after barbette forward to the stern. Between the barbettes the maximum thickness is 16½ inches, tapering to 9½ inches at the edge below the water; from the forward barbette to the stem the belt will gradually diminish to 4 inches in thickness. At either end of the thickest portion will be placed, athwart-ships, a steel bulkhead 10 inches thick forward and 12 inches thick aft—this as a protection against an enemy's raking fire. A flat steel protective deck, 2½ inches thick will rest upon the four walls thus formed, completely encompassing the engines, boilers, and magazines. Forward and aft the main barbettes, the protective deck will slope to below the water line at the ends, backing up the ram at the bow; this portion increased from a thickness of 2½ inches to from 3 to 5 inches. Upon either end of the main steel fortress will be placed a double-decked turret—a distinct novelty. Each of these turrets will be enclosed in a barbette of 15-inch steel, rising 3 feet above its base, 3.6 feet above the water line. Behind this mighty barrier will lie the mechanism by which the ponderous turret is to be operated. Fifteen inches of Harveyized steel will protect the guns of 13-inch calibre, while the upper turret, carrying the 8-inch guns, will be covered with 9 inches of the same tough metal. Around the ports from which the muzzles project will be an additional thickness of 2 inches in both turrets. The upper turret will be rigidly fixed to the one below, being therefore incapable of independent rotary motion. All the guns in these double turrets will have a sweep of 270°—three-quarters of the entire horizon. The special advantages of this form of turret are the concentration of motive mechanisms and the high degree of protection given the ammunition hoists for the 8-inch guns. The secondary battery will reflect the lessons of the Chino-Japanese war. It will consist of broadside batteries of 7 5-inch guns on each side, with 4 6-pounders surmounting each battery. All of these guns are to be of the rapid-fire pattern and capable of pouring out a perfect hail of shells charged with high explosives. It is doubtful whether there is a torpedo boat afloat that could live to come within effective range in the face of such a fusillade, especially as these rapid-fire guns have a train of 90° and are re-enforced by a dozen others in various parts of the ship, the gatlings on the military tops of the two masts, and the five torpedo tubes—all the latter being above the water line. A complete belt of cellulose will be worked from stem to stern, and further protection attained by the disposition of the coal bunkers along the sides of the vessel. The conning tower, covered with 10-inch steel plate, will contain a complex system of electrical bells and other signals, speaking-tubes, telephones, &c., which will place the commanding officer in instant touch with every nook and corner of the ship. A coal supply of 1,200 tons will carry the vessel 6,000 knots at a cruising speed of 16 knots an hour. The deck plan here given (Fig. 2708), shows the disposition and range of the principal guns, the armor, smokestacks, &c.—Of a still later model are the *Alabama*, the *Illinois*, and the *Wisconsin*. In these the 8-inch armor-piercing guns are wanting; but, as an offset to this, there will be a formidable battery of

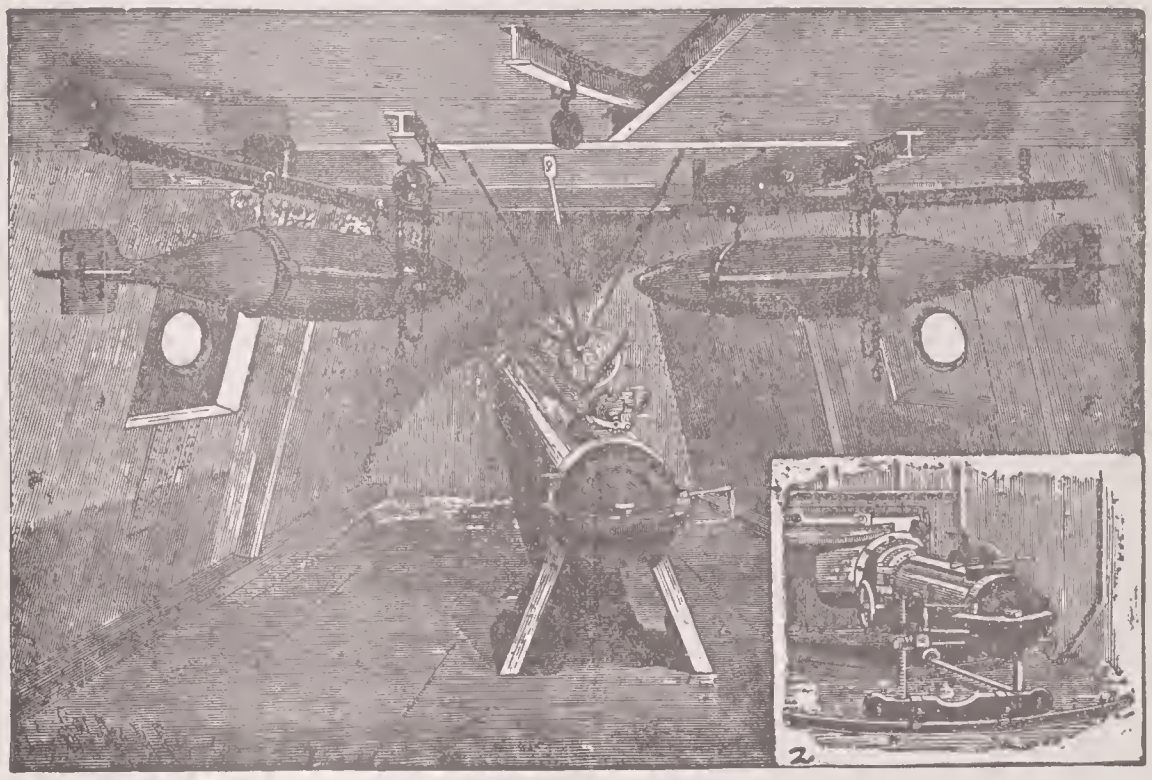


Fig. 2709.—BATTLESHIP "MASSACHUSETTS"—THE BOW TORPEDO ROOM; (2) A SIDE TORPEDO TUBE.

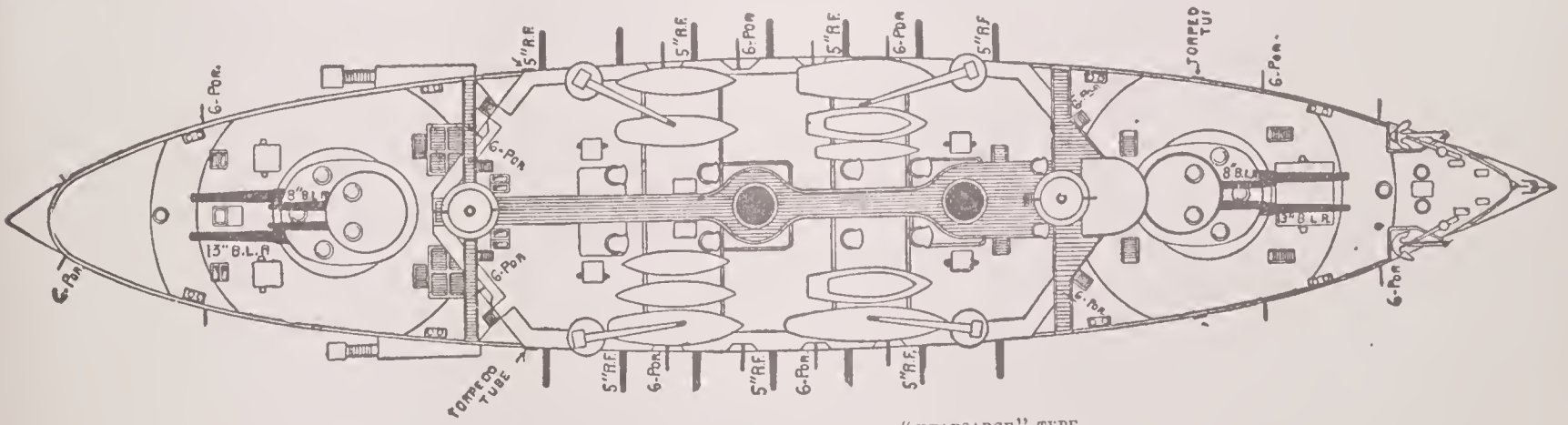


Fig. 2708.—DECK PLAN, BATTLESHIP OF THE "KEARSARGE" TYPE.

14 6-inch rapid-fire guns of the highest power. This change seems warranted by the several practical experiments to which the modern battleship has been subjected, *i.e.*, the battles of the Yalu, Manila, and Santiago, in which it was found that the best work was done by rapid-fire weapons of large calibre. In the new ships will be seen a combination of the heavy armor of the *Indiana*, the high freeboard and seagoing qualities of the *Iowa*, and the powerful rapid-fire battery of the *Kearsarge*. The general dimensions of the new boats are as follows: length, 368 feet; breadth, 72.2½ feet; freeboard, 19.7 forward and 13.6 feet aft; displacement, 11,325 tons; horse-power (estimated), 10,000; mean draught, 23.6 feet, speed, 16 knots; coal capacity, 1,200 tons.—*Foreign Battleships.* It is impossible, within the limits of this article, to refer in detail to the numerous forms of *B.* in foreign navies. The foregoing description of our own vessels reflects all that is new and progressive in the way of heavy naval architecture. Great Britain, Italy and France all possess *B.* of greater tonnage, the former possessing no less than 23 *B.* (including those of the *Prince George* type, 14,900 tons, now building) of more than 10,000 tons each, while Italy's navy boasts of 10, and that of France 16,

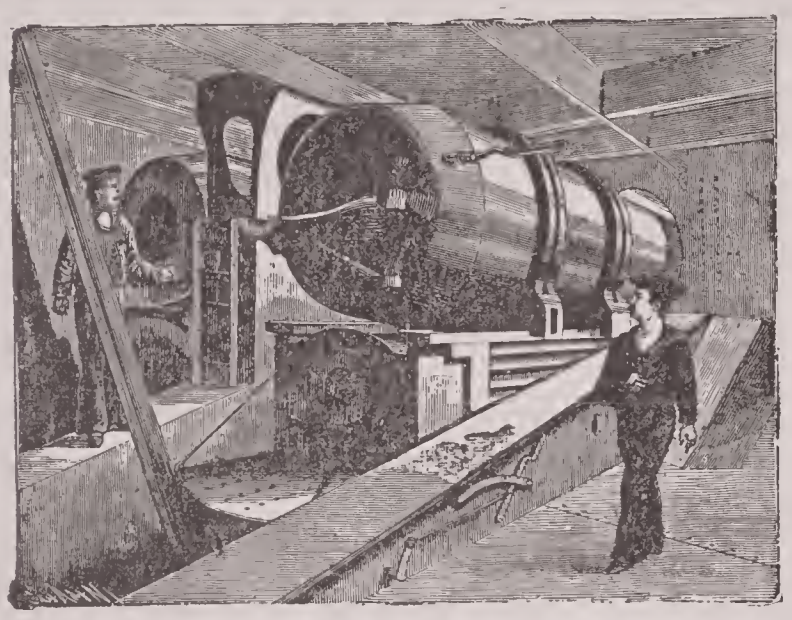


Fig. 2710.—BREECH OF THE 13-INCH GUNS.

vessels of corresponding size. The effectiveness of a *B.*, however, may not be judged alone by its displacement in tons, nor yet by the number of its heavy guns. Speed, facility for rapid and sure manœuvring, are quite as essential as large calibres. It may be confidently stated that the *B.* of the United States are at least equal to the very best afloat, and in some essential particulars may fairly claim superiority to those of any other nation.—*Cost.* The following figures show the cost of machinery and hull of our various *B.*, without regard to speed-premiums:

Name.	*Built at.*	*Keel laid.*	*Cost.*
ALABAMA	Philadelphia	1897	$2,650,000
ILLINOIS	Newport News	1897	2,595,000
INDIANA	Philadelphia	1891	3,020,000
IOWA	Philadelphia	1893	3,010,000
KEARSARGE	Newport News	1896	2,250,000
KENTUCKY	Newport News	1896	2,250,000
MAINE	Brooklyn	1888	2,500,000
MASSACHUSETTS	Philadelphia	1891	3,020,000
OREGON	San Francisco	1891	3,180,000
TEXAS	Norfolk	1889	2,500,000
WISCONSIN	San Francisco	1897	2,674,950

The armor, armament and other equipments amount to at least 60 per cent. more. Three additional *B.*, of greater weight and speed, were ordered in 1898, and others recommended, as a result of the war with Spain.

Bau'dry, PAUL JACQUES AIMÉE, b. in 1828 at Larochesur-Yon, France. A painter of historical subjects, portraits and decorative works, chief among them the foyer in the Grand Opera House at Paris. Died in 1886.

Baum'garten, HERMANN, a noted German historian, b. in 1825. Wrote *Geschichte Spaniens zur Zeit der Französische Revolution*, 1861, and its continuation up to date, 1871; *Karl V. und die Deutsche Reformation*, 1889.

Baur, ALBERT, b. in 1835 at Aix-la-Chapelle, Germany. An eminent historical painter; professor of history-painting at Weimar, 1872–76.

Bavier, SIMEON, born in 1828 at Chur or Coire, Switzerland. An engineer and statesman. Member, 1873, and president, 1882, of the Federal Council; Minister Plenipotentiary of Switzerland to Italy, 1883. Wrote *Die Strassen der Schweiz*, 1879.

Bax'ter, WILLIAM EDWARD, a British politician, born in 1825; author of *America and the Americans*, 1855; Secretary of the Admiralty, 1868; Secretary of the Treasury, 1871–73. Died in 1890.

Bay St. Louis, in *Mississippi*, a city, cap. of Hancock co. It is situated on Mississippi Sound, Gulf of Mexico, and is a popular summer resort. *Pop.* 1890, 1,974.

Bay'ard, THOMAS FRANCIS, b. in 1828 at Wilmington, Del., son of the statesman JAS. ASHETON BAYARD [1799–1880]. Was admitted to the bar, 1851; U. S. District Attorney, 1852; U. S. Senator from Delaware, 1869–85; a member of the Electoral Commission on the Hayes-Tilden election, 1876–77; president *pro tem.* of the Senate, 1881; unsuccessful candidate for the Democratic presidential nomination, 1880 and 1884; Secretary of State, 1885–89; first U. S. Ambassador to Great Britain, 1893–1897. Died Sept. 28, 1898.

Bay'field, in *Wisconsin*, a city and township, formerly cap. of Bayfield co. It lies on an arm of Lake Superior and has one of the best harbors on the Great Lakes; a summer resort. *Pop.* in 1890, 1,373; in 1897, abt. 2,000.

Baynes, THOS. SPENCER, born in 1823 at Wellington, Somersetshire, Eng. A University professor (St. Andrew's, 1864), philosophical writer, journalist (London *Daily News*), and editor of the ninth edition of the *Encyclopædia Britannica*. Died in 1887.

Bayr'hoffer, KARL THEODOR, a German publicist and politician, born in 1812. Originally professor of philosophy at Marburg (Hesse Nassau) University; then member and (1850) president of the landtag of Hesse. Removed to the U. S. and died at Jordan, Wis., in 1888.

Beall, JOHN YOUNG, a Virginian Confederate spy in the Civil War, born in 1835. Was arrested at Suspension Bridge, N.Y., 1864; tried at Fort Lafayette, and despite a proclamation by Jefferson Davis, in which the Confederate government assumed the responsibility of his acts, he was hanged (on Governor's Island, N. Y.) in 1865, it having been proved that he had perpetrated acts of war within these States, wearing at the time on visible badge of military service.

Beard, WILLIAM H., born in 1825 at Painesville, O. An artist, chiefly known, as was his brother, James Henry *B.* [1812–1893], as a painter of animals.

Beards'ley, AUBREY, an English artist, born in 1874; illustrated Malory's *Morte d'Arthur*; produced, in 1896, a large number of drawings for the *Savoy* and illustrations for *The Rape of the Lock*, *Lysistrata*, *The Sixth Satire of Juvenal*, and for several of Wagner's operas. Noted also for his unique magazine covers and posters. D. March 16, 1898.

Beardsley, EBEN EDWARDS, born in 1807 at Stepney, Conn.; a Protestant Episcopal clergyman. Wrote the *History of the Episcopal Church in Connecticut*, 1865; *Life and Times of William Samuel Johnson*, 1876; *Life and Correspondence of Rev. Samuel Seabury*, 1881, &c. Died in 1891.

Beast Fable, Beast Tale. Short stories, largely belonging to folk-lore, in which the lower animals are introduced as talking and reasoning beings, sometimes alone, sometimes in association with men. Stories of this kind are very numerous and wide-spread, examples of them being found in all literary periods, and as the domestic lore of people in very varied degree of development. It seems probable that they had their origin in that remote period when man did not discriminate between his own intellectual powers and those of the surrounding animals, whom he deemed capable of thought and invested with powers of speech. It may be that some of these animals had a mythological origin, while others are clearly totemistic, *i. e.*, they indicate a belief that the tribe has descended from a certain animal. But as a rule they arose from the desire to tell an amusing story or to explain phenomena of the animal kingdom. Fables for amusement are very apt to become satirical, and of this class we possess a remarkable and highly interesting example in the mediæval *Reynard, the Fox*. Tales of the explanatory class are very numerous, and are found among most of the uncivilized tribes, who have brought their imagination into play in explanation of phenomena which lie beyond the resources of their reason. Thus we are taught by a tale why the alligator never sleeps far from the river bank; why the raven is completely black, &c. In addition to the fables which have been handed down orally, examples have come to us in the earliest literatures, such as those of Babylonia and Egypt. Of classic collections we possess those of the Greek, Æsop, and the Roman of Phædrus, while back of these are the fables of Babrius, drawn from the ancient folk-lore stock, and of which those of Æsop are paraphrases. The Indian *Fables of Bidpai* is another famous collection, while from the literature of the past various other illustrative examples might be adduced. The modern world has only one great fabulist, the French La Fontaine, in whose hands the fable became a poem, and whose delightful art brought, finally, the fable into the circle of the world's best literature.

Beatty, JOHN, born in 1828 at Sandusky, O. A brigadier-general; commanded a brigade in the three days' fight at Stone River, 1862; member of Congress from Ohio, 1868–73. Wrote *The Citizen Soldier, or Memoirs of a Volunteer*, 1879; *The Belle o'Becket's Lane*, 1882, &c.

Bea'ver, JAMES ADAMS, born in 1837 at Millerstown, Pa. In early life, a law student; lieutenant-colonel, 1861; colonel, 1862; wounded at Chancellorsville, 1863; led his regiment throughout the Wilderness campaign, 1884; played an important part at Spottsylvania court-house, Cold Harbor; wounded at Petersburg, he rode to the battlefield of Ream's Station in an ambulance, and had scarcely taken command when his right leg was shattered by a rifle-ball; was brevetted brigadier-general of volunteers, 1864; would never leave his own men, the 45th Pennsylvania Volunteers, and repeatedly declined promotion on that account. Republican governor of Pennsylvania, 1887–91; elected a justice of the Superior Court of Pennsylvania, 1896.

Be'bel, FERDINAND AUGUST, a prominent member of the Social-Democratic party in Germany, born in 1840; a member of the Reichstag almost interruptedly since its creation in 1871; was sentenced to imprisonment for high treason against the German Empire and *lese-majesty* against the German Emperor, 1872. Wrote *Unsere Ziele*, 1886; *Christenthum and Sozialismus*, 1884.

Becca'ri, ODOARDO, a distiguished Italian botanist, born in 1843, who made extensive explorations through New Guinea, the East India Islands and Abyssinia, and published some of his discoveries and travels in the *Bollettino della Società Geografica Italiana*. He founded the *Nuovo Giornale Botanico Italiano*.

Bechuana (*bĕt-shū-ā'nă*). The name of an African people who occupy an extensive area of South Africa, which includes a large part of the Kalahari desert. They are industrious in disposition, live in towns of considerable size, and are unwarlike, having proved unable to resist the invasions of the Kaffirs, Zulus and Matabele bordering them on the coast. Numbers of them make their way to Cape Town, where they prove efficient servants. The *B.* are well formed and of bronze or dark-brown hue, while they are often handsome, their features not being of the strongly marked African type. Agriculture and certain domestic arts are practiced, though the rainless character of their country renders the soil unfruitful. They number about 200,000. Their language belongs to the Bantu family of speech.

Bechuan'aland. (*Geog.*) The region in South Africa inhabited by the Bechuanas, bounded on the S. by Cape Colony, on the E. by the Transvaal Republic, on the W. by the S. German territory, and on the N. by German Territory and Matabelaland, and containing about 170,000 sq. m. of territory. Part of this area is a British crown colony, which extends to the Molopo river on the N.; a second portion of it is a British protectorate, extending over the Kalahari Desert to 23° S. Lat.; and a third portion forms the dominions of the native chief, Khama, whose interests are British. The crown colony, embracing about 51,000 sq. m., has a foreign population of over 12,000 and a native pop. of 60,000. It was formed in 1885. *B.* is an elevated region, being 4,000 to 5,000 feet above sea-level, is largely rainless, but has proved adapted to cattle and maize, while the culture of tobacco has been introduced. The minerals include gold, silver, lead and iron. A railway extends from Capetown to Vryburg, the capital of the colony, passing through Kimberly. The telegraph has also been introduced.

Beck, JAMES BURNIE, an American statesman of Scotch birth; Congressman from Kentucky, 1866–75; member of the Commission on the Virginia and Maryland boundary, 1876; U. S. Senator, 1877–90. Born in 1812; died in 1890.

Beck'er, NICKOLAUS, a German poet, the author of some 70 compositions, the chief of which is the popular Rheinlied, *Sie sollen ihn nicht haben*, for which he received 1,000 thalers from Frederick William IV. Died in 1845.

Beck'er, THOMAS A., born in 1832, at Pittsburg, Pa. A Roman Catholic bishop and writer; at one time professor at St. Mary's College, Emmettsburg; created bishop of the new diocese of Wilmington, Del., 1868; transferred to the see of Savannah in 1886. A prolific contributor to the *American Catholic Quarterly* and other periodicals.

Beck'with, JAMES CARROLL, born at Hannibal, Mo., in 1852. A painter, noted for his *Falconer*, sent to the Paris Exposition, 1878; sketched in Spain and France, 1880–81, and produced since then *Christian Martyr*, *Azalea*, *Vivian*, &c.

Becquerel', ALEXANDRE EDMOND, a French physicist, born in 1820, noted, like his father, Antoine César *B.* [1788–1878] for his researches in electricity, photography, &c. Died in 1891.

Bed. (*Geol.*) A stratum of sedimentary rock, which may differ considerably in thickness. If thin, and different from the neighboring formations, it is often called a seam. A bed is frequently composed of many thin laminæ or plates, which are due to an intermittent deposition of materials, as in the case of ebb and flow of the tide, or varying degree of turbidness of the water to which the deposit was due. Several beds of the same kind of rock, aggregated, form what is known as a "formation."

Bedell', GREGORY THURSTON, born in 1817 at Hudson, N. Y., son of the clergyman and hymn-writer Gregory Townsend *B.* [1793–1834]. A bishop of the P. E. diocese of Ohio, 1873–89; previously assistant bishop, 1859–73, and rector of the Church of the Ascension, New York city, 1843–59. Wrote *Canterbury Pilgrimage to the Lambeth Conference*, 1878; *The Pastor*, 1880; *Centenary of the American Episcopate*, 1884. Died in 1892.

Bed, Folding, a form of bed which has come largely into use from its advantage in rooms where space is desired during the day. The frame of the bedstead is made with joints and weights which permit its folding when not in use, so that, with its enclosed bedding, it may occupy a much smaller space than when extended for use. Folding beds, when closed, are made to imitate articles of furniture, such as a desk, bookcase, &c., being ornamental while their true purpose is concealed.

Bee Culture. The keeping of bees as a source of profit—a very ancient human industry—has extended largely of recent years, improved appliances and better acquaintance with the habits of the honey-bee having stimulated the industry. Of *Apis mellifica*, the species employed in Europe and America, the leading varieties are the Ligurian or Italian bee, the Carniolan or Hungarian bee, the Cyprian bee and the common black bee. Of these varieties the Italian is, as a rule, given the preference. Its queens are more prolific and therefore yield larger swarms, while the bees seem to work harder during the honey season, going abroad earlier and returning later in the evening. The rearing of queens for exportation is largely carried on in Italy, Germany, Cyprus and Palestine, and the improved foreign stocks are being widely disseminated. When brought by European settlers to the U. S., many of the bees escaped from domestication, and made their way into the forests, where they hived in their natural manner in hollow trees, in which occasionally large stores of honey were accumulated. They kept like a fringe on the borders of the settlements, the speed of migration of men and bees being much the same, and gave rise to a new form of hunting industry—that of bee-hunting. The bee hunter, provided with a little honey or dissolved sugar, would catch a bee at work on the wild flowers, introduce her to his cheaper source of sweets, and watch her course as she flew off in haste to the forest. At some distance to right or left he would catch another and go through the same process. As the bee always flies in a straight line home, a study of these converging lines of flight would show their meeting point. A repetition of the experiment was not usually necessary, the hunters gaining, in time, almost an instinct in locating the hives. The tree found, it was quickly felled, split open, and its stock of honey, often the accumulation of years of bee labor, rifled.—*Hives.* A bee-hive needs to be light, for ease in moving, but at the same time with walls thick enough to protect the inmates from extreme changes of temperature, and also suitable to keep out rain or dampness. In Great Britain the straw hive has been used for ages, though now it has widely given way to the bar-frame hive. In Russia logs of wood, hollowed out in the centre, are used. In the U. S. only the frame hive is in use. The principle of the moveable-comb hive, now so common, was known to the ancient Greeks, but has only lately been developed. The first important invention in this field was made by an American bee-keeper, Rev. L. L. Langstroth, in 1851. In this hive the combs are built in frames, hung side by side in a box. The use of this hive has greatly developed the business of bee-keeping. The old system of killing the bees to obtain the honey would now be considered barbarous. The frame hive is a simply-constructed one; its capacity may be readily changed to accommodate any number of bees; the drone-producing powers of the hive may be regulated; and upon signs of anything having gone wrong in the hive, the bee raiser can generally detect its cause and apply a remedy without delay. Above the box containing the frames, which serves as brood-chamber and store-houses of the bees and is never disturbed, is placed a box of similar dimensions, the whole being covered with a sloping roof. This is intended for the surplus comb, and its frames, with their marketable product, can be removed at will.—*Artificial Swarming.* One of the difficulties with which the bee-keeper has to contend is the management of swarms, which sometimes give him no small trouble, and occasionally completely escape. To avoid this, all advanced bee-keepers now practice methods of artificial swarming. This is easily accomplished. The hive to be swarmed is moved aside and an empty hive put in its place. Then the frames of bees are lifted out one by one and examined, until the queen is discovered, when the comb on which she is found is placed in the empty hive. One or two brood combs are removed with it. The old hive is now carried to a new situation in the garden. Nothing more is needed. All the bees at work in the fields, as well as the old bees in the swarmed hive, will make their way to the new hive and the old site, leaving the new brood of bees to occupy the old hive.—*Getting the Honey.* In old times, when the honey was wanted at the close of the season, the bees were all destroyed by the fumes of sulphur. A more humane method is now practiced. Above the box of frames, as has been said, a second box is placed, of equal dimensions, between the two being a sheet of "excluder zinc," that is, zinc with slits wide enough to let the workers through, but not the queen. Thus no brood cells are made in the upper box, only pure honey being stored. When this box is filled it is removed and an empty one put in its place. In order to obtain the honey, the capping of the cells is cut off and the bars or frame put into a machine called the extractor, in which the honey is thrown out by centrifugal force, and the empty combs preserved intact to be again filled by the bees. The labor of making new comb being thus saved the insects, they confine themselves to honey-gathering, and large stores are laid up. Bee-keeping is a highly important industry in the U. S., and California, especially Southern California, may be looked upon as the paradise of bee-keepers. Here the bees swarm in March or April, and the taking of honey begins about the 20th of May. Of those who confine themselves to this industry, some possess from 2,000 to 3,000 hives, whose inmates fairly revel in the flowery wealth of that genial climate. It is said that a single hive has yielded as much as 700 lbs. of honey.

Beech'er, Eunice White Bullard, wife of Henry Ward *B.*, born at West Sutton, Mass., Aug. 26, 1812; educated at Hadley, Mass. Wrote *From Dark to Dawning* during her early married life, and in her later years was a somewhat copious contributor to household periodicals, one series of papers being entitled *Mr. Beecher as I Knew Him.* Died at Stamford, Conn., Mar. 8, 1897, on the tenth anniversary of her husband's death.

Beer, Adolf, an Austrian historian, born in 1831; professor of history in various colleges; author of *Geschichte des Welthandels*, 1860; *Die erste Teilung Polens*, 1873; *Die Orientalische Politik Oesterreichs seit 1774*, 1883; *Oesterreich und die Deutschen Handelseinigungsbestrebungen, 1817–20*, 1887, &c.

Beer. (*Manuf.*) Tannin has been recently used with much success in the preparation of *B.*, for arresting fermentation and preventing change beyond a certain point. It is to the presence of tannin in the leaves of the hops that its preservative peculiarities are due; and the same agent is obtained in greater intensity from the nutt-gall, 75 grains of tannin exerting as positive an action upon *B.* as a pound of the best hops. By taking tannin dissolved in ten times its weight of warm water and adding it to the wort, a complete clarification will take place, and on cooling a deposit will be thrown down. In all cases where the peculiar aroma and bitter substance of hops are not desired, but a sweet *B.* is to be produced, the hops can always be replaced completely and with advantage by the tannin. The use of this material allows the manufacture of several kinds of *B.* and obviates the necessity of using any other mode of clarifying. The method of preserving wine devised by Pasteur has been with complete success applied to the preservation of *B.*, and immense quantities of malt liquors of various kinds, after having been subjected to the process, are shipped from Germany to all parts of the world. The bottles, after being filled and well corked, are kept for about half an hour in a water-bath having a temperature of 122° Fahr., after which the warm water is gradually replaced by cold, so as to prevent too rapid cooling. In one of the experiments instituted for determining the feasibility of the operation, four bottles of the same kind of *B.* were well corked, and two of them were submitted to the process in question, after which all were introduced into a heated room in the vicinity of a stove, and kept at a temperature of between 70° and 80° for four weeks. At the end of this time the prepared *B.* was found to be perfectly clear and of a golden tint, with only a slight deposit of granular matter at the bottom. The unprepared *B.*, however, was found to have passed into an active state of fermentation, turning completely sour, and one of the bottles had burst in consequence. The fermentation of malt in the production of *B.* is now known to be due to the action of certain forms of bacteria, and experiment has rendered it evident that certain variations in the quality of the *B.* produced are due to the action of the particular bacterium at work, the effect being occasionally widely different. As it is now known what species of bacteria yield the best results as ferments, many *B.* manufacturers have taken advantage of this to improve the quality of their product. By culture methods the proper microbe is obtained and placed in the wort, while precautions are taken to prevent the introduction of microbes from the air or other sources. The effect has been found advantageous and the culture of bacteria for this purpose has become a recognized industry. The production of malt liquors in the U. S. is, at present, more than 33,000,000 barrels of 31 gallons annually. The production of the principal countries of Europe in 1895 was: German Empire, 55,243,753 hectolitres; Great Britain and Ireland, 53,003,945; Austria-Hungary, 19,448,993; Belgium, 9,539,581; France, 8,867,320; Russia, 4,578,260. The hectolitre is equal to 26·414 gallons, or about four-fifths of a barrel. The annual consumption of malt liquors in the U. S. is more than 1,000,000,000 gallons.

Beer'bohm-Tree, Herbert, an actor; born in London, Eng., 1853. Notably successful in "John-a-dreams," 1894; "Trilby," 1895; "Henry IV.," 1896, &c. Has visited America several times, and has achieved great success here as a actor and a lecturer on the drama.

Beet Sugar. The production of sugar from the beet is growing into so important an industry in this country, that some special consideration of this subject seems here necessary, in addition to that given under Sugar (*q. v.*). A century and a half has passed since Maggraf announced (in 1747) to the Berlin Academy of Science that he had discovered a method of producing sugar from the beet. Half a century afterward his pupil, Achard, announced improvements in this process, and the industry began to grow. It was considerably developed during the Napoleonic wars, when it became almost impossible to import sugar from the West Indies, but after the close of these wars it almost ceased to exist. Yet it was not suffered quite to die out; improved methods were invented, a larger yield was obtained, and the production in France, which was 4,380 tons in 1830, increased to 750,000 tons in 1890. The increase in Germany was still greater, advancing from 13,445 tons in 1840 to 1,213,689 in 1890. For years *B. S.* has been an important article of export from Germany. In 1887 there were sent from that country 57,773 tons. Ten years later this was increased more than ten-fold, reaching 643,340 tons. In 1890 it was 718,985 tons. In that year it was much the largest article exported from Germany to the U. S., which paid Germany about $16,000,000 for this article alone. During the last sixty years such improvements have been made in the process of manufacture that the yield of sugar by the beet root has advanced from 4 or 5 per cent. to from 12 to 16 per cent., while the cost of production has decreased to about one-fourth its former amount. The total yield of *B. S.* in Europe in 1877–78 was 1,420,827 tons. In the year 1889–90 this had increased to over 3,600,000 tons, and in 1894–95 to 4,800,000, an increase in 7 years of about 350 per cent. Of the European yield in 1889–90 Germany is credited with, in round numbers, 1,210,000; France, 750,000; Russia, 480,000.—*Culture in U. S.* The experiments that have, from time to time, been made to produce *B. S.* in this country are given under Sugar. It was not until 1890 that an earnest effort was made in this direction, the government taking the matter in hand. In the early spring of that year 5,000 packages of the best sugar beet seed, obtained from Europe, were distributed to applicants in all parts of the country, with the understanding that the beets raised should be sent for analysis to the Agricultural Department. In consequence beets were received from about 1,000 localities, the analysis of which gave highly favorable results, especially in the case of those received from the northern and central areas, yielding in many cases 15 per cent. of sugar, and 20 per cent. in exceptional instances. A typical sugar beet should be conical in shape, smooth externally, white and solid in its interior, should weigh about 1 pound, and yield about 14 per cent. of sugar. Many of the samples received fulfilled all these requirements, and it was demonstrated that it is possible to produce here sugar beets of the best type. Subsequently a large *B. S.* factory was erected at Grand Island, Neb., capable of working 300 tons of beets daily. Others were built in California, in which State the industry has had a phenomenal development. The result, in part, of this experiment has been a very rapid growth of the *B. S.* industry in the U. S. In 1892 the product was given as 12,004,838 lbs.; in 1893, 27,083,288 lbs.; in 1894, 45,191,296 lbs., showing a remarkably rapid rate of increase. The principal States in which this industry has been established are California, Nebraska and Utah, the rich soils and warm, even climate of California and Utah, especially when aided by irrigation, being very favorable to a large and excellent yield. In 1894 California produced 35,088,969 lbs.; Nebraska, 5,943,200 lbs.; and Utah, 4,108,500 lbs., the total yield being nearly four times that of 1892. 19,647 acres were devoted to the beet culture, the yield of sugar averaging 2,300 lbs. per acre. Since that date the industry has continued its promising development, and this country may eventually be able to supply itself with sugar from its own fields. The yield of sugar beets varies from 12 to 40 tons per acre. The best land, with good cultivation and a favorable season, will yield from 20 to 35 tons per acre, but the crop would be hardly profitable at a yield of less than 12 tons per acre. In California the greatest production from a single acre of land was a little more than 40 tons of beets; but this is an unusual yield. The estimated cost of production per acre is about 50 dollars. In the present condition of the methods of manufacture, from 8 to 12 pounds of beets are required in the making of 1 pound of sugar; the quantity varies according to the greater or lesser richness of the beets in sugar. The price changes with the conditions of the market. It rarely costs now above 5 cents a pound, and in 1894–5 ranged as low as 3·81 cents on the wharves at New York.

Behistun (*bē-his-toon'*). (*Geog.*) An ancient town of Persia, now in ruins. Near it is a striking limestone precipice, 1,700 feet high and nearly perpendicular. It is of great antiquarian interest from the cuneiform inscription made upon it about 515 B. C. by King Darius, of Persia, and which, covered with a coating of silicious varnish, is in a remarkably perfect state of preservation. There are also inscriptions in the Persian, Median and Babylonian tongues, through the comparative study of which the secret of the last-named language has been revealed.

Bel'knap, William Worth, born at Newburg, N. Y., in 1829. Major-general and politician. Served in the volunteer army throughout the Civil War; promoted brigadier-general, 1864, and major-general, 1865. Collector of internal revenue in Iowa, 1865–69; secretary of war, 1869–76; resigned on being impeached for receiving bribes for the appointment of post-traders. Died in 1890.

Bell, Alexander Graham, an American physicist, born in 1847 at Edinburgh, Scot. Son of Alexander Melville *B.*, in whose system for removing the impediments of speech he received special training at an early age; was appointed professor of vocal physiology in Boston University, 1872; was first to innovate the transmission of sound by electricity, at Philadelphia, 1876, when he perfected his speaking telephone; inventor of the photophone, 1880; a warm friend of the deaf mutes and an advocate of reform in our methods of teaching them.

Bell, Alexander Melville, a Scottish-American educator, born in Edinburgh, Scot., in 1819. Son of Alexander Bell (the inventor of a method for removing impediments of speech). Invented the method of phonetic notation, known as "Visible Speech." Wrote *Visible Speech and Universal Alphabetics; Line Writing on the Basis of Visible Speech; Principles of Phonetics; World-English; Speech Reading; Articulation Teaching*, &c.

Bell, Clark, born at Rodman, Jefferson co., N. Y. A lawyer; originator and president of the Medico-Legal Society of New York; founder of the *Medico-Legal Journal;* a copious contributor to the daily press and the writer of numerous pamphlets.

Bell Animal'cule. (*Biol.*) A microscopic animal of the order *Vorticellidæ*, consisting of a slender stalk which ends in a bell-shaped portion, usually turned upward. The mouth of the expanded bell is occupied by a broad disk, with a row of cilia encircling its margin, while at its edge on one side a funnel-shaped opening serves to admit food to the interior. The animal is highly contractile, the stalk closing up into a spiral and

quickly withdrawing the head from danger. The bell is equally contractile, rounding up into a ball, with the cilia drawn inside. Ordinarily the cilia are in constant and rapid motion, causing currents in the water which draw food particles towards the funnel, through which they enter the interior. The *B. A.* consists of a single cell, with a nucleus, a contractile vacuole, and the power of reproducing itself by division. It is one of the most highly differentiated of the unicellular animals, and is usually found in water in which decaying organic substance offers it food materials.

Bel'lamy, Edward. An American journalist and economist, b. in 1850. Wrote *Looking Backward*, 1890; *Miss Ludington's Sister*; *Six to One*, etc. Died 1898.

Bel'lamy, Emily Whitfield, b. in 1839, at Quincy, Gadsden co., Fla.; pen-name Kampa Thorpe. Wrote *Four Oaks, Little Joanna*, etc.

Bell'ite (*Phys.*). One of the numerous new explosives produced by modern chemists. *B.*, discovered by Mr. Lamm, of Stockholm, is composed of about 4 parts of nitrate of ammonium and one part of a mixture of binitro- and trinitro-benzine with saltpeter. It resembles sulphur in appearance, and has a pitch-like odor. It is made up in capsules which look like thick wax candles and are covered with glazed paper.

Beloit College, an institution of learning, situated at Beloit, Wis., where it was founded in 1846, by the Congregationalists and Presbyterians of the then Territory of Wisconsin and of Northern Illinois. A building was erected and college exercises were begun in 1847. Rev. Aaron L. Chapin was elected president in 1849, and was succeeded in 1886 by Rev. Edward D. Eaton. The institution has always maintained a high standard of scholarship, and has given education to about 3,500 students. There are at present about 400 students and a faculty of 20 professors. There are 10 buildings, one being a library with 18,000 volumes, and a second known as Pearson's Hall, erected in 1892, contains well-equipped laboratories of physical science.

Ben, Oil of. A fixed oil existing in the fruits of certain species of *Moringa*, a genus of leguminous trees growing in the Levant and the East and West Indies. *M. aptera* is its usual source. It is extracted by pressure and is a colorless (or slightly yellow) and odorless oil, which is used to extract the odoriferous principles of fragrant plants.

Benavente (*ben-ah-vān'ta*), a manufacturing town of Spain, prov. Zamora, at the confluence of the Esla and Cea, 34 m. N. of Zamora. *Pop.* 4,518.

Bench Show. An exhibition of dogs of improved breeds. Bench shows are now of annual occurrence, and are having good results in developing and preserving the typical characters of the various strains.

Ben'dix, John E., born in 1818. In early life, a New York machinist; organized the 9th regiment of N. Y. volunteer infantry, 1861; fought at Antietam, Fredericksburg, the Wilderness; brigadier-general, 1865. Died in 1877.

Benedet'ti, Count Vincent, a French diplomatist of Corsican extraction, born in 1817. Appointed Ambassador at Berlin, 1864. His now historical interviews with King William I. of Prussia, at Ems, in July, 1870, precipitated the Franco-German war, and he was said to have written the dratt of a secret treaty between Prussia and France in accordance with which the latter would support the former in her projects of aggrandisement, in return for the annexation of Luxemburg and Belgium to French territory. This document, published in the London *Times* at the very beginning of the war, spread consternation throughout Europe. In October, 1871, Count *B.* published a pamphlet in which he threw upon Bismarck the whole responsibility of the dratt treaty.

Benefit of Clergy. (*Eng. Crim. Law.*) The exemption of the clergy from secular jurisdiction was one of the privileges claimed by the Roman Catholic Church. During the Middle Ages, it acted to remove all clergymen from the jurisdiction of a secular judge in criminal cases. See Milman's remarks, *Lat. Christ.*, Vol. III., b. viii., c. 8. The system, gradually introduced in England after the Norman conquest, gave rise to many abuses. Not only the clergy, but clerks and all members of the laity who could read, in cases in which capital punishment was awarded, were at length entitled to claim benefit of clergy, so that when the penalty of death was to be rigidly enforced, the statute expressly intimated that it was without benefit of clergy. As none but those in the service of the church were supposed to be able to read, this degree of learning acted to exempt all those possessed of it. But when learning became more general, laymen who could read were permitted only once to claim benefit of clergy, and then (unless they were peers or peeresses) were branded on the left thumb. Benefit of clergy was abolished in England by 7 and 8 Geo. IV., c. 27, s. 6 (June 21, 1827), and 4 Vict., c. 22 (June 21, 1841) removed all doubts as to the liability of peers to punishment for felony. It was abolished in Ireland by 9 Geo. IV., c. 54, s. 12 (July 15, 1828).

Benevente, a seaport town of Brazil, prov. Espiritu Santo, at the mouth of Benevente river, 47 m. S. of Victoria. *Pop.* 4,000.

Ben'jamin, Judah Philip, b. at St. Croix, West Indies, in 1811, of English-Hebrew descent. Admitted to the Louisiana bar, 1832; U. S. Commissioner on the Spanish Land Titles in California; Whig U. S. Senator from Louisiana, 1853–1861; Confederate Attorney-General, 1861; Secretary of War, 1861–62; Secretary of State, 1862–65. Escaped to England, 1865; called to the English bar, 1867, at the age of 56. Wrote *A Treatise on the Law of Sale of Personal Property*, considered an authority in England. Died in Paris, France, May 8, 1884.

Ben'son, Arthur White, Archbishop of Canterbury and primate of all England, born near Birmingham, in 1829. Educated at King Edward's School, Birmingham, and Trinity College, Cambridge, graduating in 1852 with high honors. Was a master at Rugby, and head master at Wellington, 1858–72; subsequently chaplain, chancellor and canon at Lincoln Cathedral; consecrated Bishop of Truro, on recommendation of Lord Beaconsfield, on April 25, 1877; appointed Archbishop of Canterbury in 1882, upon recommendation of Mr. Gladstone. He was author of several religious works. Died October 11, 1896.

Ben'son, Eugene, b. 1837, at Hyde Park, N. Y. A genre and figure painter, whose numerous productions breathe the influence of the Venetian masters he has taken for guides, and represent scenes of his oriental travels and long sojourn in the South of Europe.

Ben'ue (*Mother of Waters*). (*Geog.*) A large and important river of Central Africa, which forms the principal tributary of the Niger. Rising in the mountains of Adamawa, and flowing nearly westward, it forms the southern boundary of the kingdom of Sokoto. It enters the Niger at Lokoya, about 230 miles from its mouth. It was crossed by Dr. Barth in 1851, near long. 12° 30′ E., and found there to be 200 yards wide. It was ascended by Dr. Baikie in 1850, his voyage extending to Dulti, or Dolti, about 400 miles up the stream. He made a second ascent in 1862. In 1879–83 it was thoroughly explored by Mr. Flegel, who traced it to its sources in the Adamawa country, in 7° 30′ N. lat., and 13° E. long. Navigable for 700 miles, and flowing through wide tracts of fertile country, it forms a natural highway into the heart of the Soudan.

Ben'zidine, a base made by heating nitrobenzine with caustic soda and zinc dust. This yields hydrozobenzine, which, when treated with strong hydrochloric acid, is converted into benzidine. Benzidine is closely related to aniline, and like it is a source of valuable dyes.

Ben'zidine Dyes. These dyes are prepared by converting benzidine into a diazo-compound, and exposing this to the action of various phenols and amido-compounds. Of the dyes thus produced, the first of importance was *Congo-red*. Various others are known, which have the useful property of dyeing cotton without the aid of a mordant. *B.* dyes are also produced in the same manner from tolidine (*q. v.*), of which *benzopurpurin*, formed by the action of naphthionic acid on diazotized tolindine, is one of the most widely used of dyes.

Ber'esford, Lord Chas. William de la Poer, born in 1846 at Philiptown, Dublin co., Ireland; a distinguished officer of the British navy; naval aide-de-camp to the Prince of Wales during his trip to India, 1875–76; in command of the *Condor* at the bombardment of Alexandria, 1882, and promoted captain for services rendered on that occasion; chiefly noted during his late parliamentary career as the advocate of wholesale reform in in the British navy.

Bergedorf (*bār'ja-dörf*), a thriving town of N. Germany, 10 m. S.S.E. of Hamburg. It is the cap. of a small territory under the joint government of the cities of Hamburg and Lübeck, known as the *Vierländer* (Four Lands), from its being divided into separate communities, each distinguished from the other by peculiarities of popular costume and manners. *Pop.* of territory estimated in 1896 at 12,000.

Ber'gen, in *New Jersey*, a N. E. co., bordering on New York, bounded E. by Hudson river, and washed by Hackensack and Saddle rivers. The surface, generally uneven, is mountainous in the W. part. The soil is particularly fertile along the valleys of the streams. The famous palisades of the Hudson are situated in the E. part of this county. *Cap.* Hackensack. *Pop.* (1898) 67,960.

Bergerat, Auguste Emile, born at Paris, France, in 1845; son-in-law of Théophile Gautier (*q. v.*). A French journalist, playwright and novelist. Author of *Une Amie; Père et Mari; Ange Bosari; Séparés de Corps;* a collection of patriotic verses, *Poèmes de la Guerre;* a biography of Théophile Gautier, and a large number of *feuilletons, chroniques*, &c.; pen-name, Caliban.

Bergh, Henry, born in New York City, of German ancestry; acting vice consul at St. Petersburg, 1862. His sympathies for dumb animals were first aroused by the cruelties he saw practised towards them in Europe, and on his return to this country he devoted his life to their interests. Founder (1866) and president of the American Society for the Prevention of Cruelty to Animals; author of several plays, *Love's Alternative*, &c.; a volume of sketches, *The Streets of New York;* a poem, *Married Off*, and others. Died in 1888.

Berg'haus, Heinrich, born at Cleves, Prussia, May 3, 1797; died at Stettin, Feb. 17, 1884. A German geographer and historical inquirer. Of his numerous works, *Deutschland seit 100 Jahren, Sprachschatz der Sassen, Wörterbuch der Plattdeutchshen Sprache*, and *Briegwechsel mit Alexander von Humboldt* were the latest.

Berg'mann, Carl, born in Ebersbach, Germany, in 1821; came to New York in 1848. A musical composer and distinguished player of the piano and violoncello. Introduced German opera in this country (Niblo's Garden, N. Y. City) 1856; conducted German and Italian operas and the concerts of the Philharmonic Society in New York City. Died in 1876.

Bering or **Behring Sea** (*bay'ring*). (*Geog.*) The most northerly part of the Pacific Ocean, extending between the peninsulas of Alaska and Kamtchatka, and connected by Bering Strait with the Arctic Ocean. Along its southern boundary extend the Aleutian Islands, while farther north lie the Pribylof Islands (St. Paul and St. George), which possess a special interest as the breeding grounds of the fur seals of North America. *B. S.* is also called the Sea of Kamtchatka.

Bering Sea Question. A controversy (finally settled by arbitration) between Great Britain and the United States, in regard to certain rights and claims connected with seal fishing in Bering Sea. The Pribylof Islands, to which the valuable fur seals have long resorted for breeding purposes, were transferred by Russia to the U. S. as part of the Alaska purchase of 1867. These seals have proved a source of considerable revenue to the U. S., the right to use the Pribylof Islands as seal-fishing grounds being rented out to the Alaska Commercial Company, whose privilege of killing seals was restricted to 100,000 annually. This number was more than restored by the annual births, and the islands would have continued a fixed source of profit but for the action of Canadian fishermen, who have attacked the seals in the open sea (pelagic fishing) and committed such havoc among them as to approach the point of extermination. The seals make the Alaskan coast waters their feeding grounds. But when crossing the open sea between the mainland and the islands they are exposed to raids from irresponsible fishermen, and these have been carried on so indiscriminately that females with young have been lavishly slaughtered and thousands killed that were lost in the waters. Hon. James G. Blaine, Secretary of State, stated in 1890: "From 1870 to 1885 the seal-fisheries, carefully guarded and preserved, yielded 100,000 skins a year. The Canadian intrusions began in 1886, and so great has been the damage resulting from the destruction of seal life in the open sea surrounding the Pribylof Islands, that in 1890 the U. S. limited the Alaska Company to 60,000 skins, but the company was able to secure only 21,000 skins." By this time a hot controversy had arisen, the question being whether the U. S. had a right to protect its acknowledged property in what might fairly be regarded as part of the open sea, and therefore free by international law for every nation or people to hunt and fish in. The U. S. in 1887 asserted this right. Steps were also taken to put it into effect, by sending out armed vessels to seize the poaching craft and confiscate their plunder. It was proposed to Great Britain that a convention should be entered into, in which Russia should be asked to join, limiting the time of the year in which seal-fishing should be permitted, the close time to be made to cover the breeding period. This suggestion was accepted by both Great Britain and Russia, and all seemed favorable for a speedy settlement of the difficulty, when an unexpected obstacle arose through the action of Canada, which refused to be governed by the restrictions proposed. As a result, the convention proposition had to be abandoned. The question now became one of international law, the U. S. asserting its right to control the fisheries in Bering Sea on the ground of certain claims made by Russia in the early part of the century and to some extent admitted by other nations. These rights or claims were conceded to have passed to the U. S. as a part of the purchase. Again, it was held, admitting the right to fish in the open sea, that this did not cover the case in question, the seal being in no sense a fish, but a land animal, it using the sea simply as a feeding ground. Thus it became the property of the owner of the ground on which it lived, and when at sea was entitled to the same protection as any other property. It was urged also that the sea has never been considered free ground for any practices that are injurious to the rights, the property, or the honor of a nation that is able to defend itself. These and other arguments were adduced on the part of the U. S. government, and were variously answered by the other party to the dispute; but in 1891, Great Britain consented to submit several of the points at issue to international arbitration. Meanwhile, during the period of diplomatic discussion of the terms of arbitration, Great Britain agreed to a *modus vivendi* for one year, in order to prevent depredations upon the seals. At the end of the year she declined to renew the *modus vivendi*, but finally consented to do so in a modified form after the U. S. Senate should have ratified the treaty providing for arbitration. This was done in the spring of 1892, the treaty providing for a submission of the questions in dispute to a commission of seven persons, two appointed by the President, two by the Queen of England, and one each by the King of Sweden, the President of France and the King of Italy. The tribunal, thus chosen, met in Paris, March 23, 1893. Its decision was made public on the 13th of August, of the same year. In this decision the right claimed by the U. S. to protect the seals anywhere, as a ranchman may protect his wandering cattle, was denied. The arbitrators preferred to consider the seals, when beyond the three-mile limit around the island, as wild animals, and fair prey for anybody. But, on the other hand, they established a "protected zone" of 60 miles around the Pribylof Islands, within which anyone was forbidden, at any time, to "kill, capture, or pursue" the seals. They also fixed a close season extending from May 1 to July 31, during which all seal hunting in the Bering Sea, or the parts of the North Pacific frequented by the seals, was forbidden. Only sailing vessels were permitted to engage in the seal hunt, and each of these was required to take out a government license and make a detailed report of its operations. "The use of nets, fire-arms, or explosives, is forbidden in fur-sealing," the only weapon permitted being the harpoon, which must be wielded by men skillful in its use. The U. S. was required to pay damages arising from searches and seizures of sealing craft by its naval vessels, and in August, 1894, a compromise sum of $425,000 was offered and accepted as a suitable amount, but Congress refused to make the nec-

essary appropriation on the plea that this amount was excessive. It was thereupou decided in 1896 to settle this question by a commission joiutly appointed by the countries, the President of the Swiss Republic to appoint an umpire if no decision could be reached by the commission. Unfortuuately, the decision of the arbitration tribunal, from which valuable results were expected, seems to have failed in its purpose of protecting the seals. The largest number known to have been killed in the open sea was in 1894, when 95,048 were reported. In 1895, with a larger fleet and improved weapons, the catch was 73,614 skins, a falling off of 21,434. How many were actually slaughtered to yield this number of skins it is impossible to estimate, but the extermination of the herd seems so near at hand that it has been gravely suggested by members of Congress to kill the remainder of the herd at once, on their island haunt, and thus at one blow put an end to the reckless slaughter of the fur seal and the troubles that have arisen from our efforts to protect them.

Bermu'dez, Remijio Morales. A Peruvian soldier and statesman, b. in 1836; first noted during the Chilian war, 1879–81; vice-president of Peru, 1886; president, 1890. Died in 1894.

Bernard', Claude, b. at St. Julien, France, 1813; died at Paris, Feb. 10, 1878. A noted French physiologist: the author of many publications on the subjects of his researches.

Bernard', William Boyle, b. at Boston, Mass., in 1807, son of the Anglo-American John *B.* An English dramatist; author of over 100 plays, chief among which are *Rip Van Winkle; The Nervous Man and the Man of Nerve; Dumb Belle; The Boarding-School;* and (his last) *The Doge of Venice.* Died 1875.

Bern'hardt, Rosine, called Sarah, a French actress, b. of Jewish parents in Paris, 1844. She entered the Paris Conservatoire at fourteen, and made her debut in Racine's *Iphigenie*, in 1862, but attracted so little notice that she retired, for a time, from the stage. In 1867 she made a striking success as the *Queen* in Hugo's play of *Ruy Blas*, and began a most brilliant career, in which she soon gained the highest place among Freuch tragediennes. Recalled to the Theatre Française, in which her first appearance had been made, her renown grew steadily, and in 1879 she visited London as a member of a company from the Française, and played with the highest success. Subsequently withdrawing from the Française, for which she was heavily fined in the courts, she made tours to Italy, Russia and America, playing in the U. S. in 1880, 1887, and 1891. She was married in 1882 to M. Damala, a Greek actor, but was soon divorced. Her principal characters have been the title *rôles* of Racine's great plays, some of the Shakpearean heroines, and others in plays written expressly for her. She has herself written a play, *L'Aven*, produced in 1888, and has exhibited pictures and statues by her own hand.

Berrien, John Macpherson, b. in N. J., Aug., 1781; a son of Major John *B.*, of the Revolution. Admitted to the bar of Ga., 1809; district judge, 1810–21; U. S. Senator, 1825–29, and 1840–52; U. S. Attorney-General, 1829–31; one of the regents of the Smithsonian Institution. His lucid oratory won him the title of "American Cicero." Died at Savannah, Ga., Jan. 1, 1856.

Berro, Bernard Prudencio, Uruguayan politician, b. 1800; president of the Senate at various times (1852–58); president of Urugnay, 1860–64; deposed by the Colorados under Flores, and shot through the window of his prison cell during the disorders of the revolution in 1888.

Berry, Hiram George, b. at Rockland (then Thomaston), Me., Aug. 27, 1824; Major-General of Volunteers, 1862; fought at Bull Run, Yorktown, Williamsburg, Fair Oaks, Chantilly, etc. Was shot dead at Chancellorsville whilo headiug a bayonet charge, in several of which he had been remarkably successful, on May 2, 1863.

Berry, Nathaniel Springer. born at Bath, Me., Sept. 1, 1796; grandson of Captain John *B.*, of the Revolutionary Army; Governor of Massachusetts, 1861–63; more than 16,000 men were enlisted, equipped, and forwarded to the seat of war in defence of the Union, under his direction. Died 1894.

Berthelot, Pierre Eugène Marcelin, born at Paris, France, Oct. 25, 1827. A noted French chemist and educationalist. Author of *La Synthèse Chimique; Sur la Force des Matières Explosives d'après la Thermochimiè; Les Origines de l'Alchimie; Science et Philosophie,* &c.

Berthet, Bertrand, *alias* Elie, b. at Limoges, France, 1815, died at Paris, 1891. French journalist and prolific novelist; published more than 100 volumes; among the latest, *La Maison du Malheur, L'herboriste Nicias, Le Secret du Diamant.*

Bertin (*bār-tahn'*), Louis François, an eminent French journalist and man of letters, born in Paris, 1766. Originally intended for the priesthood, the Revolution changed his course of life by making him a journalist. In 1800 he founded the *Journal des Débats*, intended to be a prominent political organ of the Conservative party, but, finding it impossible to maintain for his paper an independent character under the strict censorship of the press established by Napoleon, *B.* made of it a literary and scientific organ. Despite all precaution, umbrage was given to the goverument of that day, and *B.*, after undergoing an imprisonment of nine months, was exiled to Elba for a brief term in 1801. Afterwards, the paper had its name changed to *Journal de l' Empire*, a change that lasted till 1814. During this period Chateaubriand and Madame de Stäel became its two most prominent contributors. After the second Restoration, the *Débats* became an opposition organ, and under Louis Phillppe devoted itself to the interests of the constitutional bourgeoisie. Died in 1841.

Besant', Mrs. Annie, *née* Wood, born at London, Eng., of Irish parentage, Oct. 1, 1847. An English theosophist; joined the National Secular Society, 1874; announced her adhesion to Socialism, 1883; and, after laboring and speaking on the Freethought platform, joined the Theosophical Society, 1889, and visited America, Australia, India and New Zealand on its behalf; took a prominent part in forcing an investigation into the charges made against the head of the American branch of the society in 1895; wrote her autobiography, *Through Storm to Peace*, 1893, and a large number of books and pamphlets on theosophical subjects.

Besant, Sir Walter, born at Portsmouth, Eng., 1838. A prolific English novelist, in early life senior professor in the Royal College of Mauritius; knighted in 1895. *B.* was early interested in social reform, and his plan for a People's Palace, as outlined his *All Sorts and Conditions of Men*, has been practically realized in the East End of London. A few of his best known novels are: *All in a Garden Fair, Herr Paulus, To Call Her Mine;* and among his later, *The Rebel Queen*, 1893; *Beyond the Dreams of Avarice*, 1894; *The Master-Craftsman*, and *The City of Refuge*, 1896. First chairman of the executive committee of the "Incorporated Society of Authors"; editor of the monthly paper, *The Author.*

Bescherella, Louis Nicolas, born at Paris, France, June 10, 1802. A Freuch grammarian, lexicographer and librarian, whose grammar and dictionary were for a long time the recognized authorities on the Freuch language. Died February 4, 1883.

Bessels, Emil, born at Heidelberg, Germany, 1847. A German scieutist and Arctic explorer; accompanied Peterman in his expedition, 1869; joined the American *Polaris* expedition under Charles Francis Hall, 1871; contributed to the U. S. Geological and Geographical Survey; edited the first volumes of the *Scientific Results of the U. S. Arctic Expedition;* wrote *Die Amerikanische Nordpolerpedition,* &c.

Bes'semer, Sir Henry, a distinguished English inventor, born at Charlton, in Hertfordshire, January 13, 1813, his father being Anthony Bessemer, a French refugee. His remarkable inventive powers early developed, his first commercial success being a method for the manufacture of bronze powder. This is still employed by his successors. Other inventions followed, and in 1854 he first began to experiment on steel manufacture, the result being the strikingly valuable pneumatic process which bears his name. It was first announced in August 11, 1856, at a meeting of the British Association, but was received by most iron makers with disbelief and ridicule. There were some successes, but serious failures, and costly experiments became necessary, by which at length the kind of ore aud the other conditions requisite to success were discovered. This was announced in 1859, and in the succeeding ten years the method made such progress in the world of manufacture that *B.*'s income from it was $500,000 a year. In 1869–74 he made efforts to check the rolling motion of vessels and thus prevent seasickness, but without success. Later he devoted himself to the improvemeut of telescopes. His valuable services to mechanics brought him, in 1879, the honor of knighthood. Died March 14, 1898.

Bessemer Steel. Steel made in the method invented by Sir Henry Bessemer (*q. v.*) The idea involved in the original conception was to blow air through the molten cast-iron until all the carbon was oxidized, in case malleable iron was desired, while to produce steel, the blowing was to cease when the necessary percentage of the carbon had been removed. The method has never succeeded in producing serviceable malleable iron, nor at first could good steel be produced except from the best charcoal iron, like that of Sweden. With English ores, it became necessary to oxidize all the carbon and silicon, and then restore the necessary quantity of carbon by the addition of a small quantity of a kind of cast iron known as *Spiegeleisen.* In the Bessemer process, as at present conducted, the following are the principal stages: Melted pig-iron is run into a converting vessel, or "kettle," made of wrought iron, lined either with fire-brick or with a silicious material called "ganister," and suspended on trunnions, so that it may be turned at will from an upright to a horizontal position. The charge of a converter may vary from 3 to 10 tons. In the bottom there are 7 tuyeres, each with 7 holes of ½-inch diameter. Through these a blowing-engine forces air at a pressure of 15 to 20 lbs. to the square inch. During this stage of the operation the effect is exceedingly striking. The roar of the blast is accompanied by a volcano-like shower of sparks from the converter, while the flame produced is of dazzling splendor; 15 or 20 minutes suffice to dissipate the whole of the carbon. This first blow over, the converter is lowered to a horizontal position, and a quantity of molten spiegeleisen (from 5 to 10 per cent. of the whole charge in quantity) is run into its month. The blast is then turned on again for a few minutes to secure a thorough mixture and the diffusion of the carbon of the spiegeleisen throughout the mass. The steel is next molded into ingots, which are condensed under heavy steel hammers, *B. S.* lacking density. *B. S.* will not serve for cutlery, springs, or similar purposes, but the cheapness of the process renders it invaluable for the production of steel rails, while it is equally suitable for ties, boiler- and armor-plates, and other heavy products. Active as is its production in England, and other countries of Europe, it is still more extensively produced in the United States, the annual yield of American converters at latest advices (1896) being about 6,000,000 tons.

Betancourt, Salvador Cisneros. President of the Cuban revolutionary government, 1895; formerly Marquis of Santa Lucia, a title which he formally renounced on joining the revolutionary movement in 1868.

Bethlen (*bāt'len*), or **Bethlen-Gabor,** Gabriel, a Magyar hero, b. in Transylvania, 1580, became in 1613, through the aid of the Sultan, sovereign prince of that country. In 1619, he proclaimed himself the champion of the Protestant canse in Hungary, and marched against Vienna at the head of an army of 100,000 men, compelling the imperial forces to retire before him. Though unable, through want of supplies, to besiege the Austrian capital, *B.* maintained the supremacy he had acquired in Hungary, of which country he was crowued king at Presburg in 1620. Resuming the offensive, so as to aid his allies, the German Protestants, *B.* carried terror and devastation to the very gates of Vienna. The emperor thereupon entered into a treaty of peace with him, granting him important concessions, besides the dignity of prince of the German empire. Later, *B.* once more engaged in war on behalf of the Protestant canse in Germany, and died in 1629, leaving behind him the reputation of having been one of the ablest generals and administrators of his time, besides an eminent patron of science and letters.

Beuthen (*boo'then*), or **Buton,** a manufacturing town of Prussia, 50 m. S. E. of Oppeln. *Pop.* in 1895, 36,905.

Bewick, Thomas, a noted English wood engraver and reviver of the art in Englaud, born near Newcastle-on-Tyne, Aug. 12, 1753. The modern school of wood-engraving arose with him, and he was surpassed by none of his many pupils. The works illustrated by him include *Gay's Fables, Æsop's Fables, History of British Quadrupeds, History of British Birds,* &c. Also, with his brother John, he produced designs for Goldsmith's *Traveller* and *Deserted Village.* Died at Gateshead, Nov. 8, 1828.

Beypore, a port of India, 6 m. S. of Calicut, and connecting by railroad with the city of Madras.

Bezique (*bē-zeek'*). [Fr. *bézique.*] (*Games*) A game at cards; usually played by two persons with a double pack, which contains only the aces, tens, kings, queens, knaves, nines, eights, and sevens, the cards ranking in the order named. 8 cards are dealt each players and, after each trick, each draws one from the top of the pack, the winner of the trick having the first draw. The top card of the stock is turned up as trump, and then placed face upward under the stack, as its last card. The non-dealer has the first lead; afterward the winner of the trick leads, the trick being won by a higher card of the suit lead, or a trump. There is no necessity to follow suit until after the stack cards are all drawn; then the second player must follow suit if possible, and take the trick if possible. 1,000 points constitute the game. If made while the opponent has scored less than 500, the game counts double. The points scored are the following: the winner of the last trick scores 10; each brisque (ace or ten) which is taken in a trick counts 10. If the seven is turned up as trump it scores 10. The seven of trump in the hand counts 10, and the holder of a seven is privileged to exchange it for the turned up trump. Various combinations of cards count as follows when declared: marriage (king and queen of the same suit) 20; royal marriage (same for the trump suit) 40; any 4 aces 100; 4 kings 80; 4 queens 60; 4 knaves 40; *B.* (queen of spades and of diamonds) 40; double *B.* (both queens of spades and knaves of diamonds) 500; sequence of the five highest trumps (ace, ten, king, queen, and knave) 250. A declaration, or exchange of the seven of trumps, can be made only after a trick has been won, and before drawing, and only one can be made at a time. None can be made after the stock is all drawn. In making a declaration the cards which constitute it must be placed face upward on the table, and remain there until played or until the stack is exhausted. A card which has scored in one combination may form part of others of a higher grade. Three or four players occasionally play *B.*, and there is a game called Rubicon *B.*, in which four packs are used instead of two, while the method of counting somewhat differs.

Bhilsa (*beel'sah*), a town of India, on the Betwa, 32 m. N. E. of Bhopaul.

Bhowan (*bo-hawn'*), or **Bhowannee,** a town of British India, N. W. Provinces, 55 m. W. of Delhi.

Bhutan (*boo-tahn'*), or **Bhotan.** (*Geog.*) An Indian state, situated in the Eastern Himalayas. It is bounded by the Himalayas (which separate it from Thibet) on the N., Thibet on the E., and Bengal on the W. and S. On the northern border rises the peak of Shimalari to a height of some 27,000 feet. *B.* has an area of about 16,800 sq. miles, and about 200,000 population, the people being Buddhists in belief. They practice polygamy and polyandry. The principal agricultural products are wheat, barley, rice, and maize.

Bible Revision. Since 1611, when the King James, or *authorized version* of the Bible appeared, this version, though scholars from time to time pointed out errors or inaccuracies in it, has been in steady use by English-speaking peoples, nor does it seem likely to be quickly set aside by the newly-revised version. Since 1611 there have been great advances in biblical scholarship, greater skill and knowledge having been attained in textual criticism, Greek and Hebrew philology, biblical geography and archæology. As a result, a pressure arose to adapt the King James version to the existing state of critical knowledge, and a new revision of the Bible was inaugurated on May 6, 1870, in the appointment by the Convocation of Canterbury of a committee of eminent biblical scholars and dignitaries of the Church of England for this purpose, they being directed to associate

with them representative scholars of other denominations. The committee divided itself into two sections—one for the Old and one for the New Testament. At its invitation a similar committee of scholars and divines was organized in the U. S. and began work in October, 1872. This was likewise selected from the different denominations and divided into Old and New Testament sections. Its meetings were held in the Bible House in New York. The British and American committees were virtually one body, being in constant correspondence with each other. They had in all 79 members, 52 in London and 27 in New York. The first result of their labors, the revised New Testament, was published in 1881. The revised Old Testament was published in 1885. As a whole, the result of this deliberate and careful work went far to show the accuracy and discrimination of the 1611 revisers. Many of the verbal changes made scarcely modify the sense, while radical departures in meaning are largely wanting. In consequence of this lack of essential importance in most of the changes, the old version vigorously holds its own, and can only be slowly set aside by the new though doubtless more scholarly version.

Bick'ersteth, EDWARD HENRY, b. at London, Eng., Jan. 25, 1825, son of Edward *B.*, the clergyman and author [1786–1850]. A clergyman and a poet; author of *Yesterday, To-day, and Forever; The Two Brothers; The Shadow of the Rock; From Year to Year,* &c.

Bick'more, ALBERT SMITH, an eminent American naturalist, born at St. George's, Maine, 1839, graduated at Dartmouth College in 1861. Early devoting his attention to the study of natural history, he formed the idea of founding in the city of New York a museum on an extensive scale to be appropriated to that department of science. In 1865 he visited China, Japan, and the islands of the Eastern Archipelago, returning home by way of Siberia and Europe. Of this scientific tour he published the results in a work entitled *Travels in the East Indian Archipelago* (Lond. and N. Y., 1869.) In 1870 he was appointed Prof. of Natural History in Madison (now Colgate) University, Hamilton, N. Y., and has since been actively engaged in carrying out his original idea of the institution of the museum before spoken of. This institution, the Museum of Natural History, adjoining Central Park, New York, is under the superintendency of its founder, Prof. Bickmore, and is growing rapidly in scope and value of contents.

Bi'cycle, *n.* [Lat. pref. *bi-*, two, and Gr. *kuklos*, a circle.] Literally, any two-wheeled contrivance. Specifically, a modern vehicle consisting essentially of two wheels arranged in tandem fashion, a frame bearing a saddle or saddles for the rider or riders, a steering

Fig. 2711.

handle-bar, and a device of cranks or levers for its propulsion by foot power.—*Description.* A description of the minor parts of the *B.* would transgress the scope of the present article, while the more important will be treated under their respective headings; therefore, the

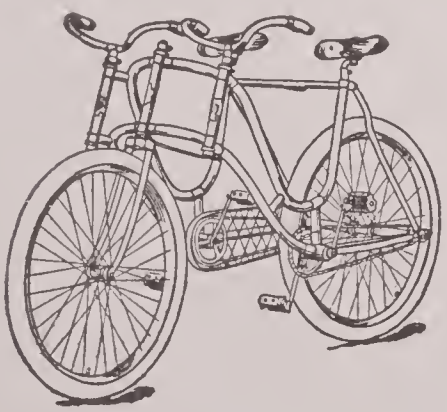


Fig. 2712.

following additional items will here suffice. The shape of the *handle-bar* varies from a short, straight line to a tortuous imitation of the ram's horn; it is usually placed in front of the rider but may be seen behind, exceptionally, as in the case of the "upright bicycle" (Fig. 2728); steel or wood (the latter claiming to be free from the vibration of the other) are used in its composition. The *saddle* exhibits a greater variety of shapes and material than any other bicycle sundry; it may be attached either to the frame or to a movable post permitting of its being raised or lowered to suit the convenience of individual riders; in the "bicycle built for two" or for more, the saddles are arranged in tandem fashion, although in the Companion bicycle (Fig. 2712) they are placed side by side.—The quasi-*triangular frame* for gentlemen (Fig. 2713) and the

Fig. 2713.

drop-frame for ladies (Fig. 2714) are practically the only two in present use among us; tubular steel is the favorite material for its construction, hickory wood, bamboo and aluminum pushing forth their claims also on public patronage. In the manufacturing of the *rim*, steel has been discarded in this country in favor of wood and also of paper and rubber. The *chain*, as a rule, works in almost parallel lines; yet it has been

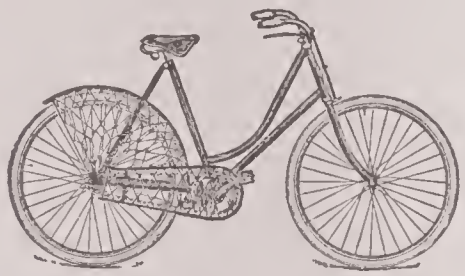


Fig. 2714.

tried on practically triangular plans (Fig. 2715) with the intention of enlarging the driving sprocket and increasing the number of teeth thereon without at the same time increasing, in the same ratio, the friction upon the chain. The feet, and in special cases the hands, constitute the *motive power* of the present bicycle, but ether, petroleum, explosive gunpowder and elec-

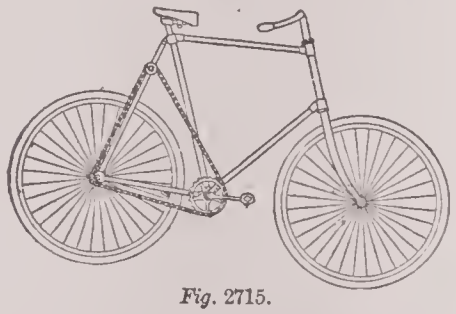


Fig. 2715.

tricity have been or are being actively experimented with in this connection. No greater adjunct to the footpower in the propulsion of the *B.* has been found than the scientific application of the principles of *gearing* (*q. v.*). The following table shows at a glance the number of feet covered per revolution, and the number of revolutions made per mile, by a 28-inch wheel geared at from 56 to 100 inches:

Gear in Inches.	*Feet per Revolution.*	*Revolutions per Mile.*	*Gear in Inches.*	*Feet per Revolution.*	*Revolutions per Mile.*
56	14·66	360·16	65	17·01	310·40
57	14·92	353·83	66	17·28	305·73
58	15·18	347·73	67	17·54	301·08
59	15·44	341·83	68	17·80	296·63
60	15·70	336·30	69	18·06	292·35
61	15·97	330·62	70	18·32	288·04
62	16·23	325·32	75	18·63	269·00
63	16·49	320·19	80	20·94	252·14
64	16·75	315·22	100	26·18	201·68

And the next will enable even a casual observer to compute the gearing of said wheel according to the number of teeth in the sprockets:

Teeth in			*Teeth in*		
Front Sprocket.	*Back Sprocket.*	*Gear.*	*Front Sprocket.*	*Back Sprocket.*	*Gear.*
16	6	74	20	6	93
16	7	64	20	7	80
16	8	56	20	8	70
16	9	50	20	9	62
17	6	79	20	10	56
17	7	68	22	6	102
17	8	59	22	7	88
17	9	53	22	8	77
18	6	84	22	9	68
18	7	72	22	10	62
18	8	63	24	7	96
18	9	56	24	8	84
18	10	50			

History. Antiquarians of the future will doubtless make every effort to elucidate the connection of the modern *B.* with the "something not unlike a velocipede" depicted in 1642 on a stained window in the Church of Stoke Poges, Buckinghamshire, Eng. (Fig. 2711), and also with the more remote allusions to wheels in the vision of the prophet Ezekiel; both of these have been gravely mentioned at various times in

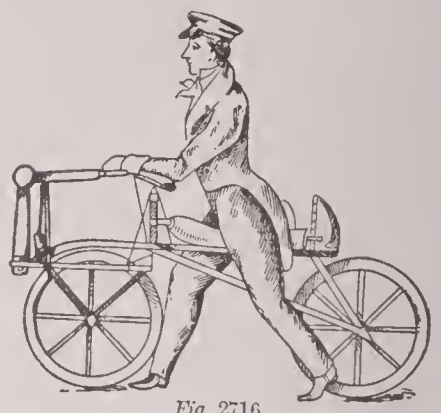


Fig. 2716.

discussions concerning this subject. The student of historical facts, on the other hand, may rest contented with the absolute certainty that at the close of the eighteenth century, and in the early years of the present, so-called "hobby horses" or "dandy horses" were great favorites in London, Eng., not only among the

Fig. 2717.

"dandies" or "dudes" of the period, but with such busy men as Fox, Sheridan, Pitt and others, who might be seen daily taking their much-needed "constitutional" on these contrivances along the avenues of St. James' Park. Of the crudeness of the dandy horse—a rigid, wood-framed, non-steering, two-wheeled device

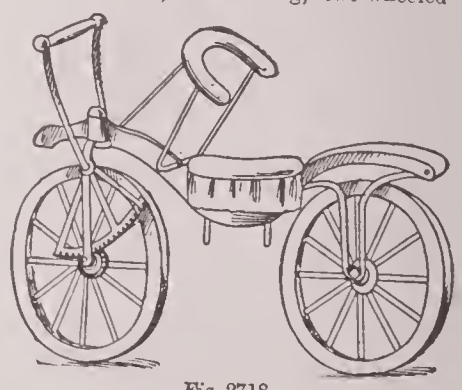


Fig. 2718.

propelled by means of strides along the ground—an idea may be obtained from the *Draisienne* (Fig. 2716), the first velocipede ever made with a steerable front wheel. It was first invented in 1816 by a German, Baron Drais von Sauerbronn; and as he first exhibited it at the Jardin de Tivoli in Paris, it became known.

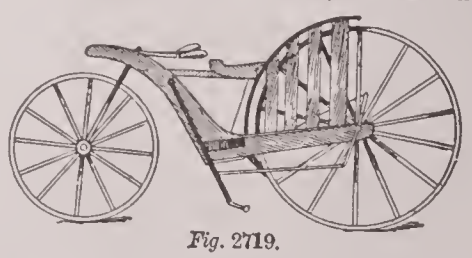


Fig. 2719.

under the various French designations *Célérifère* ("swift-bearer"), *Célocipède* ("swift-foot") and *Draisienne.*—Nor was the hobby-horse mania slow in reaching this country; for as early as 1818 a patent on a velocipede (the first of its kind on record) was granted to a certain W. Clarkson, Jr. The model unfortunately is no longer in existence, having been destroyed at the burning of the patent office in 1836.—The *pedestrian's curricle* (Fig. 2717) constructed in 1818 by a London.

coachman, Dennis Johnson, was less clumsy than the Draisienne; inventive minds were evidently at work to supply fuel to the "rage" as it was styled even then; and sure enough, letters written from Hammersmith, London, in the winter of 1818 and the summer of 1819, by Claude Niepce to his brother, show that at that period the future inventor of photography on glass was conducting experiments for the improvement of the velocipede. Even then, too, the inexpensiveness of the wooden horse was scoring in its favor, if we are to credit a certain cartoon published in an English comic paper of April 8, 1819. It represented the then Duke of York (who held the dual position of Commander-in-chief and Prince-Bishop of Osnaburg) riding to Windsor Castle on his hobby-horse, "for economy sake," although his yearly income exceeded $50,000.—The Draisienne was next improved in 1821 by Lewis Gompertz, of Surrey, Eng., so as to bring the rider's arms into action "in assistance to his legs." (Fig. 2718). Then we hear incidentally that, in 1823, Silas Davis "of the S. W. corner of Liberty and First Streets, Troy, N. Y," constructed and successfully mounted the first velocipede in that city. Again we are told that in 1830, a Mr. Dreuze, a public postal functionary in France, brought out a two-wheeled machine propelled by direct action on the axles of the wheels, stability and direction being given by the arms. This was distributed among postmen in rural districts for use in fine weather; winter came, the new machine was laid aside and nothing more was heard of it. Meanwhile complaints grew loud and frequent against the numerous accidents caused to riders by the springless nature of the saddle and the frame, and the furore abated somewhat; still the silent steed kept on recruiting its patrons through the most eminent ranks of European society, and the world-famed Michael Faraday was reckoned, at this time, among its devotees. It was not till 1840 that a first real advance was made in the construction of the machine. Kirkpatrick McMillan, of Courthill, Dumfrieshire, Scotland, planned and constructed a rear-driving vehicle with downward pedal-action, the cranks and the rear-hub being connected with a driving rod (Fig. 2719). Five or six years later, another Scotchman, Gavin Dalzell, of Lesmahagow in Lanarkshire, brought out a slight improvement upon McMillan's machine—the driver wheel was 40 inches, the steerer 30 inches, both of them iron shod—and for half a century he was erroneously considered the original inventor. Strange as it may appear, an inflated tire for wagon use, invented at this date and duly described in the English patent records of 1845, was apparently unnoticed by velocipede improvers; indeed it does not seem to have impressed even those for whose benefit it was primarily intended, for the patent was never utilized.—Ten years now elapsed, when a Parisian smith, named Michaux, had his attention attracted by the efforts of his young son to mount a broken tricycle that he had laid aside in his backyard until he should have time to repair it. One of the wheels had been removed, and the youngster's success in riding this two-wheeled tricycle may be said to mark the dawn of the 19th century "ordinary," as we now designate it. Michaux's elucubrations were, as usual, immediately seized and improved upon by another: a countryman of his, Pierre Lallement, brought out the new *bicircle*, *vélocipède*, or (for shortness) *véloce*, with cranks and pedals on the front wheel, said front wheel slightly larger than the rear (Fig. 2720), and a patent on it was secured in this country, Nov. 20, 1866. It was in 1867 that England manufactured her first new velocipede, or "boneshaker," as it soon was irreverently called; and in the following year, the vehicle made its first invasion of this country. In August, 1868, the Hanlon brothers of New York city, patented, as improvements on it, "adjustable cranks to suit the driver's peculiarities, an extensible seat and its adaptation to the use of ladies by making it similar to a side saddle." They were quickly followed by T. R. Pickering, also of New York city, who designed a machine (Fig. 2727)

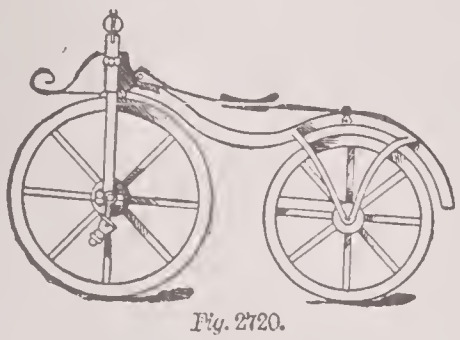


Fig. 2720.

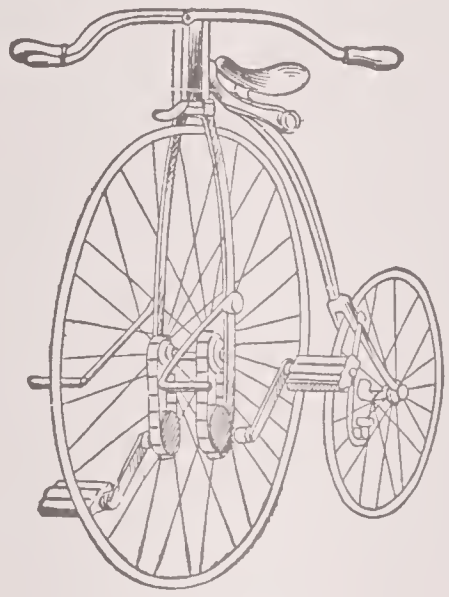


Fig. 2723.

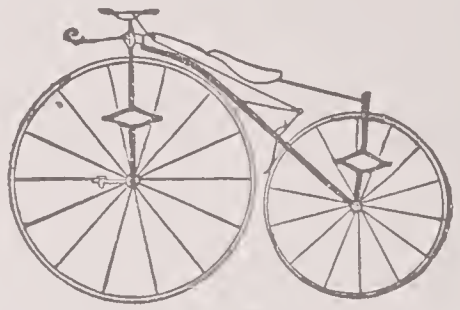


Fig. 2721.

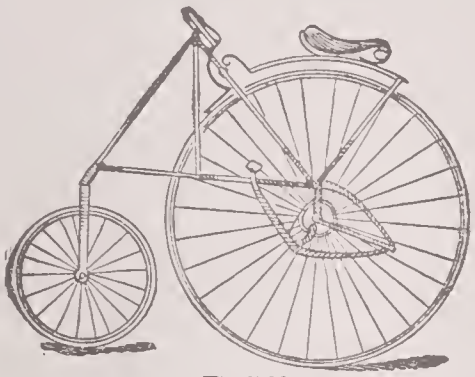


Fig. 2722.

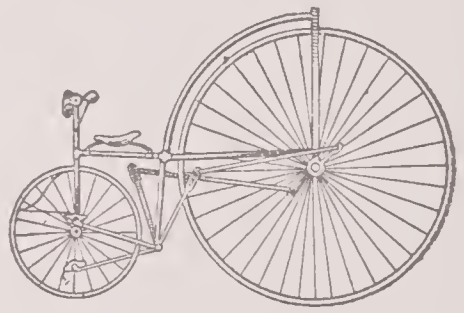


Fig. 2724.

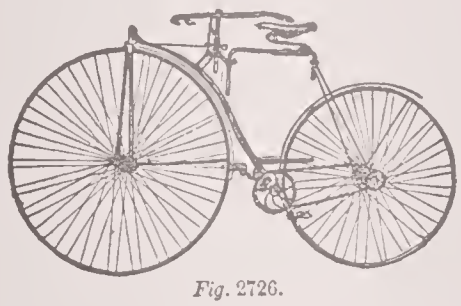


Fig. 2726.

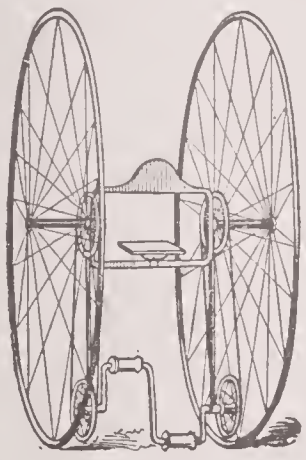


Fig. 2725.

Fig. 2727.

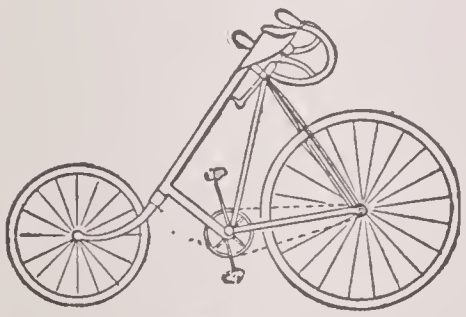


Fig. 2728.

Fig. 2729.

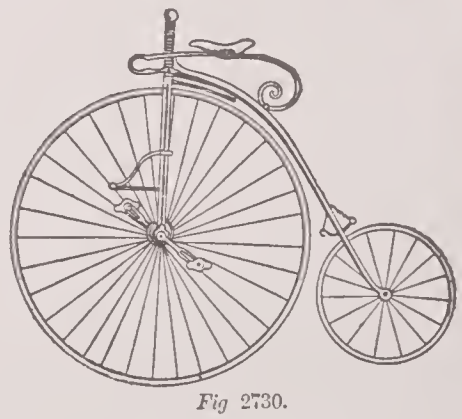


Fig 2730.

"more simple and durable, lighter, stronger and cheaper" than the French. By Dec. 23, the *Scientific American* announced the opening on Broadway, N. Y., of "a riding school for giving instruction in the art of riding or driving the two-wheeled velocipede." *Harper's Weekly* had described the Parisian "véloce" on its first landing at Castle Gardens as being "like Paris, fast; and, unlike the generality of French contrivances, likely to be useful;" its cartoon for Jan. 9, 1869, represented the New Year as riding in on a velocipede; and it was not long before it informed its readers that "the Rev. Henry Ward Beecher has secured two of the American machines, and other gentlemen well-known in the literary and artistic world are possessed of their magic circles." The new vehicle had undoubtedly made an impression. It was to be the lot of another clergyman to inaugurate rubber tires. Rev. Arthur Edwards, assistant editor of the *Northwestern Christian Advocate*, hit upon the idea of having tires of that description fixed on his Pickering, and his assertion that he could ride over ice and snow without slipping gained him at once numerous imitators; while, to further ease the jolts, Buell introduced elliptical springs on the front and the rear forks of his mount (Fig 2721). Once started, innovations kept apace. In February of this same year, 1869, the first number of *The Velocipedist*, a monthly, was issued in New York city. Then, a tandem, the first on record, was designed and built by H. T. Butler, of Cambridge, Mass., the lady sitting behind on a side saddle and working, therefore, with one foot only, while the gentleman occupied the front seat. The month of April, 1869, brought forth a "beautiful little ladies' velocipede" called the Peerless and mounted on low treadle wheels "so that a special dress was not required by the fair rider;" and in its issue of May 29, the *Scientific American* felt justified in making the statement that the velocipede had now "ceased to be a novelty upon our streets and public parks." In 1869, too, the first velocipedo entirely of iron and steel was manufactured by Magee of Paris. And now the utilitarian element of the popular machine began to assert itself. In 1870, Italy headed all other nations in adopting it for military purposes. In 1872, *brigades de vélocipédistes*, the forerunners of our own present messengers awheel, were organized in Paris to carry dispatches from the Bourse to the central telegraph office which was then some three miles distant. Two years later, while Bazaine's trial for high treason was going on in Versailles, 13 miles away from the capital, velocipedists were employed by Parisian newspapers to obtain the earliest news of the proceedings. In 1874, with the object of reducing the weight, a Mr. Merchegay advocated the plan of making the front wheel very large and the rear proportionately small, and of placing the rider as nearly as possible over the axle of the main wheel. The "bicycle" was now evolved; its former designations speedily disappeared; and for ten years its essential make-up remained practically unchanged. Experiments were tried in re-

Fig. 2731.

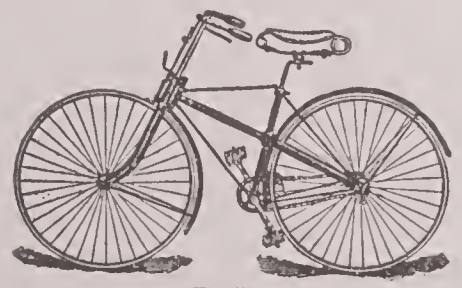


Fig. 2732.

gard both to the respective location of the wheels, and to the application of the motive power, as in the Lawson Safety of 1876 (Fig. 2724), the Facile of 1878, and the Xtraordinary of the same date (Fig. 2729), not forgetting the Otto, with its two large parallel wheels from the axles of which hung the rider's seat (Fig. 2725), the Bicyclette of 1880, the American Star of 1881 (Fig. 2722.), the Merlin of 1882, the Kangaroo of 1883 (Fig. 2723.), and several others; but the combination of high and low wheels continued to perplex reformers, and to estrange timorous would-be riders. It was during this heyday period of the high wheel that the first American bicycle was manufactured by Colonel Albert A. Pope, in 1878; its weight was 113 lbs., and its cost $337. Eventually, however, in the early eighties, a chain-geared, low-wheeled bicycle (Fig. 2726) was presented to the public, the advent of which proved the death-knell of the high machine. In vain did the historic bicycle tournament held at Leipzig in 1884 dazzle Europe with a display of all its resources; in vain were highly improved models, like that of 1886 (Fig. 2731) placed on the market; the "safety" of the newcomer overcame the unfavorable impression that its lack of gracefulness had at first created, and slowly, surely, it rose to the high-water mark at which it now stands in public estimation, and ultimately drove its gaunt predecessor entirely out of the field. It was but a short step from the model of Fig. 2726 to that of Fig. 2732, brought out

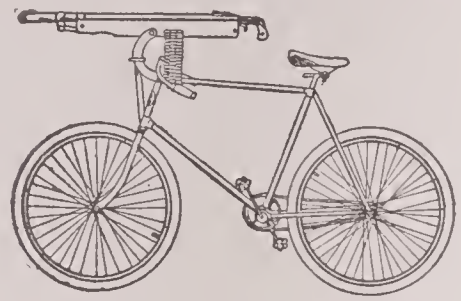
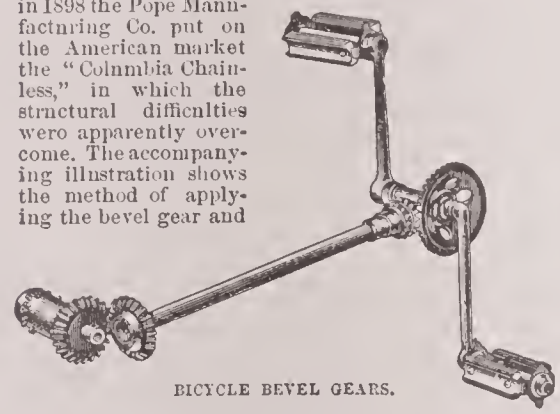


Fig. 2733.—ARMY BICYCLE OF 1897, CARRYING SMALL MACHINE GUN.

in 1887, and from the latter to the most up-to-date gentlemen's wheel of the present day (Fig. 2713), the chief feature in the transition being the invention of the pneumatic tire (*q. v.*) in 1889. In the same way the first drop-frame ladies' wheel, patented in this country in 1887 also, easily led the way to the slightly different forms at present in vogue (Fig. 2714).—*Chainless Bicycles.* For many years there has been a ceaseless effort to supplant the chain and sprocket by some other device for transmitting power from pedal to driving-wheel. This result has been successfully accomplished by the use of bevel gears attached to the pedals and connected by a shaft to the rear wheels. In 1894 a bicycle called the "League Chainless" was manufactured in Hartford, Conn., and met with some favor, though wide in tread and more weighty than the chain wheels of that year. It was also imperfect, structurally, and soon disappeared from the market. Since that time various makers of Europe and America have produced bevel gear bicycles of improved forms. The "Acatène," made in France, has proved successful; and in 1898 the Pope Manufacturing Co. put on the American market the "Columbia Chainless," in which the structural difficulties were apparently overcome. The accompanying illustration shows the method of applying the bevel gear and



BICYCLE BEVEL GEARS.

shaft system, in which absolute accuracy of action and perfect rigidity of frame are positive requirements. Another form of chainless bicycle has a cogwheel of several inches diameter on the pedal shaft in place of the customary sprocket, the teeth of which engage a similar wheel situated between this wheel and a cogwheel on the axle, the latter, in turn, being engaged by the teeth of the intermediate wheel. Direct cog motion is thus produced, but the method has not proved very satisfactory and this form of the bicycle has not become popular.—Regarding the adaptability of the bicycle to the uses of warfare, Major-General Nelson A. Miles is authority for the statement that there are at present in the United States Army some five thousand officers and soldiers who use the cycle either in service or for recreation, and that "in a country like ours in its present condition, and on an occasion of great emergency, it would be practicable to equip one hundred thousand men with this means of transportation, which would render them one of the most efficient armies ever organized."

Biela's Comet. (*Astron.*) A comet of short period (6¾ years) first seen in 1826 by Baron von Biela, an Austrian officer, and whose unusual and instructive history has made it of high interest and value to science. It was observed in two returns with no appearance of change, but on its third return, in 1845–46, astronomers saw with surprise that it had separated into two parts, which were about 157,000 miles apart. In 1852 these two parts were again visible, but had now separated to a distance of 1,250,000 miles. That was the last that has been seen of it. But, significantly, when the earth crossed its path in November, 1872, a shower of meteors was observed, which are now supposed to have been fragments of the lost comet. Biela's, therefore, appears to have yielded direct evidence in favor of the meteoric theory of comets, and of the mode of origin of meteoric rings. See COMET.

Big'elow, JOHN C., born at Malden, N. Y., Nov. 25, 1817. Author, journalist and diplomatist. Admitted to the New York bar, 1839; editor of *The Plebeian* and *The Democratic Review;* joint owner of N. Y. *Evening Post* with William Cullen Bryant, 1849–61; U. S. Consul at Paris, France, 1861–65; U. S. Minister to France, 1865–67. Among his later writings are a monogram on *Molinos the Quietist;* a life of W. C. Bryant; *The Complete Works of Benjamin Franklin; The Life of Samuel J. Tilden,* 1895.

Bijapore (*be-jah-poor'*), a town of Hindostan, in the Gnicowar's Dominions, 60 m. S. E. of Deesa. *Pop.* 11,824.

Bijnour (*bĕj-noor'*), a city of British India, N. W. Provinces, cap. of a dist. of same name, 34 m. E. of Moznffnrnuggur, in N. Lat. 29° 22′, E. Lon. 78° 11′. *Area* of dist., 1,904 sq. m. Soil fertile, producing cotton, sugar-cane, and wheat. *Pop.* of town 15,147.

Bikaneer (*bĕk-ah-neer'*), a town of British India, cap. of a Rajpoot state of same name, in N. Lat. 28°, E. Lon. 73° 22′. *Pop.* 56,260. The state has an area of 22,340 sq. m. and a population of 215,371.

Billings, JOSH. See SHAW, HENRY WHEELER.

Bimetal'lic, *a.* Of or pertaining to bimetallism; as, the *bimetallic* theory.—Consisting of two metals; as, a *bimetallic* currency.—Based, on terms of exact equality, upon two metals; as, a *bimetallic* monetary standard.

Bimet'allism, *n.* (*Fin. and Polit. Econ.*) A system of coinage and currency in accordance with which two metals (specifically gold and silver) are admitted to unlimited coinage, the coins being made full legal tender at a fixed relation in monetary value proportionate to their weight and fineness, respectively. "Unlimited" coinage does not necessarily involve "free" coinage, in the sense of its being *gratuitous;* but, if there be a charge for minting, it must be adjusted so as to not discriminate against either metal, for the essential principles of *B.* require absolute equality of the metals before the law, not only as to their monetary power, but as to their coinage. True *B.* must be carefully differentiated from the mere concurrent coinage and circulation of full legal tender gold and silver, as in the U. S., France and Germany at the present day. This latter system does not constitute *B.*, because silver is not thereby made a "standard" nor given full equality with gold in the matter of coinage, and without such equality the most important objects of *B.* must be completely defeated.

The purposes of *B.* are, first, to promote invariability of the monetary unit, and thereby attain steadiness or regularity of general values; second, to provide a larger volume of actual money, and so avoid an unnecessary use of so-called "token," "credit," or "representative" money—bank notes and the like—*i. e.*, currency that calls for redemption in some other form of currency, upon which promise of redemption its integrity is based. In support of the first claim, it is urged that two metals, collectively, will not, and cannot, be subject to fluctuations in exchange value so great as those to which either one, singly, might be subjected; hence, a double (more properly an *alternative*) standard of value gives greater promise of a stable monetary unit than the system of monometallism can possibly provide. The history of *B.* in France (1803–1873), and in the U. S. (1792–1873) is cited to prove this contention, it being shown that during that time a parity of the metals was very closely maintained between the ratios 15½ : 1 and 16 : 1; and this notwithstanding the fact that the world's production of silver was largely in excess of these ratios during the first half of the period named, while that of gold was equally excessive during the second half. As we shall see, these claims are substantially correct; and, inasmuch as true *B.* was practically abolished in 1871-73, no later actual tests of the system are on record and available for the purposes of argument. As to the second claim, it must be freely conceded that the placing of silver upon an exact equality with gold would at once double the quantity of the world's so-called "primary" money, if at a ratio of 15½ : 1 or 16 : 1. Whether the effect of such action would be beneficial, or otherwise, is another question.

Bimetallism is entirely feasible, as a principle; that is to say, a double standard is quite possible as a legal enactment, though probably impracticable as a physical fact. Both gold and silver are commodities, and will forever obey the natural law of commodity, the action of which law, however, is certain to be greatly influenced by statutes governing coinage. It is by reason of this natural law of supply and demand that *B.*, in actual practice, is likely to resolve itself into monometallism of an alternative character. That is to say, if there shall be established a "double standard," *i.e.*, a system under which either of two metals is legally recognized as a monetary standard, it is inevitable that the one which is actually a fraction the cheaper of the two (at the fixed ratio) will be the one which constitutes the actual standard, and will so continue until parity shall be again reached through the operation of natural laws. That there may be two separate, differing standards for the same thing, at the same time, is manifestly absurd; but a legalized choice between two different standards may exist—in fact, must exist, under *B.* The inexorable law of supply and demand renders it extremely improbable that any two commodities will long exactly sustain a given value relation, and the utmost that can be accomplished by legal enactment is to prevent a serious divergence from the fixed ratio. But that this may be done by the bimetallic system, is abundantly proved by the history of the French-American experiments of 1803–1873 and 1792–1873, during the course of which, and regardless of tremendous variations in the relative production of the two metals, a commercial ratio was

steadily maintained with very narrow fluctuations which but once overstepped the difference between the French ratio of 15½ : 1, and the American ratio (after 1834) of 16 : 1. In this connection the following table is of extreme interest:

TABLE SHOWING THE WORLD'S PRODUCTION OF SILVER AND OF GOLD, IN FINE OUNCES, FROM 1801 TO 1897, THE AVERAGE RATIO OF SUCH PRODUCTION, AND THE AVERAGE COMMERCIAL RATIO (BULLION PRICE) OF THE TWO METALS:

Years.	World's Production, in Fine Ounces.		Average Ratio of Production.	Average Commercial Ratio.
	Silver.	Gold.		
1801–1810	287,469,225	5,715,627	50·3 : 1	15·09 : 1
1811–1820	173,857,555	3,679,568	47·2 : 1	16·61 : 1
1821–1830	148,070,040	4,570,444	32·4 : 1	15·8 : 1
1831–1840	191,758,675	6,522,913	29·4 : 1	15·75 : 1
1841–1850	250,903,422	17,605,018	14·26 : 1	15·83 : 1
1851–1860	287,920,128	64,482,933	4·46 : 1	15·29 : 1
1861–1870	392,267,776	61,298,343	6·4 : 1	15·56 : 1
1871–1880	710,463,078	55,670,618	12·76 : 1	16·89 : 1
1881–1890	1,004,576,877	51,280,184	19·59 : 1	19·87 : 1
1891	137,170,919	6,320,194	21·7 : 1	20·92 : 1
1892	153,154,762	7,102,180	21·56 : 1	23·72 : 1
1893	166,092,047	7,608,787	21·83 : 1	26·49 : 1
1894	167,752,561	8,737,788	19·19 : 1	32·56 : 1
1895	169,180,249	9,688,821	17·46 : 1	31·6 : 1
1896	165,100,887	9,817,991	16·81 : 1	30·66 : 1
*1897	164,530,400	10,105,500	16·28 : 1	32·31 : 1
TOTAL	4,570,268,601	330,206,909	13·84 : 1	

*Estimated.

Analysis of this table proves that neither the proportionate overproduction of silver during the first 48 years (averaging about 36·6 ounces to each ounce of gold) nor the deluge of the yellow metal following 1848, was able to upset the coinage ratios of France and the U. S., the average annual variation being, in fact, only four-fifths of one per cent. In the decade of greatest gold production (1850–60) alone did the bullion ratio go higher than 15½ : 1 (15·29 : 1), and it never fell below the American ratio of 16 : 1. From all of which is clearly evident that the ratio of production had no important effect upon the commercial ratio before demonetization was effected; and that the divergence in prices since the decade of 1871–80 cannot be accounted for by a corresponding increase in the ratio of production. The great growth of the silver product since 1873—and particularly since 1878—may be ascribed almost wholly to the mistaken zeal of the so-called "friends of silver," who foolishly insisted upon its large purchase for conversion into money that was dishonored in advance. This course, which stimulated the production and reduced the price of silver one-half in spite of government purchases, has supplied the advocates of gold monometallism with their most effective argument, and one that is superficially unanswerable—*i. e.*, that bimetallism, as proposed in the campaign of 1896, would provide a "50-cent dollar," and consequently, a dishonest currency.

At the beginning of the nineteenth century, the world's stock of silver and gold was estimated to be in the proportion of 15 or 15½ ounces of silver to one of gold, which closely accorded with the ratio adopted by the U. S. in 1792. Our change of ratio, in 1834, had the perfectly natural effect of driving our silver out of circulation, the French ratio of 15½ to 1 being more favorable even after paying the cost of transportation. We had thenceforth (gold) monometallism in fact, although our system nevertheless remained bimetallic; for *B.*, as we have already observed, might be more properly termed *alternative monometallism*. The gold discoveries in California and Australia (1847–1851) emphasized the undervaluation of silver at our mints, but did not materially change the commercial ratio of the two metals in the world's markets, although within the twelve years from 1848 to 1860, the stock of gold in the hands of civilization was literally doubled. As gold depreciated, so did silver; the two metals were held together by a bond that could not be broken by the vicissitudes of mining enterprise. Such, indeed, is the purpose and natural effect of bimetallism; but, while the figures we have just examined seem to show beyond doubt the power of this system to preserve an approximate parity in the face of the widest variations in production, this does not at all prove that a monetary unit thus sustained will be invariable or even nearly so. The truth is that under the bimetallic system the two metals are certain to appreciate or depreciate approximately in unison, remaining constantly in close touch with each other. The extent of such appreciation or depreciation will depend, at least to a degree, upon the combined production of the two metals. It is claimed, and not unreasonably, that under the bimetallic system fluctuations will be less frequent, and that, consequently, a more stable monetary unit will be maintained; but no well-informed disputant, whether of the bimetallic or the monometallic school, now asserts that complete stability is attainable by either method. On the contrary, it may be confidently stated that no monetary system employing a marketable commodity (or commodities) as a so-called "standard of value," can possibly provide an absolutely changeless monetary unit. The question, then, as between the two metallic schools, is: By which is the greater degree of stability to be attained?

Spurious *B.* is a term that has been somewhat appropriately applied to the present monetary system of the U. S. The presence in our currency of large quantities of full legal tender silver dollars (and of paper certificates of deposit representing the same) has doubtless given rise to the erroneous belief, so widely entertained, that ours is a bimetallic system. Many are unable to distinguish between the currency—the monetary tokens—and the monetary unit, or so-called standard of value. Prior to 1873, silver had full equality with gold at our mints; but, owing to tho more favorable French ratio, practically no silver was coined, after 1834, except fractional pieces of light weight. The metal constituted no part of our currency except in the form of small coins. At the time of demonetization, 1873, silver was still undervalued, the dollar being worth about $1.03 in gold, this premium of 3 per cent. representing almost exactly the difference between the French ratio and our own (15½ : 16 : : 1.00 : 1.032+). Nothing further is required to explain the fact that our mints coined practically no full-weight silver after 1834. Our bimetallic system was resolved into actual (gold) monometallism by the difference in ratio just noted; but, notwithstanding this, the influence of *B.* was as potent is our commercial and financial operations as though equal quantities of the metals had been in circulation here, and so continued until 1873, although our currency was virtually devoid of both metals after 1861. Shortly after 1873 began the fall in the price of silver as expressed in terms of gold (which was thereafter the *sole*, not the *alternative*, standard), although the production of silver did not greatly increase for several years, and did not reach a product ratio of 15½ : 1 until 1881. In 1894 the world's output of silver was only 19·19 ounces to each ounce of gold; yet the commercial ratio had fallen to 32·56 : 1. Compare this with the decade of 1861–70, with a product ratio of 6·40 : 1 and a commercial ratio of 15·56 : 1, and even with the decade of demonetization (1871–1880), when the product ratio was only 12·76 : 1 with a commercial ratio of 16·89 : 1, and it may be easily seen that statutes—coinage laws—may very greatly affect values, though perhaps they may not "create" them.

The efforts of our government to maintain a parity between our gold and silver coins have had the very natural effect of depressing the (gold) price of silver. One of the ludicrous features of contemporary financial discussion is the persistency with which it is urged that "even the enormous treasury purchases of silver have failed to keep up its price;" this being put forth as conclusive proof that overpromotion of that metal, and not its demonetization, is responsible for its decline. While it is true that an enlarged demand for any commodity generally causes an advance in its price, supply remaining the same, it by no means follows that this rule should hold good in the case of silver. There are two principal reasons why we should expect an exception:

1. Because all coinage values are, in a wide sense, artificial, as was that of silver prior to 1873 and as is that of gold to-day. The legislative prop having been removed from silver in 1873, a fall in its price was inevitable. Further, the legal support that was then withdrawn from silver was transferred to gold, thus intensifying their divergence in purchasing power.

2. Every dollar of silver coined since 1873 (or issued by proxy in tho form of a silver certificate), has added one dollar to our "token" money redeemable in gold—not redeemable by an actual promise, but by virtue of the avowed purpose of the government to maintain all forms of its money at a parity with gold, in accordance with which plan all government obligations have been held to be payable in gold upon demand of the creditor. It is probably true that the parity of gold and silver dollars could not have been maintained by any other means, the bimetallic system having been abandoned; but the purchase of large quantities of silver from which to create additional obligations virtually redeemable in gold, could have had no other ultimate effect than to reduce the gold price of the white metal, and with it the prices of nearly all other commodities. And that is precisely what took place.

What would have been the relations of gold and silver now, had the demonetizations of 1871–73 not occurred, must always remain a matter for conjecture. It is safe to assume, however, that very little silver would have been offered at our mints so long as 15½ : 1 continued to be the French ratio, with ours at 16 : 1. We may also assume that the production of silver would never have attained such large proportions but for the artificial stimulus supplied by the purchases by the U. S. government—a fatal blunder on the part of the silver party. Equally probable it is that, in the absence of demonetization, the commercial ratio would have continued between 15½ : 1 and 16 : 1, regardless of production, and that the range of general prices throughout the world would have been governed, as before, by the purchasing power of the metals jointly, instead of by that of gold alone; which assumption warrants the conclusion that the general fall in prices, which has undeniably occurred, would have been largely prevented. This view is sustained by the immense combined total of production of the two money metals. Such fall having taken place, however, and contracts and obligations having been entered into and remaining in force on a basis of gold alone, it is hard to avoid the conclusion that a sudden return to the full bimetallic system would reduce the value of certain kinds of property, specifically money itself and securities payable or redeemable in money. That such losses would reach or even approximate the figures put forth by the opponents of bimetallism, is unlikely to the point of absurdity.—Equally ridiculous is the assertion that the remonetization of silver would result in doubling the prices of all commodities except labor (which is virtually a commodity). The arguments put forth in support of this notion are entirely based upon alleged experience; they lose all their force when we remember that no parallel condition is presented in the history of all the world.—That the resumption of bimetallism, under present conditions, would result in reducing the purchasing power of the dollar, must be admitted by all honest bimetallists; the alternative being to admit that prevailing low prices are not the effect of gold monometallism. Such reduction, however, would not necessarily be to the level of the present value of silver; hence, the "50-cent dollar" may be summarily dismissed as a campaign scarecrow. In the restoration of the parity which it is assumed would follow a return to bimetallism, it is fair to suppose that silver would advance, about as rapidly as gold would recede, toward the point of convergence; and this view is maintained by the relative production of the metals at the present time, and future production, so far as it can be forecast.—That the concurrent adoption of bimetallism by a sufficient body of commercial peoples at approximately the same ratio would restore and maintain a practical parity between the two metals, admits of no doubt; but the ability of this or any other one or more nations to accomplish this result, without the concurrence of the others, is purely a matter of speculation. It is certain, however, that if half the world should establish a ratio of 15½ : 1 and the other half a ratio of 16 : 1, the former would mint most of the silver, the latter most of the gold; while a uniform legal coinage ratio throughout the world would positively guarantee the constancy of an identical commercial ratio, so long as the combined product of the metals should not exceed the amount required for monetary uses—that is, so long as the coinage demand should remain the chief demand.—One of the important effects which bimetallism seeks to produce is the reduction of uncovered paper currency. In order that a metallic currency may be sound, in the best sense, the metal itself should circulate; or, if this be inconvenient (as it is in the case of silver especially), then the metal represented by paper tokens should actually remain on deposit as security for redemption. Inflation of the currency, by issuing paper money in excess of the metal deposited, is always an element of danger and a positive menace in times of depression or panic. The world's inadequate supply of gold coin compels the use of credit currency—uncovered treasury paper, bank notes, and the like—and also the excessive use of general commercial credits. The rehabilitation of silver, if safely accomplished, would certainly permit the disuse of inflated paper currency to the extent that the metal might be coined (or issued in the form of paper certificates) to take its place; and the amount of gold and its paper representatives that might circulate side by side with silver would depend upon how closely our coinage ratio should coincide with the ratios of other nations and with the world's estimate of bullion values.

In this connection, it is proper to direct attention to the prevailing form of argument against the principle of *B.*, in order to show the general misapprehension that exists as to the true character, aim, and effect of that system when properly applied. The *Bankers' Magazine* for March, 1897, finds the origin of the current monetary troubles of the U. S. in the demand that the value ratio of silver to gold shall be determined by the government, and asserts that such an effort is not a proper governmental function. We quote:

> Being commodities as well as money, and being commodities before and after they are money, and being money simply and only because they are commodities, and being commodities because they have recognized and intrinsic value independent of any action of government, and even in the absence of government, and being, therefore, severally subject to all the laws of commodities, the law of variable supply and demand and value among others, and these variations not being uniform for both metals, it is impossible that government can ever "fix" the ratio of their values. If, however, it should be insisted that it is the function and duty of government to (try to) "fix" the ratio of their values, it would seem to follow as a logical consequence that, since their relative value depends absolutely on the relative supply of the two metals, it is the primary and plain duty of the government to "fix" (regulate) their supply by controlling and operating the gold and silver mines, the sources of their production. It should do both things, or neither, and it is preferable that it should do neither. It is folly to expect to do the former without doing the latter.

This statement has been pronounced by a highly influential daily contemporary to be "the truth of the matter in a nutshell." But such truths as are contained in the above quotation are not traversed by the principles of *B.*, which do not maintain that the government can arbitrarily fix the value of anything, nor the ratio of value between any two things. Nevertheless, the government has the undoubted power to open its mints to the unlimited coinage, on equal terms, of two metals at a certain ratio; the natural law of commodity will do the rest. But without *B.* (which includes unlimited coinage of both metals) even government control of all the mines—a truly childish proposition—would not avail, nor can any statute force a parity in the absence of true *B.*—*i. e.*, without unlimited coinage of both. These assertions are proved by history, including our own bitter experience, and cannot be controverted. If it be true that "their relative value depends absolutely on the relative supply of the two metals," what becomes of the unassailable facts shown by the world's experience from 1803 to 1873? We have already seen that a relative production of silver and gold varying, during that period, from 50·3 : 1 to 4·46 : 1 had practically no effect on the relative bullion value of the metals. Without going further into details, it must be clearly seen that the statement just quoted, in common with very much of current monetary comment, is based upon a faulty con-

ception of the questions at issue and made without due regard to the actualities of recorded experience.

Advocates of *B.* should not be dismayed by formidable statements showing an immense government loss through the purchase of silver bullion, now worth millions less than it cost. The figures cannot be disputed, but the fact remains that these transactions could never have occurred but for the abolition of true *B.* Our national loss, as superficially shown by these estimates, has been caused, not by the practice of *B.*, but by its abandonment. Again, as every business man knows, the bulk of our currency, as handled in every-day trade, has been for years composed most largely of silver or silver certificates and Treasury notes of 1890. The use of these forms of currency in the channels of trade and industry unquestionably contributed in a large degree to our national prosperity during the period prior to the crash of 1893, adding to our wealth a sum infinitely greater than the total cost of all the silver in the Treasury: and nothing is more certain than that, without such addition to our freely-circulating currency, an era of tumbling values and disaster would have overtaken us long before. This much, at least, should be said in extenuation of the bungling policy which, under pretence of promoting the cause of *B.*, has brought that system into undeserved disrepute. For the future it may be hoped that there will be no attempt to sustain this spurious system; and, if we are to carry out the principle that "all our silver and paper currency must be maintained at a parity with gold" (*vide* the Republican platform of 1896)—which parity, in the absence of true *B.*, can be maintained only by making those forms of money virtually redeemable in gold—a due sense of economy should lead us to print such tokens on paper instead of upon so expensive a substance as silver. See BANKS, NATIONAL; MONEY; MONOMETALLISM.

Binary System. A system of two stars which revolve around a common centre of gravity. It is probable that all double stars, that is, stars which are actually, as well as apparently, very near each other, form binary systems, but this can be known to be the case only when their motion has been observed. The period of revolution is usually one of centuries, and frequently thousands of years, so that only long-continued observation can detect their relative motion: but, as research in this direction continues, new cases of binary systems must be added to those now known. Sir William Herschel was the first to make exact estimates of the relative positions of such objects. He was followed by Struve, and others have since paid attention to this subject, with the result of adding to the list of double stars. The most remarkable instances are those discovered by the spectroscope, where the motion is too small to be discovered by any other means. Highly interesting examples are those in which a light-giving star is associated with a dark companion, known only by its influence in its associate. Thus the star Algol has an invisible companion, which partly eclipses it at every revolution. A few triple and quadruple systems have also been discovered. See STAR.

Binondo (*be-nŏn'do*). (*Geog.*) A town of the Philippine island of Luzon, and seat of govt. of the prov. of Tondo, opposite Manila, with which city it connects by a superb stone bridge over the Pasig, 411 feet in length. *Pop.* (1895) about 30,000.

Biochem'ic, *a.* Of, belonging to, or pertaining to biochemistry; as, the *biochemic* school of medicine.

Biochem'istry, *n.* [From Gr. *bios*, life; Eng. *chemistry.*] (*Biol.*) That branch of science which treats of the chemical composition of animal and vegetable tissues.—A school of medicine based upon this science was founded about 1873 by Dr. Schussler, of Oldenburg, Germany, which has gained some recognition both here and abroad. Schussler's theory assumes that all diseases are caused by an absence or deficiency of certain cell-salts which are necessary to the maintenance of organic life; and its aim is to determine the character of these lost or missing constituents, and to supply them directly by alimentation. It is asserted by followers of this school that all the beneficial effects following the administration of medicines in the usual way are really due to the fact that the ordinary practitioner accidentally—or, rather, ignorantly and without specific intent—administers the cell-salt that is actually required; which the Schussler school proposes to do deliberately and as a result of scientific chemical determination. In other words, the biochemic school regards organic life as a mere chemical combination, which, by analogy, should be susceptible of indefinite prolongation, the nature of the combination being established and an adequate supply of its elements being at hand. No such wide claim, however, is found in the literature of the school.

Biogen'esis. [From Gr. *bios*, life, and *genesis*, birth.] (*Biol.*) The doctrine of the origin of living organisms from preceding ones, by means of either sexual or asexual reproduction. It is opposed to *abiogenesis*, or origination of living from non-living matter. *B.* is also applied to the recent doctrine of reproduction and development which holds that "ontogeny" or the history of the development of the individual, is a short recapitulation of "philogeny," or the history of the race. In other words, it is maintained that the individual, in developing from the ovum to the adult stage, passes through a series of forms which belonged to adult animals along its line of descent, these being more or less concealed and abbreviated in the rapidity of individual growth and changes.

Biol'ogy, *n.* [From Gr. *bios*, life, and *logos*, discourse.] In its most general sense, the science which comprehends everything relating to the phenomena of life, whether animal or vegetable. In a more restricted application, the term is synonymous with that of *General Physiology* and is therefore confined to the study of the acts manifested by living organized beings. The latter definition, however, has not appeared logical to the best of our modern scientists, who have seen in the introduction of this word a happy idea, the application of which unites under one and the same head all that relates to the study and science of life.

Biom'etry. [From Gr. *bios*, life, and *metrom*, measure.] (*Math.*) A term sometimes applied to that branch of science which treats of, or has reference to the doctrine of life—probability, longlevity, calculation of annuities, and the like.

Bi'oplasm, *n.* [Gr. *bis* and *plasma*, "a thing formed of life."] This term was proposed by Dr. L. S. Beale to indicate the living or self-propagating matter of organic beings. In his view, a white blood-corpuscle, or an epithelial cell, is a mass of *B.*, or a *bioplast*, around which gathers what was once bioplastic matter, but is now non-living, or "formed" matter. The term has come into but little use in science.

Bipinna'ria, *n.* (*Zoöl.*) The name of a star-fish larva. This larva differs so remarkably from the mature star-fish that it was once thought to be a distinct animal, the transformation being one of the strangest in nature. It is a free-swimming form, of aereous shape, having two ciliated bands and a tendency to develop long, stilt-like arms or processes. In the subsequent change into a star-fish the transformation is strangely indirect. The *B.* does not turn into the adult, but acts as its "nurse." The adult is formed within the *B.*, taking in its vital organs, but making no use of the remainder, which is rejected and still manifests the actions of life.

Bis'marck, a city, capital of *North Dakota*, on the N. Pacific R. R., and on the Missouri river, over which is a handsome iron and steel bridge of four spans, each of 400 ft. *Pop.* 1890, 2,186; 1897, about 3,750.

Bis'marck Archipel'ago. (*Geog.*) The name given to New Britain, New Ireland, New Hanover and several small islands in the S. Pacific off the coast of New Guinea, since 1884 a German dependency. *Area*, 18,150 sq. m. *Pop.* 188,000.

Bis'muth (*Metal.*) Unlike most other metals, *B.* is found chiefly in the metallic state and disseminated, in veins, through gneiss and clay-slate. The chief supply is derived from the mines of Schneeberg, in Saxony, where it is associated with the ores of cobalt. The

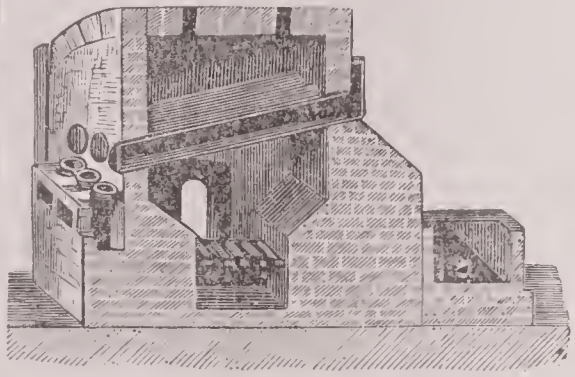


Fig. 2734.—EXTRACTION OF BISMUTH.

metallurgical treatment of the native *B.* is very simple. The ore is broken into small pieces, and introduced into iron cylinders which are fixed in an inclined position over a furnace (Fig. 2734). The upper opening of the cylinders, through which the ore is introduced, is provided with an iron door, and the lower opening is closed with a plate of fire-brick perforated for the escape of the metal, which flows out, when the cylinders are heated, into iron receiving-pots which are kept hot by a charcoal fire.

Bissell, WILSON S., born in New York in 1847. A lawyer and politician. Joined the law firm of Bass, Cleveland & Bissell in Buffalo, 1873; Postmaster-General under President Cleveland, 1893–95.

Bizet, ALEXANDRE CÉSAR LÉOPOLD, known as GEORGES, born at Paris, France, Oct. 25, 1838. Musical composer; admitted to the Paris Conservatoire at the age of nine. Wrote the operas *Djamileh*, *L'Arlésienne*, *Carmen*, not to speak of *Roma*, *Patrie*, *Chants du Rhin*, *Feuilles d' Album*, &c. Died at Bougival, June 3, 1875.

Bjorneborg (*be-orn'borg*), a seaport of European Russia, in the government of Finland, at the mouth of the Kumo, in the Gulf of Bothnia, 70 m. N. N. W. of Abo. Ship-building is extensively engaged in. *Pop.* 8,000.

Bjornson (*be-örn'-son*), BJORNSTJERNE, a Norwegian writer and poet, born 1832. At an early age he developed great love for his native folk-lore. His first work was a drama, *De Nygifte* (The Newly Married Couple), followed by *Mellem Slagene* (Between the Battles). His *Synnöve Solbakken* was a great success; besides many other successful stories of peasant life, as *Barfüssele* (Little Barefoot), *En glad Gut* (A happy Boy). After some years of unproductiveness, he issued *En Fallit* (The Bankrupt), which was very popular. He is also a strong popular orator, always on the side of the people. He visited the U. S. in 1880. Others of his works are *En Hanske* (A Gauntlet), *Over Evne* (Beyond his Power), and *Geografi og Kjærlighed* (Geography and Love), all dramas; and a novel, *Flags in City and Harbor*. *B.* is the foremost Norwegian advocate of republicanism in politics and free thought in religion. His activity as editor and political leader has been very important. The independence of Norway has been earnestly advocated by him, and his influence over his countrymen is very great.

Black, CHAUNCEY FORWARD, a lawyer and politician, son of Jeremiah S. *B.*, was born in Penna., in 1841; was elected Lieut.-governor of that State in 1882, and in 1884 was the defeated candidate for Governor on the Democratic ticket.

Black, JAMES, born at Lewisburg, Pa., Sept. 23, 1823. Admitted to the bar, 1846; devoted his talents to the organizing of the temperance movement; was the author of the 1864 "cider tract"; was one of the leading organizers of the Good Templars, and the first to propose the formation of a distinct temperance party; was candidate for U. S. Presidency, 1872. Wrote a number of pamphlets on prohibition. Died in 1893.

Black, JEREMIAH SULLIVAN, an eminent jurist of Pennsylvania, born 1810; judge of the Supreme Court of Penna., 1851; U. S. Attorney-general, under Buchanan, 1857; Secretary of State, 1860. A man of great force and determination of character, a commanding figure in the politics of his day. Died 1883.

Black, WILLIAM, b. in Glasgow, Scotland, 1841. Abandoned journalism for fiction in 1867, when he published *Love or Marriage*, soon followed by *A Daughter of Heth*, *A Princess of Thule*, &c. His most recent novels are *Highland Cousins*, 1894, and *Briseis*, 1896. Died 1898.

Black Band. (*Min.*) A clay ironstone, or compact carbonate of iron, in which there is from 25 to 30 per cent. of carbonaceous matter. It is found in abundance in the coal-fields of Scotland, and is used almost exclusively in that country for the production of certain grades of iron. While not very rich in iron, it is easily reduced. The coal-measures of Ohio also contain black-band iron ore, and it is here used to a small extent in iron production.

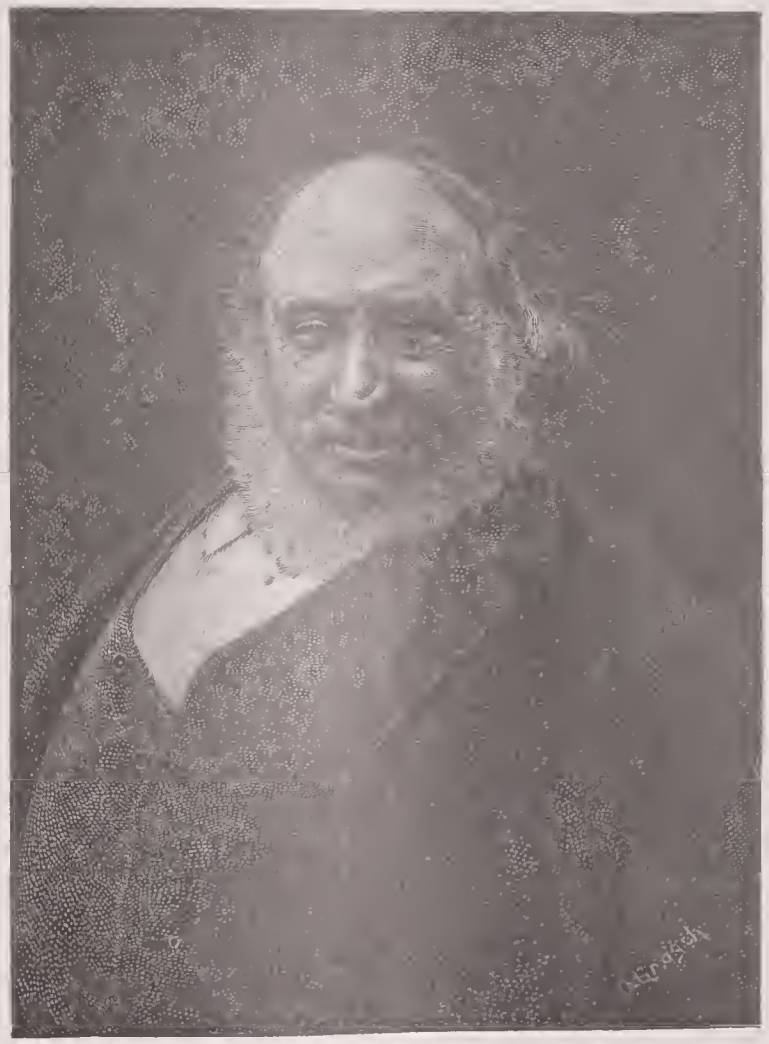
Black Flags. The name given to certain surviving bands of the Taiping rebellion in China, who, after the overthrow of the rebel army, took refuge in Tonquin, where in 1868 they held the valley of the Red River as far as Hanoi. Soon after they were forced back to the upper part of the valley. In 1873 the Black Flags were called upon by the Tonquinese to aid in expelling the French from Hanoi, and in the struggle that followed they defeated a French sortie and killed its commander, Garnier. In 1882 the French commander, Rivière met with a like fate at their hands in the same locality. In 1885 China had become engaged in the war for the expulsion of the French, and the Black Flags, with troops from China, held the passes above Tuyen-Kivan for nearly a month against repeated assaults from the French, and were still in possession when the war was ended by negotiations. The year before the *B. F.* had become notorious for their massacre of the native Christians at the French mission stations, nearly 10,000 falling victims to their murderous fury. The *B. F.* at present number about 5,000, many of them desperadoes in character and given to pillage. The Yellow Flags, a considerably more numerous band, are peacefully disposed.

Black Fungi. (*Bot.*) An order (*Pyrenomyceteæ*), of fungous plants of the class *Ascomycetes*, degraded in character, usually hard in texture and often of a black color. They are essentially parasitic in habit, although in many cases saprophytic, and in all number about 7,000 species, divided among a number of families. Among those best known and most troublesome to agriculturists are *Clariceps purpurea*, the ergot of rye, and *Plowrightia morbosa*, the black-knot of the plum tree. Some of them, microscopic in size and greatly degraded in function, are parasitic on insects.

Black Hills, in *South Dakota*, so called from the Indian name, *Pah-Sappa* (black-hill). Surface mountainous; Harney's Peak, the second highest, is 7,440 ft. ab. tidewater. The timber is chiefly pine. Soil usually rich, black loam, well adapted for agricultural and grazing. Climate excellent, neither hot nor too cold; thunder-storms prevail. Animals: bear, deer, wolves, foxes, and beavers. Birds are not numerous, and fish but few. In the granitic area of the E. section of the *B. H.*, containing abt. 700 sq. m., indications of gold abound; in the valleys of the streams gold is generally found, but not in sufficient quantity to pay the ordinary pan miner. The approach to the *B. H.* is through long stretches of inhospitable, treeless plains, with water too alkaline for use; but when you reach the *B. H.* you enter a country of beautiful scenery, excellent soil, fine climate, abundant timber, and building stone. As a grazing country it has no superior. This region was ceded to the U. S. by the Dakota Indians in 1875, and was rapidly occupied by miners, an important industry in gold mining soon springing up. Since that time the district has produced gold to the value of over $50,000,000, with about $1,000,000 in silver. Deposits of tin have also been found, but in a form not easily reducible.

Black Walnut. *Juglans nigra*, one of the most valuable timber trees of the U. S. It is found throughout the eastern half of the country, though at present rare in New England. The *B. W.* is a handsome tree and produces a nut which, though edible, is less so than that of the European walnut. Its special value lies in its solid, dark-red timber, which has no superior as a cabinet wood, and is employed largely for furniture and a great variety of other purposes.

Blackie, JOHN STUART, born at Glasgow, Scotland, July, 1809. A philologist, poet and lecturer; professor of Greek at Edinburgh, 1852–82. Wrote *Four Phases of Morals*; *Lays of the Highlands*; *Horæ Hellenicæ*; *The Language and Literature of the Scottish Highlands*; *The Wise Men of Greece*; *Altarona*, *Messis Vitæ*; *What Does History Teach*, &c. Died March 2, 1895.



Richard Doddridge Blackmore

1825 — 1900

James Gillespie Blaine

1830–1893

Black'more. RICHARD DODDRIDGE, born at Longworth, Berkshire, Eng., in 1825. English novelist, originally a lawyer. Author of *Clara Vaughan; Craddock Nowell; Lorna Doone;* and, among others, *Perlycross*, 1891; a volume of verse, 1895; and *Tales from the Telling House*, 1896. Died Jan. 21, 1900.

Black'pool. (*Geog.*) A handsomely-built town and fashionable seaside resort of England, Lancaster co., on the Irish Sea, 18 m. S. W. of Preston. *Pop.* 23,840.

Blaine, JAMES GILLESPIE, born at Washington, Pa., Jan. 31, 1830; a brilliant statesman, able and versatile debater and an aggressive Republican leader. A school teacher, 1847; editor of *Kennebec Journal*, Augusta, Me., 1854; elected to State Legislature, 1858, and to Congress, 1863; Speaker of the House for three terms, 1869–75; U. S. Senator, 1876–81; Secretary of State under Garfield, 1881; unsuccessful candidate for U. S. Presidency, 1884; Secretary of State under Harrison, 1889 (resigned 1892). Died at Washington, D.C., Jan. 27, 1893.

Blair, FRANCIS PRESTON, born at Abingdon, Va., April 12, 1791. A journalist and politician; edited the *Washington Globe* as a Jacksonian Democrat, 1830–45; was brought by the slavery question to be one of the founders of the Republican party; and was a Democrat again in his later years. Died at Silver Spring, Md., Oct. 18, 1876.

Blair, FRANCIS PRESTON, JR., born at Lexington, Ky., Feb. 20, 1821, son of the preceding. Congressman from Missouri, 1857–59 and 1861–63; a distinguished commander (major-general) in the Vicksburg campaign and Sherman's march; unsuccessful Democratic candidate for Vice-Presidency, 1868; U. S. Senator, 1870–73. Died at St. Louis, July 5, 1875.

Blair, HENRY WILLIAM, born in Campton, N. H., Dec. 6, 1834. Admitted to the bar, 1859; lieutenant-colonel of volunteers during the Civil War; twice wounded at Port Hudson; elected to N. H. House of Representatives, 1866, and to the Senate, 1867 and 1868; Congressman, 1875–79; U. S. Senator, 1879–91. Author of the "Blair Common School Bill" for the distribution of Federal money for educational purposes among States in proportion to the number of their illiterates.

Blake, HON. E., born of Irish parents in Middlesex co., Canada, in 1833. Late Premier of the Legislature of Ontario and subsequently Minister of Justice, Attorney-General and leader of the opposition. Disagreeing with the policy of commercial union with the U. S., he resigned his offices and moved to England in 1892, entering Parliament the same year as member for Longford, Ireland.

Blake, LILLIE DEVEREUX, born at Raleigh, N. C., Aug. 12, 1835. An ardent advocate of woman's rights, a good speaker, and a copious writer. Author of *Southwold; Rockford, or Sunshine and Storm; Fettered for Life; Woman's Place To-day; A Daring Experience and other stories*, 1892.

Blanch'ard, THOMAS, born at Sutton, Mass., June 24, 1788. The inventor or improver of some of the most remarkable mechanical devices brought out in this century, among others a machine for turning and finishing gun-barrels by one operation; another for cutting, pointing, and heading tacks by a single operation; a third for cutting and folding envelopes; a steamboat so constructed as to be able to ascend rapids, &c. Died at Boston, April 16, 1864.

Bland, RICHARD PARKS, born at Hartford, Ky., Aug. 19, 1835; a Missouri lawyer and politician. In Congress since 1873; a noted advocate of the free and unlimited coinage of silver. Author of the "Bland Act" of 1878, compelling the Secretary of the Treasury to purchase, monthly, enough bullion to coin not less than two million nor more than four million silver dollars of 412½ grains troy, each.

Blash'field, EDWIN HOWLAND, b. at New York, Dec. 15, 1848; a subject painter. Author of *A Poet; Toreador; The Augur; Emperor Commodus Leaving the Amphitheatre at the Head of the Gladiators; The Fencing Lesson; The Besieged;* a number of decorative panels; a portrait of H. McK. Twombley, &c.

Blast'ing. (*Mining and Quarrying.*) The compounds of nitro-glycerine, so strongly objected to for some years, have now come to the front as the safest as well as the most powerful of explosives. Nitro-glycerine or nitrate of glycerine, was discovered in 1847 by the Italian chemist, Sombrero. It is a pale-yellow, oily fluid, of 1·6 sp. gr., which commences to stiffen and solidify when the temperature falls below 8° C., or 47° F. It is insoluble in water, but can be mixed with methylated spirit, benzole, nitro-benzole, or a mixture of alcohol and ether. Against the use of pure nitro-glycerine a strong prejudice still exists in consequence partly of the poisonous nature of the substance, but mainly on account of its violent and sensitive nature, and the many accidents which happened in its earlier applications. Nobel, the Swedish chemist, was the first to tame its violence, and to put it under complete control, so far as safety was concerned, by mixing it with the fine infusorial earth so well known to microscopists, and thus forming a simple mechanically plastic substance, handier as well as safer for use for mining and quarrying purposes. This substance, consisting of 75 per cent. of nitro-glycerine and 25 per cent of silicious meal, was proved, both as to safety and power, by numerous most important and convincing experiments, and has reached an enormous sale for blasting operations under the name of *dynamite*. Thus compounded the plastic mass is of a tawny reddish hue, of a consistency approaching that of putty. Set on fire in the open air, dynamite merely deflagrates; it will simply burn when enclosed in ordinary boxes, producing only slightly noxious gases and very little or no smoke. It explodes only in completely closed spaces, and with difficulty by means of sparks. It may be, when thus confined, exploded by glowing hot metals, by bullets fired into it, and otherwise by deliberate artificial ignition. The disadvantage urged against it in its practical application is, that when the temperature falls below 6° C., it hardens, and that then, particularly when loose cartridges or a series of cartridges are employed, the whole of the charge is not exploded, but a portion remains altogether undamaged, or is blown out unexploded. The cause of this stiffening is of course due to the natural crystallization of the nitro-glycerine. *Lithofracteur*, the invention of Prof. Engels, is an improvement upon dynamite, and derives its advantages from the diminution of the proportion of silicious meal as well as of the nitro-glycerine, the balance being made good by other ingredients of an explosive nature. It also is produced in a plastic state, being black in color and doughy in consistency. When lit by a match or a cigar, like dynamite, it merely burns; but it is almost insensible to blows or pressure, and can only be exploded by a strong priming cap or detonator composed of the strongest fulminate. Attempts to explode it by charges of gunpowder have failed. How little sensitive it is to violent shocks has been shown by throwing it over cliffs of 150 ft. or 200 ft. in height; as also by firing shells fitted with it from cannon, which exploded only when they reached some hard object of stone or iron. Neither in combustion nor explosion does it generate smoke like gunpowder; but the gases formed are transparent, and only detectable by the smell. Other forms of dynamite are largely in use, known by the various titles of Atlas, Dualine, Forcite, Tonite, Rendrock, Hercules, Rackarock, and Vulcanite. For mining purposes the great desideratum is the quantity and nature of the work done by the explosive, for the main expense in such work is the cost of boring holes for the charges. If, then, these can be diminished in number as well as in dimensions by the greater power of the blasting material, the saving in the quarrying or mining operation becomes far more important than the difference in cost between the cheaper and less effective blasting-powder and the nitro-glycerine compounds, although that difference in price may be considerable, pound for pound. The difference in the price of the powder is also more than equalled in the saving of human labor in drilling the holes; and it is generally assumed that this gain alone deducts a third from the expense which the manual labor required for blasting-powder entails. The method now generally employed in blasting operations is to use the cartridge, from which projects the copper "priming needle." A very soft clay material called tamping is used to fill the hole above the powder and around the needle, it being rammed gas-tight by a copper-tipped "tamping bar." After the needle has been withdrawn a fuse is inserted, which, when ignited, fires down into the powder. Dynamite is charged in cartridges with a safety fuse, or electric wire and cap, slightly tamped. All high explosives are now fired by the aid of strong detonators, several charges being generally prepared and fired simultaneously. This can be properly done only by electricity. The different holes are connected in series by a conducting wire, through which a current of electricity is sent from a small hand-power dynamo, or a frictional machine. Steam drilling has now, in a considerable measure, replaced the slow and expensive hand-drilling process, and great improvements have been made in the working power of drills, so that the cost of drilling operations has been greatly reduced, and the rapidity as largely increased. The diamond drill has been employed to a considerable extent in prospecting, though it has not come into use in mining and tunneling for the drilling of blasting holes. As an example of the rending power of the new explosives, we may quote the following experiments: A piece of cast-metal 9 ft. long, 6 ft. wide, and 17 in. thick, was broken into three large, and many small pieces, and a second, 12,000 lbs. in weight, was shattered into four pieces. Over each block fifteen rails were laid, in order to protect the neighboring houses. "These rails were hurled about 300 feet up into the air, in many little pieces, affording a diverting spectacle." The charge is not recorded, but at an Essen experiment a block of cast-iron, 53 in. long, 29 in. broad, and 18 in. thick, was split through at a single discharge by about 6 lbs. of lithofracteur, simply laid on the smooth surface and tamped with a few handfuls of loam.

Blavat'sky, HELENA PETROVNA HAHN-HAHN, born at Yekaterinoslaff, Russia, 1831; a naturalized American citizen. One of the chief founder of the Theosophical Society, and till her death the editor of *The Theosophist*. Author of *Isis Unveiled; The Secret Doctrine; Key to Theosophy; From the Caves and Jungles of Hindostan*, &c. Died in London, Eng., May 8, 1891.

Blind, KARL, born at Mannheim, Germany, Sept. 4, 1826. A German political agitator and writer; a resident of Great Britain. He was long the coöperator of Mazzini, Garibaldi, Ledru-Rollin, Louis Blanc, and other European popular leaders, and warmly advocated the cause of Hungary, Poland, and the American Union, receiving, for his support of the latter, the public thanks of President Lincoln.

Blind Pool. (*Finance.*) A contribution in money or its equivalent to a general fund for the purchase or sale of any article. This fund is given to one of the members of the combination or *pool*, who uses his own discretion in transacting the business agreed upon.

Bliss, CORNELIUS N., born in Fall River, Mass., Jan. 28, 1833. Educated in New Orleans; engaged in dry goods commission business in Boston, and later (1881), in New York City; chairman of New York State Republican Committee in 1887 and 1888; appointed Secretary of the Interior by President McKinley in March, 1897.

Bliss, DANIEL, born in Georgia, Vt., Aug. 17, 1823. A congregational clergyman and missionary; president of the Protestant college at Beyrout, Syria, 1864. Wrote, among other things, a *Mental Philosophy* and a *Natural Philosophy* in Arabic.

Bliss, PORTER CORNELIUS, born in Erie co., N. Y., Dec. 28, 1838. A journalist and litterateur; in early life, private secretary to U. S. minister to Brazil, and subsequently to U. S. minister to Paraguay; explored Gran Chaco for the Argentine government, and wrote for the government of Paraguay a history of that country, during the compilation of which he was suspected of being a Brazilian spy and imprisoned. It required the presence of an American squadron to obtain his release. Secretary of legation to Mexico, 1870–74; editor of *The Library Table;* president of the Philological Society for two years; author of a history of the Russo-Turkish war of 1877, &c. Died in New York City, Feb. 2, 1885.

Bliz'zard. *n.* (*Meterol.*) A storm practically confined to the Western states, which is characterized by a fierce and bitterly cold wind, and fine blinding snow, causing annually the death of men and animals in exposed situations. The blizzard generally follows an unusually low barometer, or winter storm area, when the pressure begins a rapid rise. Its place of first appearance is over the plains of Canada, E. of the Rocky Mountains, whence it passes into the northern range of American states and extends over a wide area. Blizzards rarely reach the eastern section of the country, though they are not unknown there. There is nothing more appalling than the coming of one of these dreadful storms. In one that came in January, 1888, and extended from Dakota to Texas, the thermometer fell in some places from 74° above to 28° below zero, and in Dakota to 40° below. In this instance a spell of fine clear weather was suddenly followed by a darkening of the sky, while the air was filled with snow as fine as powder and driven by a roaring blast that drowned the voices of men only six feet distant. Objects a few yards off became invisible. Children died on their way home from school, farmers in the fields before they could reach their houses, some of them not frozen, but suffocated from the impossibility of breathing the blizzard air. In all about 235 perished. The most notable blizzard known in the East was that which began March 11, 1888, and raged until the 14th, its centre being about the cities of New York and Philadelphia. The wind on the 12th blew at the rate of 46 miles an hour, with frequent terrific squalls, while the snow, which fell steadily, was blown into enormous drifts. Streets and roads became impassable, railroad travel was prevented, and trains snowed up in cuts; telegraphic communication was cut off and many lives were lost. The train which left New York on Monday at 6 A. M., reached Philadelphia on Thursday at 5 P. M., and the first train from Philadelphia for Pittsburgh got through on the 15th. Fortunately storms of this terrible character are of infrequent occurrence, and seldom continue for more than a day or two, though no winter passes without their occasioning some loss of life in the West.

Block System. (*Railways.*) A system for the control of railroad trains which are moving in the same direction on the same track, so as to avoid collisions. The block stations are usually from 3 to 5 miles apart, being connected with each other by telegraph and provided with signal boards or lights for the stopping or blocking of trains when necessary. The rule of operation is that no train is to be permitted to pass a block station while the section in advance is occupied, and till word comes back that this section is clear of trains. Thus no more than one train can be upon a single section at one time; and, if its operation were as perfect as its principle, rear-end collisions would be entirely prevented. But as signal men and engine drivers are not always to be depended on, an automatic block system has been devised by which it is hoped to overcome the imperfection to which the human senses are liable. In this system the signals are controlled by electrical apparatus and worked automatically, and are so connected and interlocked that it is impossible for the danger to be changed for the safety signal until the section in advance is clear. Also, by passing the electric current through the rails, a danger signal can be made to show if a rail be broken or a switch open in the succeeding section. The *B. S.* was first suggested by W. F. Cooke, in 1842, and its first practical application was made in 1851, on the South-eastern Railway of England. It is now extensively used on European railways, but has not been widely introduced in the U. S. The "permissive block system," in which a train is permitted to enter an occupied section, but with warning to move cautiously, is often used under the pressure of heavy traffic, but is evidently much less secure than that absolute block system.

Blod'get, LORIN, b. at Jamestown, N. Y., May 25, 1823; a physicist and statistician. Connected at first with the Smithsonian Institution, then with the corps of engineers on the Pacific railroad surveys, and subsequently entrusted with responsible posts in various government departments. Author of *The Climatology of the United States; Commercial and Financial Resources of the United States*, and some 500 other books and pamphlets. Editor of the *North American* (Philadelphia), 1859–64.

Blond'in, CHARLES ÉMILE, nicknamed GRAVELET, b. at St. Omer, France, Feb. 28, 1824. A tight-rope walker, noted chiefly for his crossing the Niagara river at a height of 150 feet above the water on a rope 1,300 feet long and 3¼ inches in diameter in 1855, and on other subsequent occasions. Died in London, March, 1897.

Blood Poisoning. *n.* (*Path.*) A condition arising from the absorption into the circulatory system of poisonous substances which have entered a wound or arisen from some local disease. In every wound or disease substances of a more or less injurious character are likely to appear, and these, when sufficiently virulent, manifest their presence in the blood by fever and other constitutional disturbances. These offending substances may be living bacteria, capable of multiplying in the blood, or toxic chemical agents produced by the bacteria or some degenerative product of the local disturbance. Ordinarily, however, the term is confined to results arising from the absorption of injurious substances from wounds. *B. P.* takes two forms, known as *septicæmia* and *pyæmia*. Septicæmia is marked by fever and constitutional derangement of more or less severity, while in pyæmia abscesses are produced in distant localities of the body. Blood clots which contain bacteria are supposed to enter the circulation and lodge in the capillaries of some distant part, where they cause suppuration. Marked constitutional disturbances follow and the onset is attended by severe rigors.

Blood Stains, detection of. (*Medical Jurisprudence.*) On criminal trials the guilt of prisoners has frequently been established by the discovery of stains found on their clothing, and proved by certain physical and chemical tests to be blood. To do this it is essential to discover the peculiar corpuscles of the blood, often a matter of great difficulty. The material needs to be dissolved in some liquid of the same density as the *liquor sanguinis*, a solution of glycerin in water being usually employed. When this is applied to a blood stain, or particles of the coagulated material are dropped into it, the corpuscles separate and may be discerned by a high-power microscope. But it is not possible to clearly distinguish human blood corpuscles from those of the higher mammalia. Secondly, as all stains due to blood are soluble, this renders it easy to distinguish them from insoluble stains, as made by paint, iron mould, &c. In cases where articles of clothing have been washed to obliterate blood stains, the presence of blood has been determined by its reaction with the resin of guaiacum. According to Mr. H. C. Sorby, there is no better way of determining the existence of blood, under any given circumstance, than its examination by means of the spectroscope. The absorption bands are perfectly distinct and well defined, and, indeed, so marked that a stain containing less than one-hundredth of a grain can be recognized even after the lapse of 50 years. Mr. Sorby, however, does not state that human blood can be thus definitely distinguished from that of other animals, but simply blood as compared with other animal and vegetable coloring substances.

Blood'-rain. (*Bot.*) Many of the tales of the descent of showers of blood from the clouds, which are so common in old chronicles, depend upon the multitudinous production of infusorial insects or some of the lower *Algæ*. To this category belongs the phenomenon known under the name of *Red Snow*. One peculiar form, which is apparently virulent only in very hot seasons, is caused by the rapid production of little blood-red spots on cooked vegetables or decaying fungi, so that provisions which were dressed only the previous day are covered with a bright scarlet coat, which sometimes penetrates deeply into their substance. This depends upon the growth of a little plant which has been referred to the *Algæ*, under the name of *Palmella prodigiosa*, but which seems rather to be one of those conditions of moulds which under various colors are so common on paste and other culinary articles, to which they seem to bear the same relation as yeast globules do to *Penicillium* and other *Fungi*. The spots consist of myriads of extremely minute granules, and though they are propagated with great ease, at present no one has been able to follow up their evolution. In damp weather fresh meat is covered with little colorless gelatinous or creamy spots, which are clearly of the same nature. One curious point about the fungous *B-R.* is, that when cultivated on rice paste, little spots spring up on the surface of the paste, apart from the main patch, which look just like blood spurted from an artery, and therefore increase the illusion. The color of the *B-R.* is so beautiful that attempts have been made to use it as a dye, and with some success; and could the plant be reproduced with any consistency, there seems to be little doubt that the color would stand. See BACTERIOLOGY.

Blon'et, PAUL (pseudonym MAX O'RELL), b. in Brittany, France, March 2, 1848. A French newspaper correspondent in London, Eng., 1873; subsequently a teacher, lecturer, and author. Wrote *John Bull and His Island; John Bull's Daughters; Friend McDonald; Jonathan and His Continent; A Frenchman in America; John Bull & Co.*, 1894, &c.

Blowing Machines. Means for producing a blast of air have been, in some form or other, among the earliest of human implements. The mouth, as the first blowing machine, was followed by a bag of skin, and this by the common bellows, which has been of essential aid to the smith from time immemorial. Modern demands, however, require far more powerful air blasts than those needed in the past, and various machine blowers have been invented, based on different principles, and some of them highly efficient in service. Of these the piston blowing engine is essentially a pump in construction, with inlet and outlet valves, but dealing with air instead of water. It is used also as an air-compressor, where air at high pressure is needed. Blowing engines and compressors are practically the same in operation, except that the latter is provided with means to cool the air heated by compression. Formerly the cylinders of blowing engines for blast furnaces were made very large, while the speed was low; but since 1876 the direct acting vertical blowing engine is almost solely used, with much higer speeds, it being not uncommon for an engine of 4-feet stroke to be run at 50 double strokes per minute.—*Rotary Machines.* In addition to these reciprocating machines there is a class of rotary machines, in which the apparatus is driven directly by a rotating shaft. These include three kinds, disk blowers, fans and positive blowers. The disk blower is used to move large quantities of air at the lowest pressure, as for exhausting the air from heated rooms or for ventilation. A 12-inch fan, driven at a speed of 1,000 to 2,000 revolutions per minute, will exhaust from 1,500 to 3,000 cubic feet of air per minute, while one of the largest size, of 96-inch diameter, revolving 200 or 300 times per minute, will exhaust from 60,000 to 90,000 feet of air per minute. In the fan blower, the wings or vanes are parallel with the shaft, and are enclosed in a box or case of sheet metal, into which the air is drawn through an opening at the axis, while it is driven out through another opening at the periphery. The positive blower consists, in one form, of a metal case closed at the ends, within which are two parallel shafts geared together at each end outside the case, and each carrying a so-called "revolver." The revolvers draw in air at the lower side of the case and push it upward and outward through the exit opening. Fans and positive blowers alike are used for blowing cupolas for the melting of iron. The latter are capable of giving much higher pressures than the former.—*Steam-jet blowers.* A steam pipe of small diameter, inserted in an air pipe of considerable larger diameter and open at both ends, forms a simple form of blower, acting on the principle that a steam-jet escaping at high pressure from a small nozzle will create induced currents in the surrounding air. Such an apparatus is sometimes used to increase the draft in steam boilers by blowing a forced blast under the grate bars. Such a steam pipe inserted in a chimney, and discharging vertically, constitutes the steam-jet apparatus used to produce a powerful draft for locomotives and steam fire engines. The nozzle, of course, needs to vary in shape and size to suit the special circumstances of each case. A jet or falling stream of water exerts a similar effect in inducing an air blast, though it is much less powerful in its effect than a blowing machine driven by a water-wheel.

Blue Laws. (*Amer. Hist.*) Under this title of uncertain origin, reference is sometimes made to the laws enacted in the early days of New England; but it may be more properly confined to those which governed the colony of New Haven. The existence of a legal code bearing this name has, however, been denied by Judge Smith in the *New York Historical Collections*, in which he states that, upon seeking for information on this subject at New Haven in 1767: "A parchment-covered book of demy-royal paper was handed him for the laws asked for, as the only volume in the office passing under the odd title. It contains the memorials of the first establishment of the colony, which consisted of persons who had wandered beyond the limits of the old charter of Massachusetts Bay, and who, as yet unauthorized by the crown to set up any civil government in due form of law, resolved to conduct themselves by the Bible. As a necessary consequence, the judges they chose took up an authority which every religious man exercises over his own children and domestics. . . . . So far is the common idea of the blue laws being a collection of rules from being true, that they are only records of convictions consonant in the judgment of the magistrates to the word of God and the dictates of reason."

Blue Print. *n.* (*Phot.*) A ferricyanid positive print from a transparent negative original.—*B. P. paper.* Paper sensitized with ferricyanid and citric acid; used for making blue print photographs, and for copying transparent drawings and giving white lines on blue ground.

Blu'menthal, LEONARD, Count von, b. at Schweldt on the Oder, Germany, July 30, 1810; a Prussian general, one of the most distinguished German strategists of modern times. Played an important part in the Schleswig-Holstein campaign, in the Austrian, and the Franco-German wars. Made a Count in 1883; Field-marshal, 1888.

Blunt, EDWARD MARCH, born at Portsmouth, N. H., June 20, 1770. A hydrographer; the founder, 1796, of the *American Coast Pilot*, a book translated into most of the European languages and still in use at the present time. Was editor of the Newburyport *Herald*; published *The Stranger's Guide to N. Y. City*, &c. Died Jan. 2, 1862.

Blunt, JAMES G., born at Hancock co., Mass., 1826. In early life a medical practitioner in Kansas; lieutenant-colonel of volunteers 1861; brigadier-general April 8, 1862, and major-general Nov. 29, same year; routed the Confederates at Old Fort Wayne, Oct. 22, 1862; defeated them at Cane Hill, Nov. 28, and again at Prairie Grove, Dec. 7; captured Fort Van Buren Dec. 28; defeated Gen. Cooper at Honey Springs, July, 1863, and effectually checked Price's invasion of Missouri, at Newtonia, Oct. 28, 1864. Died at Washington, D. C., 1881.

Board of Trade. An association among the business men of a city for the purpose of promoting its commercial interests; also called "chamber of commerce." A National Board of Trade was organized in this country in 1868, composed of delegates from the local boards, and devoting itself to the discussion of commercial questions of general interests. Boards of trade or chambers of commerce are also common in Europe, where they exert a large influence.

Board'man, GEORGE DANA, Jr., born at Tavoy, British Burmah, Aug. 18, 1828; like his father (Geo. Dana Boardman, 1801–31), a Baptist clergyman. Held pastorates in Barnwell, S. C., Rochester, N. Y., and Philadelphia, Pa. Wrote *Studies in the Creative Week; Studies in the Model Prayer; Epiphanies of the Risen Lord; Civil Government a Divine Ordinance; Coronation of Love*, 1896, &c. Dr. *B.* has received many honorary titles, and is recognized as one of the most profound thinkers of the present age.

Bo'denstedt, FRIEDRICH MARTIN, VON, born at Peine, Hanover, Germany, April 22, 1815; a journalist, poet, and littérateur. Edited the Berlin *Tägliche Rundschau*, 1880–88; wrote *Tausend und ein Tag im Orient; Shakespeare's Zeitgenossen und ihre Werke; Vom Atlantischen Zum Stillen Ozean; Lieder des Mirza-Schaffy; Aus Morgenland und Abendland*, and a large number of others. Died at Wiesbaden, April 19, 1892.

Boehm, SIR JOSEPH EDGAR, born at Vienna, Austria, 1834; a Hungarian-English sculptor. Author of a number of busts and figures of British nobilities—Carlyle, Gladstone, Huxley, Ruskin, Dean Stanley, Sir Francis Drake, Lord Northbrook, &c. Died Dec. 12, 1890.

Bogar'dus (*bo-gär'dŭs*), JAMES, an American mechanician, born at Catskill, N. Y., 1800. During his early apprenticeship to the watch-making business, he gave proofs of striking inventive powers in the improving of clocks and chronometers. In 1828 he brought out the "ring-flyer," since come into general use among cotton-spinners, as well as the eccentric mill and machines employed in engraving and bank-note transferring. In 1832 he received the gold medal of the American Institute for an improved form of gas meter. Later he brought out several other inventions, a dynamometer for machinery in motion, a pyrometer, an engraving machine, a dry gas meter (the first ever made), etc. Died 1874.

Boggs, CHARLES STUART, b. at New Brunswick, N. J., Jan. 28, 1811. Midshipman in 1826; lieutenant in the Mexican War. When in command of the gunboat *Varuna*, of Farragut's gulf squadron, he destroyed 6 Confederate gunboats and the two rams which ran his own boat into the river bank and disabled it. Captain, 1862; commodore, 1866; rear-admiral, 1870; retired, 1893.

Bogh, ERIK, b. at Copenhagen, Jan. 17, 1822. A Danish poet, playwright, and general writer. Some of his best known works are *Fasteluvnsgildet*, and other popular festivals; *Dit og Dat; Traermoses Aergrelser; Udvalgte Fortällinger*, &c.

Bohn, HENRY GEORGE, born at Loudon, Eng., Jan. 4, 1796 (son of Henry Martin *B.*, a bookbinder from Westphalia, who had settled in London in 1795). A bookseller and publisher, chiefly known for his "Libraries" (the Standard, the Scientific, the Clinical, &c.) or sets standard works. Died Aug. 22, 1884.

Boiling Point. This term, as ordinarily employed, refers to water, indicating that degree of temperature at which its elastic force equals the pressure of the atmosphere. This point is at 212°F., or 100°C., at sea-level pressure, but decreases at greater heights from decrease of pressure. In addition to water every liquid has a boiling point of its own, some of them, such as sulphur, mercury, etc., at considerable height, while others, gases at ordinary temperature, and liquefying only under great pressure and reduction of temperature, have a very low boiling point. Of some of the latter a list may usefully be given. Thus, carbonic acid boils at —78.2°C.; nitrogen monoxide at —87.9°; ethylene at —102.5°; nitrogen dioxide at —153.6°; methane at —164°; oxygen at —181.4°; carbon monoxide at —190°; and nitrogen at —194.4° C. The *B. P.* of water, as above said, varies with the height of the situation. At the city of Mexico, 7,471 feet above sea-level, water boils at 198.1°F., at Quito, 9,541 feet, at 194°F., etc. Thus, boiling water is not always equally hot, and at high elevations articles of food cannot be sufficiently cooked by the boiling process. Placed under the receiver of an air pump, and the air gradually exhausted, the boiling temperature of water rapidly lowers, and if measures to dispose of the vapor be taken water may be converted into ice while in a state of violent ebullition, through the cold produced by its own evaporation. This power of causing ebullition at low temperatures is availed of in sugar-boiling, distilling vegetable oils, preparing extracts, and other process where high temperature would injure the substances. On the other hand, water, exposed to high pressure, may be heated to any degree without boiling.

Boise, JAMES ROBINSON, b. at Blandford, Mass., Jan. 27, 1815, a noted educationalist. Prof. of Greek at Brown, 1843–50, at the University of Michigan, 1852–68, and at the University of Chicago, 1868. Wrote *Greek Syntax* and other text-books; *Notes Critical and Explanatory on St. Paul's Epistles*, &c. Died Feb. 9, 1895.

Boisgilbert, pseudonym of IGN. DONNELLY (*q. v.*).

Boker, GEORGE H., a Philadelphia poet, playwright and diplomatist, born in 1823; was U. S. Minister to Turkey, 1871–75, and to Russia, 1875–79. Wrote *Plays and Poems; Poems of the War*, 1864; *Our Heroic Themes*, 1865; *Book of the Dead*, 1882; *Königsmark*, 1886. His plays include the tragedies: *Anne Boleyn; Leonor de Guzman*, and *Francesca da Rimini*—the latter being very popular. Died in 1890.

Bolk'hov, a town of Russia in Europe, govt. of Orel, about 30 m. N. of the city of Orel, on the Noogra.—*Manf.* Gloves, hats, hosiery, leather, &c. *Pop.* 26,400.

Bolom'eter. [Gr. *bole*, stroke, *metron*, measure.] (*Phys.*) An instrument invented by Prof. S. P. Langley for the detection of minute changes in the amount of radiation received by an extremely thin strip of metal. It is one of the most delicate instruments used in actinometry,

being so arranged that the least change in the electrical resistance of the thin strip, due to any variation in its temperature, will be indicated by a sensitive galvanometer. The strip, usually of iron or platinum, forms one arm of a Wheatstone's bridge, the balance of which is determined by a galvanometer of great sensitiveness. By means of this arrangement, which proves far more sensitive than any thermometer or thermopile, Prof. Langley has made measurements of variations of heat formerly considered entirely below the reach of direct experiment. With its aid has been determined the radiant efficiency of so feeble a light as the electric glow in vacuum tubes, while Prof. B. W. Snow has explored the bright line spectra in various metals and of the electric arc.

Boldo (*bōl'dō*), *n.* [Native name.] (*Bot. and Med.*) A small tree or shrub (*Boldoa fragrans*) indigenous in Chile. Its leaves and bark yield a good quality of tannin: its wood is used for making charcoal. It bears edible drupes, and from its leaves is made an aromatic, syrupy liquid, called "boldine," which is said to possess valuable tonic properties.

Bo'ma, a thriving African town, capital of the Congo Free State. It is situated on the north bank of the Congo river, about 60 miles from its mouth, and since the decay of Vivi has been the point of departure for the Upper Congo, and a leading station of the African International Association. It enjoys a considerable trade.

Bonan'za, *n.* [Spanish, *fair, prosperous.*] (*Mining, &c.*) A discovery of a rich vein, or sudden widening of a vein, of precious metal. The word had its origin in the mining districts of California and northern Mexico, where it was employed to designate a pocket of rich ore, when struck in the midst of thin veins. From its application in mining its use has been widened to signify any great success or valuable discovery.

Bo'naparte. Charles Joseph, born in Baltimore, 1851; grandson of Madame (Patterson) Bonaparte, whose marriage with the future King of Westphalia, Jerome Bonaparte, was annulled by his elder brother, Napoleon I. A noted Maryland lawyer and politician; prominent as an advocate of civil service reform.

Bond Spring-governor. (*Mach.*) The invention of William C. Bond, the astronomer, whose purpose is to control the motion of a chronograph-barrel, or any moving train of wheels. A light revolving arm is slightly checked at each revolution by a stop on the rod of a pendulum, while the slight shock which this would give to the motion of the train is smoothed out in consequence of the arm being attached to a long spiral spring, through which the control check is transmitted to the train. The impulse given to the pendulum as the arm slides off the stop is in its turn sufficient to maintain it in a nearly constant arc of motion.

Bon'du, a small district of Senegal, in western Africa, separated from Bambuk by the river Falemé. It is fertile, well watered, and largely forested. Cotton, indigo, maize and tobacco are staple crops. Iron is abundant. *B.* is under French protection, and has a population estimated at 1,500,000, principally Fulahs.

Bone Caves. (*Archæl.*) Caverns or rock crevices in which occur the fossilized bones of animals, often in great numbers, and imbedded in the indurated clay, stalagmitic deposits, or other collections of material in past ages. One of the most notable of these, of recent discovery in this country, is the Port Kennedy bone cave, situated on the Schuylkill river at some distance above Philadelphia, where quarrying processes opened the way into an extraordinary deposit of bones, belonging to many animal species and thousands of individuals, many of them now extinct. Such, for instance, are the bones of giant sloths, whose late existence was confined to South America. With extinct forms are mingled the remains of existing forms. This opening seems originally to have been a crevice in the earth, into which the bodies of animals may have been swept by diluvial catastrophies, and their bones gradually accumulated through a long series of such occurrences, intermingled with cementing material which has well preserved them.

Bonil'la, Policarpo, a South American statesman; elected President of the Republic of Honduras on Feb. 1, 1895.

Bonne'ville, Lake, an extinct lake which seems to have twice occupied, in pleistocine times, the now desert interior basin of Utah. Its shore lines form distinct contours round the slopes of the inclosing mountain chains, and have been frequently noticed by explorers. These lines indicate its area and depth at different periods. When of greatest extent it is believed to have had an area of nearly 20,000 sq. miles, and an extreme depth of nearly 1,000 feet. The sediments which indicate the shore lines lie on gravels, belonging, probably, to an older dry state like the present, while the lateral and bottom deposits are separated by gravel beds: from which it is deduced that a dry period intervened between two lake periods. When at its highest level in the second period, the water overflowed northward across Red Rock pass to a branch of the Shoshone river, and thus formed an avenue to the Pacific. This pass was subsequently cut down about 370 feet, causing the lake to assume a lower level, and to form a new series of shore-lines, called the Provo shore. Then, evaporation coming to exceed supply, the lake dwindled away, and finally left a dry plain. The variations in the area of the ancient lake indicate changes in degree of atmospheric moisture, which may have been connected with the variations of glacial climates in N. E. America. This history has been worked out by Gilbert, in *Monograph 1, U. S. Geol. Survey.*

Booth, William (better known as General *B.*); b. at Nottingham, Eng., 1829; joined the Methodist New Connection ministry, 1850, and resigned, 1861, for the purpose of working as an evangelist among those who did not attend any place of worship. Out of the *Christian Mission* which he established in the East End of London in 1865, grew the now world-wide organization known as the Salvation Army. He returned in 1896 from a second visit to South Africa, Australia, and India for the further extension of his work.

Boraglyc'eride, *n.* (*Chem.*) An antiseptic compound, or food preservative, which is prepared by dissolving 62 parts of boric acid in 92 parts of glycerine, by heat. It is also variously named *boroglycerin, glyceryl borate* and *glacialin.*

Bor'da, Juan Idarta, a Uruguayan statesman; was elected President of that Republic in March, 1894.

Borers, *n. pl.* (*Entom.*) Insect larvæ which eat holes into trees and vegetables, upon whose substance they feed. Their ravages are very great in many instances, and they belong to various insect classes. Thus the peach-tree borer is the larva of *Ægeria exitiosa*, a lepidopterous, and that of the apple tree the larva of *Saperda bivittata*, a coleopterous insect. *B.* are most easily destroyed by a wire or gouge while in their holes, but no very successful general plan for preventing their ravages has been devised.

Borgu, a kingdom of Central Africa, lying west of the Niger, and now forming part of the British Niger protectorate. The government is an hereditary monarchy, the people being a negro population, partly Fulahs, under a Mohammedan conquering tribe. Elephants are numerous in the forests. There is a thick population along the Niger, whose fertile banks yield abundantly rice, indigo, grain, cotton, yams and other products. The fields of sorghum yield five hundred fold. Wild game is very abundant. It was at Boussa, one of the chief towns of *B.*, that Mungo Park lost his life in 1805.

Bo'rie, Adolph E., born at Philadelphia, 1809. A wealthy East India merchant; one of the founders of the Union League of Philadelphia (the first established in the country); gave large sums in aid of the soldiers in the Civil War; Secretary of the Navy, March to June, 1869; accompanied Grant on a portion of his trip round the world, 1877–78. Died Feb. 5, 1880.

Bossut (*bos'soo*), Charles, a French geometrician, born at Tarare, 1730. He assisted D'Alembert in writing the mathematical articles for the *Encyclopédie*, and was admitted to the Academy when only 30 years of age. In 1792 he published *Mécanique en Général;* in 1795, a *Cours complet de Mathématiques;* and in 1812 an *Essai sur l'Historie des Mathématiques.* Died, 1814.

Boston, a seaport town and parish of England, in Lincolnshire, on the river Witham, 28 m. from Lincoln. This is an ancient town, and was formerly rich in monastic and religious institutions, though scarcely a vestige is now left of the six friaries and three colleges which it once contained. The parish church, dedicated to S. Botolph, is a noble Gothic structure, justly admired for its elegance and simplicity. It was founded in 1309. The neighboring sea yields great number of fish, and a considerable traffic is carried on in shrimps. *Pop.*, 1895, 14,550.

Botan'ic Gar'den. A garden in which plants are grown for the purpose of study or scientific observation. Collections of this kind were made more than 2000 years ago, poisonous plants being reared, and plants studied as antidotes to poisons. Of modern *B. G.*, the Royal Gardens at Kew, near London, are the most famous. These originated about two centuries ago on a private estate, but have belonged to the government since 1841. In France the Jardin de Plantes, at Paris, is the most notable. There are in all about 125 *B. G.* in Europe, and many in other parts of the world. A number have recently been established in the U. S., as at Boston, New York, Washington, St. Louis, and other cities, though these are generally too recent in date to have attained much importance.

Botts, John Minor, born at Dumfries, Va., Sept. 16, 1802. Member of Congress, 1839–43, 1847–49. A strong Unionist during the Civil War; one of the delegates to the national convention of Southern Loyalists, in 1866; signed the bail-bond of Jefferson Davis in 1867. Died in Culpeper co., Va., Jan. 7, 1869.

Bou'dinot, Elias, LL.D., a famous patriot of the revolution, born in 1740; was a member of the Continental Congress; director of the Philadelphia mint; and the first president (1816) of the American Bible Society. Died in 1821.

Bougainvillæ. (*Bot.*), a beautiful climbing vine, genus of *Nyctaginaceæ.*

Bougainville. (*Geog.*) One of the Solomon Islands, a strait in New Hebrides and one N. of Magellan.

Bough'ton, George Henry, born in Norfolk, Eng., 1834. An Anglo-American genre and landscape painter, whose early life was spent in Albany and New York city. Author of *The Lake of the Dismal Swamp; The Scarlet Letter; The Return of the Mayflower; A Morning in May; The Ordeal of Purity,* and many others.

Boulanger (*boo-long-zhā'*), George Ernest Jean Marie, a French general, born in 1837, educated at St. Cyr. He served in Algiers, and in the Franco-Italian war. He was at Metz under Bazaine, but escaped to Paris. In 1880 became Brigadier-General and Minister of War under de Freycinet; in 1888, for disobedience to orders, he was deprived of his command and retired, and later was elected Deputy to the National Assembly; subsequently, for alleged malfeasance in office when Secretary of War, was obliged to leave France to escape trial, and took refuge in London. Committed suicide, Sept. 30, 1891.

Boulim'ia, or **Bulim'ia,** *n.* [From Gr. *bou*, augmentative particle, and *limos*, hunger.] (*Path.*) Insatiable hunger. It sometimes affects hysterical patients and pregnant women. Dyspeptics are often troubled with an insatiable appetite or craving. The remedy is dry, solid food, which compels the patient to masticate very slowly, as hard crackers, parched corn, &c.

Bourbaki (*boor-bah'ke*), Charles Denis Sauter, a French general, of Greek extraction, born at Paris, 1816, entered the army in 1836 as a sub-lieutenant in the Zouaves, was made a colonel in 1851, and General of Division in 1857. During the Crimean war in 1855 he greatly distinguished himself at the battles of the Alma and Inkermann and in the assault on Sebastopol. He also took part in the Italian expedition of 1859. In May, 1869, he was appointed to the command of the second camp at Chalons, and in the following July nominated aide-de-camp of the Emperor. Gen. *B.* played a conspicuous part in the Franco-German war. In Dec., 1870, he was appointed by the Delegate Government at Tours to the chief command of the First Army of the North, with Gen. Borel as his chief of staff. After a series of engagements with the German forces, he was compelled to retreat in the direction of Switzerland, and at the close of the month of January, 1871, he was driven over the Swiss frontier with the remains of his army, consisting of about 80,000 men, and was relieved of his command. He was given the command of the 14th army corps and the governorship of Lyons in 1873.

Bourgeois (*boorzh-wah'*), Leon, a French radical statesman, born 1851; in early life Prefect of the Tarn, 1882, and of the Haute Garonne, 1885, Undersecretary of State for the Interior, 1888; Minister of Public Instruction, 1892, and, later, of Justice; succeeded Ribot as prime minister, 1895, but fell, April, 1896, through the refusal of the Senate to vote him the Madagascar credits he asked for.

Bourget (*boor-zhā'*), Paul, b. at Amiens, France, Sept. 2, 1852. A littérateur, critic and novelist. Wrote *L'Irréparable; Deuxieme Amour; Profils Perdus; Cruelle Enigme; André Cornélis; Le Disciple; La Terre Promise, Cosmopolis* (1893); *Un Saint* (1894); *Outre-Mer, notes sur l'Amérique* (1895); *A Living Lie,* 1896; *A Tragic Idyl,* 1896; a number of essays and not a few poems.

Bout'well, George S., an eminent American statesman and financier, b. at Brookline, Mass., in 1818. He received but a plain education, and early entered into business life, after a brief period passed in school-teaching. He was afterwards admitted a member of the bar, and before completing his 31st year had been seven times returned to the State Legislature. In 1844 he was an unsuccessful candidate for Congressional honors, and eight years later became Governor of Massachusetts. In 1853 he took a leading part in the labors of the Constitutional Convention, and served as secretary to the Board of Education from 1855 to 1861. In 1862 he organized the Internal Revenue Department of the United States, being its first commissioner. Between the years 1863–69 he represented his State in Congress, and in the last named year was appointed by President Grant Secretary of the Treasury; U. S. Senator, 1873–77. Wrote a volume of *Speeches and Papers; Why I am a Republican,* &c.

Bou'vier, Alexis, born at Paris, France, Jan. 15, 1836. A song writer and author of the socialistic school. Wrote the popular songs *La Canaille; Les Pauvres; Les Soldats du désespoir; Le Mariage d'un forçat; Les Drames de la Forêt; Les Créanciers de l'échafaud; La Petite Duchesse; La Petite Cayenne,* 1884; was struck with paralysis, 1888.

Bow'ditch, Henry Pickering, born at Boston, Mass., April 4, 1840. A noted doctor of medicine, assistant professor of physiology at Harvard University, 1871, and full professor, 1876; wrote many papers on physiological subjects, and contributed to *An American Text-Book of Physiology,* 1896.

Bow'ditch, Nathaniel, a distinguished American mathematician; b. at Salem, Mass., 1775. After serving an apprenticeship to the ship-chandlery business, and then passing nine or ten years at sea in the merchant-service, during which time he gave much of his attention to a study of the classics and the exact sciences. *B.*, in 1802, published *The Practical Navigator,* a work which commanded almost universal acceptance. After this he became president of an insurance company, and in 1823 took up his residence in Boston, after declining the professorship of mathematics at Harvard Coll., preferring to remain actuary to the Massachusetts Life Insurance Company, a position to be held till his death in 1838. *B.* who was a F.R.S., of London, has left a reputation founded chiefly upon his masterly translation of, and commentary upon, the *Mécanique Celeste* of Laplace, the illustrious French astronomer. This work, published in four quarto vols., 1829–38, bears a high and enduring value.

Bow'doin, James, LL.D., an American statesman, born in 1727. Was Governor of Mass., 1785–86, and in the latter year suppressed "Shay's Rebellion." Died 1790

Bow'doin, James, Jr., son of foregoing, a philanthropist and statesman, born in 1752. Was patron of Bowdoin College, and was sent to Spain by the U. S. govt. to arrange for the cession of Florida. Died 1811.

Bowen, Francis, born Charlestown, Mass., Sept. 9, 1811. Editor and proprietor of *North American Review,* 1843–54; professor of natural religion, moral philosophy and civil polity at Harvard, 1853. Wrote *Critical Essays on the History and Present Condition of Speculative Philosophy; Principles of Political Economy, Applied to the Conditions, Resources and Institutions of the American People; Modern Philosophy; Gleanings from a Literary Life.* Died at Cambridge, Mass., Jan. 21, 1890.

Bow'ie, JAMES, born in Burke co., Ga., about 1790. At first notorious from his participation in a mêlée which took place opposite Natchez on the Mississippi in Aug., 1827, and in which he killed Major Norris Wright with a weapon made from a blacksmith's rasp (said weapon subsequently fashioned by a Philadelphia cutler into the "Bowie knife"). Fought in the Texan revolution; made colonel, 1835; joined Cols. Travis and Crockett in occupying Fort Adams, and was killed there, with them, March 6, 1836.

Bowles, SAMUEL, born at Springfield, Mass., Feb. 9, 1826. Succeeded his father in the management of the *Springfield Republican* at the age of twenty-five, and acquired a national reputation for it and for himself. Wrote accounts of his travels through Europe and the Pacific slope, *Across the Continent; The Switzerland of America; Our New West,* &c. Died Jan. 16, 1878.

Boye'sen, HJALMAR HJÖRTH, born at Fredericksvärn, Norway, Sept. 23, 1848; a novelist, poet, and littérateur; came to U. S., 1869; professor of German at Cornell University, 1874–80; at Columbia College, 1880. Wrote *Gunnar, a Tale of Norse Life; A Norseman's Pilgrimage; Tales of Two Hemispheres; Gœthe and Schiller; The Story of Norway; Modern Vikings,* &c. Died Oct. 4, 1895.

Boyn'ton, HENRY VAN NESS, born at West Stockbridge, Mass., July 22, 1835; son of the late clergyman and author, Charles Brandon *B.* (1806–83). In early life a civil engineer; major of 35th Ohio volunteer infantry, July 27, 1861; lieutenant-colonel, 1863, and, later, brevetted brigadier for good conduct at Chickamauga and Missionary Ridge. More recently a prominent newspaper correspondent at Washington, D. C. Wrote *Sherman's Historical Raid; The National Military Park; Chickamauga-Chattanooga,* 1895; *Was General Thomas slow at Nashville?* 1896, &c.

Boy'ton, PAUL, born in Dublin, Ireland, June 29, 1848. A nautical adventurer and submarine diver; noted for his daring feats in the life-saving service and his aquatic travels through this country and Europe with various vulcanized rubber contrivances.

Boze'man, in *Montana,* a town of Gallatin co., at the base of the Bridge mountains, and at the head of the famous fertile Gallatin valley. *Pop.,* 1896, abt. 3,400.

Brachycephali (*brăk'e-sĕf'ah-le*), *n. pl.* [From Gr. *brachys,* short, and *kephalē,* the head.] (*Anthropology.*) In the classification of Retzius, those nations of men whose cerebral lobes do not completely cover the cerebellum—as the Sclavonians, Finns, Persians, Turks, Tartars, &c. It is usually taken to designate a short head, in contrast to the Dolicho-cephali, or long-headed races.

Brad'don, MARY ELIZABETH, b. 1837. Daughter of H. *B.,* a London, Eng., solicitor, and widow of John Maxwell. Wrote some sixty novels. Among the first, *Aurora Floyd, Lady Audley's Secret,* &c.; to which were added *Sons of Fire,* 1895; and *London Pride,* 1896.

Brad'laugh, CHARLES, born at London, Eng., Sept. 26, 1833. A noted advocate of secularism and an extreme radical in politics. Excluded from his seat in the British Parliament for 6 years (1880–86) owing to his refusal to take the parliamentary oath when first elected. Founded the *National Reformer,* the prosecution of which, 1868–69, resulted in the repeal of almost all the statutes which still hampered the freedom of the British press. Wrote numerous pamphlets including *A Few Words About the Devil; The Land, the People and the Coming Struggle; Hints to Emigrants to the United States of America; The True Story of my Parliamentary Struggle,* &c. Died Jan. 30, 1891.

Brad'ley, JOSEPH P., born at Berne, N. Y., March 14, 1813. A jurist; admitted to the bar of New Jersey, 1839; Associate Justice of U. S. Supreme Court, 1870; member of the Electoral Commission, 1877, when he is said to have given the casting vote which decided the dispute in favor of Rutherford B. Hayes.

Bragg, EDWARD STUYVESANT, born at Unadilla, N. Y., Feb. 20, 1827. Admitted to the bar, 1848; entered U. S. military service as captain, May 5, 1861, and was mustered out as brigadier-general Oct. 8, 1865; member of Congress in the 45th, 46th, 47th and 49th Congresses.

Brah'mo So'maj. A religious sect founded in India in 1830, by a reformer named Rammohun Roy, and which has had excellent effect in developing modern ideas of ethics and religion in that country. After 1842 it progressed rapidly under the leadership of Debendro Nath Tagore, who emancipated it from the influence of Vedantism, and in 1859 it gained a new impulse from the enthusiasm of Keshub Chunder Sen, under whom those who were willing to abolish the institution of caste formed themselves into an organization called the "Brahmo Somaj of India." The more conservative members remained in the Somaj or Church of Calcutta. The first building erected by the progressive Brahmas for public worship was opened at Calcutta in 1869. The sect has at present no more than 4,000 or 5,000 avowed members, but its influence has been wide-spread, and large numbers of educated Hindoos sympathize with the movement. The doctrines of the progressive branch, as enunciated by Keshub Chunder Sen, include a belief in the unity of God, and dogmas of immediate revelation, the necessity of a new birth, the immortality of the soul, and the efficacy of prayer. He taught that the character of Jesus Christ should be revered, but repudiated the doctrines of his divinity, mediation and atonement. The Brahmo Somaj is essentially a new Unitarianism, with a high standard of ethics, and promises to exert a vigorous influence in overcoming the spirit of caste and supernaturalism in India.

Braille, LOUIS, born near Paris, France, in 1809. Being deprived of his sight at an early age through an accident, he was admitted to the Institut des Avengles in Paris, where he became a professor in 1827, and invented the system of writing with points which bears his name. Died 1852.

Brain Research. During recent years much attention has been given to the study of localization of functions in the brain, with important and useful results. Physiologists have held that the whole of the cerebrum is concerned in every mental process, and Flourens considered that he had proved this by removing parts of the hemispheres of pigeons, the mental functions as a whole becoming enfeebled in proportion to the quantity of brain matter removed, without regard to the part of the brain from which it was taken. Yet this doctrine, though long maintained, did not explain all the facts. The disorder known as aphasia—loss of articulate speech—seemed closely associated with injury to a certain convolution, and other physical troubles seemed due to localized brain lesions. In 1870 Fritsch and Hitzig, two German observers, found that by stimulating certain areas of the cerebum by galvanic currents, movements of the opposite side of the body could be produced. Others took up this fertile field of research, notably Ferrier, whose experiments were made on the brains of monkeys, dogs, and rabbits, with the result that movements of certain portions of the body proved to be undeviatingly related to stimulation of certain sections of the cerebum. These experiments have been continued with the result of a general mapping out of the brain into "motor areas," each of which has controlling influence over certain muscles of the body. These areas have been so closely subdivided that a center has been found in the brain of the monkey for such a spinal movement as the opposition of the forefinger to the thumb. The meaning and value of these alleged discoveries were vigorously questioned by opponents, but continued research has brought the controversy to an end, and the natural division of the cerebral surface into motor areas is generally admitted. When any of these areas are irritated, corresponding spasms of movement appear; when they are diseased, the voluntary power of making the spinal movement is lost; while when tumors have been removed, whose seat was indicated by the motor disturbance, the normal power of motion has been regained. As a result of these researches it has been discovered that the center of speech is in the third frontal convolution on the left side of the brain, and that when the posterior end of this convolution is destroyed, aphasia follows. On the other hand, in left-handed men, this center has been found on the right side of the brain. Agraphia, or inability to write, has been similarly found associated with the posterior end of the second frontal convolution. Centers for the spinal senses have also been found. Light seems centered in the angular gyri of the occipital lobe. Destruction of one angular gyrus causes temporary loss of vision in the opposite eye, while destruction of both caused a similar loss in both eyes. In man, disease of the left angular gyrus produces *word blindness,* the patient, though seeing the characters distinctly, not being able to read or spell the words. Hearing seems to have its center in the first tempero-sphenoidal convolution on both sides. Partial destruction of this convolution on the left side causes *word deafness*—the sounds being heard, but their meaning quite lost. The taste center is placed by Ferrier in the uncinate gyrus—on the inner surface of the tempero-sphenoidal lobe. The centers for touch have been located in the gyrus fornicatus and the gyrus hippocampi. Observations on the frontal lobes of the brain, so well developed in man, have yielded no definite results. It is probable that those are associated with the higher mental faculties, and have no immediate connection with the muscular organism. Stimulation of the corpus striatum caused general contraction of the muscles on the opposite side of the body, as if the whole motor area were being stimulated at once. Lesions of the optic lobes seems to prevent coördination of movements, unilateral lesions causing in animals what are called "forced movements," that is, a tendency to run in a circle, like a horse in a circus, to revolve round the tip of the tail as a center, or to rotate around the axis of the body. Lesions of the cerebellum seems to destroy the power of coördination, its different parts seeming to control different sets of movements. The medulla oblongata is the great seat of the centers for the functions of organic life, as may be understood from the fact that all the cranial nerves, except the first four pairs, originate in it.

Brain Surgery. This title refers to a special brain surgery which has arisen almost within the last decade, and has produced brilliant and important results. It is based on the results of brain research, and the localization of areas of special motion within the cerebrum. In former times, for instance, certain convulsive movements, or paralytic affections, had to be treated in a general way, since, though, it was conjectured that they had their origin in brain disorder, the seat of the disorder could not be discovered, and a surgical operation for its removal was impossible. In this respect a great progress has been made. The researches of Ferrier and others having led to the discovery of fixed brain areas for certain muscular movements, it became possible when these movements were disordered to locate the immediate seat of the trouble. If, for instance, unnatural movements took place in the wrist and hand, the seat of the trouble in the brain was at once indicated. And as this trouble was frequently due to an abscess in the brain substance, or a tumor on its surface, it became possible to reach the seat of the disorder by trephining, and by removing the cause to produce a cure. Within recent years very many such operations have been made, and with a most encouraging percentage of success. The system of brain research has been thoroughly and favorably tested by these operations, in nearly every instance the removal of the bone displaying a tumor, or other form of disorder, at the point fixed upon. The use of antiseptic processes in these operations, the careful removal of the tumor and replacement of the bone, have been attended with remarkable success, and a class of diseases which were formerly almost beyond human reach has been brought well within the possibilites of surgical relief.

Brake. See AIR-BRAKE.

Branch, JOHN, born at Halifax, N. C., 1782. In early life a lawyer; Governor of North Carolina, 1817–20; U. S. Senator 1823–29; Secretary of the Navy, 1829–31; Governor of the territory of Florida, 1844–45. D. 1863.

Bra'zenness, *n.* Shamelessness; impudence, boldness.

Bra'zier, *n,* One who works in brass.—An open vessel for holding live coals, sometimes mounted on feet and variously ornamented; used for heating rooms in mild climates, particularly in the Orient.

Breach of the Peace. (*Law.*) A violation of public order; the offence of disturbing the public peace. One guilty for this offence may be held to bail for his good behavior. An act of public indecorum is also a breach of the peace. The remedy for this offence is by indictment.

Break-Circuit Chronometer. (*Horol.*) A box chronometer which is fitted with a device to break an electric circuit at every motion of the escapement wheel, usually every half-second. This arrangement is of American origin, and has been in use here for many years, proving highly convenient in field-astronomy and laboratory work. Notwithstanding its usefulness it has only very recently been adopted in other countries.

Breaker, Coal. (*Mining.*) A contrivance at the mouth of coal mines, designed to break the coal into marketable sizes. It consists of great iron rollers which break the rough lumps of coal as they are dumped into its mouth and pass down its slope. The broken pieces, as they descend, fall into sieves, which separate the dust and assort the different sizes. From the sieves the coal is delivered to long, inclined chutes, down which it passes to the bins. Children are stationed along these chutes to pick from the descending coal the pieces of slate and other impurities which it may contain.

Breakwater, Floating. (*Hydraul. Eng.*) A question which has for a long time engaged the attention of those having marine engineering works in hand, is the depth to which the influence of the waves extends. Upon this depends the whole theory of floating breakwaters. It has been asserted that at the depth of 15 feet below the surface the influence of the waves practically ceases, and that we then have what is termed the zero line, a place of no motion. It may be added that actual experiment has confirmed this hypothesis. There can be no doubt as to the truth of the objections urged against solid breakwaters. In the first place, there is their enormous cost; secondly, it is practically impossible to construct them in some localities where they are urgently required; and, thirdly, when they are built they cause the deposition of silt to such an extent as in many instances to render them in a few years completely useless. The first idea of floating breakwaters was probably taken from an observation of the effect produced upon waves by the presence of

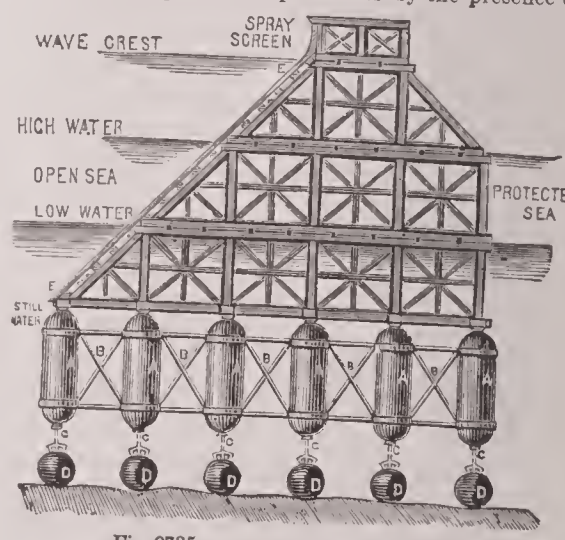


Fig. 2735.—FLOATING BREAKWATER.

some natural obstacle in the sea, such as reeds and seaweed. The gulf-weed is a well-known instance. It has been found that, although its depth does not exceed a couple of feet, yet, even in strong gales, there is perfectly calm water to leeward of it. The annexed illustration, which represents a form of construction for ocean shields, breakwaters, piers, harbors, gunbanks, lighthouses and other marine objects, was invented by Mr. T. Morris, architect, London. A A are air-tight cylinders; B B the strutting; C C the cables; and D D the weights at the sea-bed. From the motionless foundation thus formed, the framing rises through the section of tidal and superficial action. The sloping screen formed by the timbers, E E and F F, presents meshes to the waves, by which their force is arrested and their effect destroyed. Opinions differ greatly as to the usefulness of structures of this class. So far experi-

East River Suspension Bridge—from the New York end.

Suspension Bridge over the Niagara River Gorge—below the Falls.

TYPICAL AMERICAN SUSPENSION BRIDGES.

ence has not been very satisfactory, being based mainly on wooden towers as here pictured. Various arrangements in iron and steel have been patented, but not tried. Mr. Greenway Thomas designed floats in the form of a triangular prism, with concave sides of 10 feet in width and heighth, capped by a triangular pyramid. These were to be anchored at three points and placed at intervals of 12 feet. It was expected that they would decompose the waves and produce smooth water. In other casses floating iron caisons or cylinders have been suggested, revolving about horizontal axes, and having fins or flanges to check the rotation. As these *F. B.* could be built at a cost of about $100,000 per mile, and rapidly erected, they have much to commend them if their efficiency is once proved. The main objectiou to them is the danger of their breaking loose aud causing great damage to shipping and other property.

Breck'enridge, John C., an American statesman and general, was boru near Lexington, Ky., in 1821. After engaging in the study of law, he was returned by the Democratic party to Congress in 1851 and 1853, and, upon the electiou of Mr. Buchanan to the chief magistracy was chosen Vice-President of the U. S. in 1856. In 1860 he was an unsuccessful candidate for the Presidential chair, receiving the bulk of the Southern vote, and in the following year was returned by his State to the national Senate. In this latter position he warmly espoused the cause of the Southern malcontents, and in Sept. of the same year, supplemented his words by acts, in taking up arms against the Union, and receiving from the govt. of the Southern Confederacy the rank of major-general. In command of a division he bore his share in the battles of Stone River and Chickamauga, defeated Gen. Sigel near New Market, Va., in 1864, and was appointed Confederate Secretary of War in Jan., 1865. He visited Europe after the collapse of the cause he had embraced, and after his return to the U. S., in 1868, withdrew from public life altogether. Died at Lexington, Ky., 1875.

Breech-loading is the method of introducing the charge into a firearm at the breech instead of the muzzle. The breech is then closed by a block of metal held in place by a hinge and lever, by a bolt with a bayonet joint, and, in case of heavy guns, by a screw or a wedge. *B. L.* guns are said to have been in use in England early in the reign of Henry VI. There are several ancient specimens in the Tower of London. It it is only within recent years that the breech-loading principle has been made very effective. Among the best weapons of this class now existing may be mentioned the Armstrong, Whitworth and Krupp guns, the *mitrailleuse*, and the Chassepot, Enfield, Lebel, Martini, Mauser, Sharps, Snider, Spencer, Krag-Jorgensen, and Remington rifles. The Prussian needle-gun was the first rifle of this kind used in European armies. In this the breech is closed by a bolt carrying a long needle. This is driven by the hammer quite through the powder and iguites it in front by striking a patch of fulminate placed at the base of the sabot which carries the bullet. The various other rifles named have each some special device for closing the breech and igniting the powder, all based on the same general principle. In regard to artillery, the difficulty in closing the breech simply and effectually, and the greater cost, long stood in the way of the application of breech-loading devices. The Armstrong breech-loading system, introduced in 1859, was soon after abandoned, and breech-loaders were not again made in England until 1880, after several other nations had adopted them. They are now everywhere in use. There are practically only three methods of closing the breech of a gun—the screw, the wedge, and the interrupted screw. The last of these, now employed in France and England, consists of a solid steel breech-block furnished with a screw-thread of the requisite pitch and strength, fitting into a similar female screw in the gun. The surface of the block is divided longitudinally into six or eight equal parts, and the screw thread planed away from alternate portions. In the gun the parts corresponding to the smooth portiou are left, and those between them are slotted away. A turn of one-sixth or one-eighth of a circle enables the block to be drawn out, and a carrier, hinged to the side, swings it clear of the bore. Breech-loading sporting guns are made on a distinctly different principle, called the drop-down action. Nearly all are based on the Lafaucheux action, invented in 1825. This consists of a piece of steel, called the lump, securely fastened to the under side of the breech-end of the barrels, its fore end hinged by means of a pin to the corresponding part of the breech-piece. On this hinge the barrels are moved in opening and shutting the breech. The lump is usually cut into two divisions, which fit into slots in the breech-piece, and are locked there securely by ingenious arrangements. The outside hammer, however, is usually discarded in modern breech-loaders, the cap being exploded by a hammer working internally. See Cannon.

Breit'mann, Hans, pseudonym of Charles Godfrey Leland (*q. v.*).

Brenta'no, Lorenz, born at Mannheim, 1810. In early life a German politician; came to the United States after the Baden revolution of 1848, and became editor of the Chicago *Staats-Zeitung;* U. S. consul at Dresden, Germany, 1872–76; Congressman, 1876–79. Died at Chicago, Ill., Sept. 18, 1891.

Brest Litov'ski, a fortified town of Russia, in the Government of, and 110 miles S. of, the city of Grodno, on the river Bug. It contains a military school, and has a considerable transit trade. In 1794 Suvaroff gained here a victory over the Poles. *Pop.* 37,981.

Brew'er, Ebenezer Cobham, born in London, Eng., May 2, 1810. A clergyman and author, chiefly noted for his various books of reference. Wrote a *Guide to Science; Theology in Science; History of France; Dictionary of Phrase and Fable; History of Germany; The Reader's Handbook; A Dictionary of Miracles,; Historic Note-Book;* a new edition of the *Dictionary of Phrase and Fable,* with a bibliography of English literature, 1896, &c.

Brewer, Leigh Richmond, D. D., born at Berkshire, Vt., Jan. 20, 1839. An Episcopalian clergyman; ordained, 1867; held pastorates in Carthage, N. Y., and Watertown, N. Y.; consecrated bishop of Montana, 1880.

Brewer, Thomas Mayo, M.D., born in Boston, Mass., Nov. 21, 1814. A distinguished ornithologist, in early life a journalist and publisher. Edited Wilson's *Birds of America;* wrote *Oology of North America,* and prepared, with Baird and Ridgeway, *A History of North American Birds.* Died Jan. 24, 1880.

Brew'ster, Benjamin Harris, born in Salem co., N. J., Oct. 13, 1816. Admitted to the Philadelphia bar, 1838; Attorney-General for Pennsylvania, 1867–69; U. S. Attorney-General in Arthur's cabinet, 1881–85, during which period he distinguished himself by his prosecution of the Star Route trials. Died 1888.

Bric-a-brac, *n.* [*Fr.*, from an older compound, *bric, et broc,* from *bric,* a sort of weapon which was used in hunting, and *broc,* a kitchen spit.] This word, as now in use, corresponds about to our "odds and ends," being applied to a collection, generally for sale, of old things, such as watches, china, clocks, pictures, weapons, ornaments, furniture, statuettes, &c.

Bridge (*brij*), *n.* [A. S. *bricg, brigge*; probably from *behricg, be* aud *bræcan,* or *ræcan,* to reach]. A structure across a river, gorge, or valley, forming a roadway for the passage of traffic. Temporary bridges, made by joining several boats or rafts, are often used in military operations; one constructed by Xerxes over the Hellespont, 480 B.C., was about 1,200 feet long. Stone bridges in the great wall of China, where it crosses streams, were built about 220 B.C., and the first stone *B.* at Rome, now known as the Ponte Rotto, was erected 127 B.C. Small wooden bridges across brooks have been used from the earliest times, but the earliest one of sufficient magnitude to deserve the name was built over the Tiber at Rome, 621 B.C., this was called the Pons Sublicius, as it was erected upon piles; it is noted for the defence made on it by Horatius Cocles against Lars Porsenna. Cæsar's bridge across the Rhine, 55 B.C., was a roadway resting on timber trestles. Trajan's *B.* over the Danube, A.D. 105, had 20 timber arches of 180 feet span, and was 60 feet in width. Many stone aqueduct bridges of great magnitude were built by the Romans in different parts of Europe. With the decline of the Roman empire *B.* building was abandoned until Charlemagne instituted the order of Brothers of the Bridge, whose duty it was to assist travellers and keep bridges in repair. The first *B.* at London was built about 970, others in 1014 and 1176; all these were of timber, and the stone arches were afterwards introduced. Cast iron was first used for *B.* arches in England, one of 100 feet span in 1779, and one of 240 feet in 1796. Wrought iron began to be used about the same time for the chains of suspensiou *B.*, and a little later for truss structures. Steel was first used for about 1870, and is now almost entirely employed for the largest constructions.

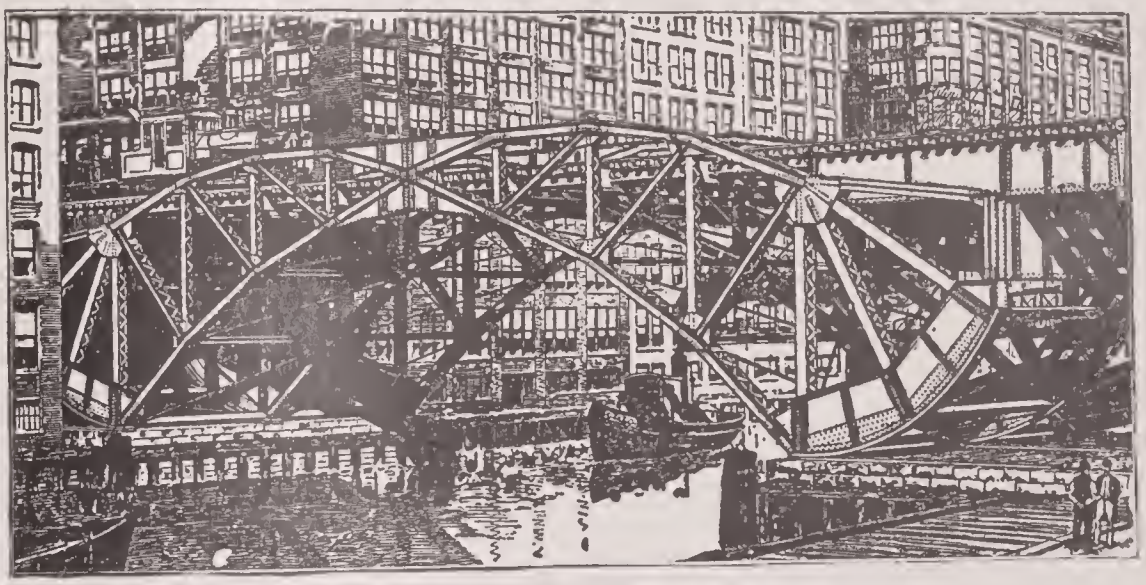


Fig. 2736.—Bascule Bridge, for Elevated Railroad, Van Buren Street, Chicago.

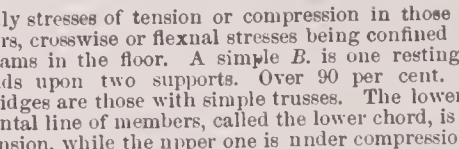


Fig. 2739.—Bascule Bridge, Closed.

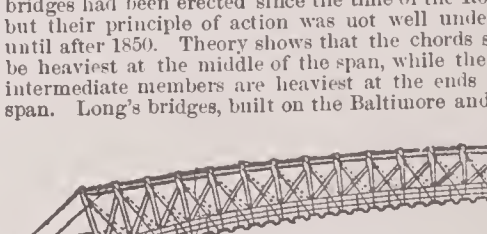


Fig. 2740.—Bascule Bridge, Open.

Simple Truss Bridges.—A truss consists of members joined together in such manner that the loads cause only stresses of tension or compression in those members, crosswise or flexnal stresses being confined to the beams in the floor. A simple *B.* is one resting at its ends upon two supports. Over 90 per cent. of all bridges are those with simple trusses. The lower horizontal line of members, called the lower chord, is under tension, while the upper one is under compression, and the intermediate members joining there chords are some in tension and some in compression. Wooden truss bridges had been erected since the time of the Romans, but their principle of action was uot well understood until after 1850. Theory shows that the chords should be heaviest at the middle of the span, while the main intermediate members are heaviest at the ends of the span. Long's bridges, built on the Baltimore and Ohio Railroad about 1830, were wholly of timber, keyed and pinned together; these, though of short span, exerted great influence on account of the use of counterbraces to resist the distorting action caused by the moving load; these intermediate braces, unlike the main ones, are heaviest near the middle of the span. Howe, in 1840, introduced a truss (Fig. 2737) where the vertical members connecting the chords were made of wrought iron; this form has been extensively built and is much used at the present day in localities where timber is cheap; the longest spans of Howe truss bridges were about 250 feet, but for railroad traffic they were usually stiffened by an auxillary arch. The Pratt truss, devised in 1844, used wrought iron for the inclined members connectiug the chords, all other parts being of timber;

Fig. 2737.—Howe Truss.

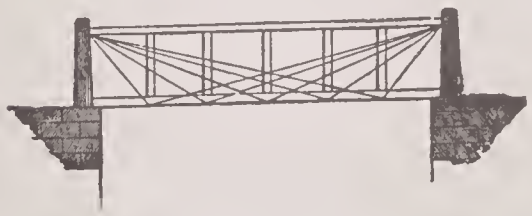


Fig. 2738.—Fink Truss.

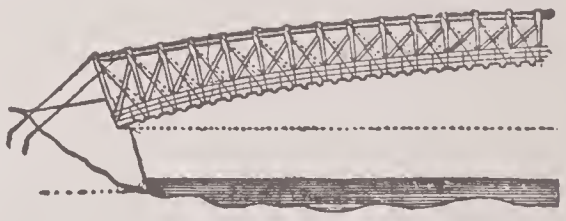


Fig. 2741.—Half-Section of Arch Truss Bridge over the Schuylkill at Philadelphia.

later this was built entirely in wrought iron, and with slight modifications in form and details has been adopted to use for very long spans. The Whipple, Pettit, and Baltimore trusses are modifications and extensions of the idea involved in the Pratt truss. In 1869 the longest span of a simple truss was 420 feet, but since that date probably more than a hundred longer ones have been erected. Among these are: a span of 519 feet, built at Cincinnati in 1877; one of 525 feet at Henderson, Ky., in 1885; one of 545 feet at Cincinnati in 1888; one of

Fig. 2742.—LIFT BRIDGE, SOUTH HALSTED ST., CHICAGO.

521 feet in Ceredo, Va., in 1892. The longest simple truss span is that erected over the Ohio at Louisville in 1893, it being 560 feet between centers of piers.

Plate and Tubular Bridges.—Bridges less than 100 feet in length are often formed by riveting together iron or steel plates and angle shapes so as to form practically a solid girder. These excel in stiffness and are often cheaper in erection than truss bridges. In 1895 one was erected in Philadelphia which is 123 feet long and 9½ feet deep. A tubular *B.* is a rectangular tube with closed top, sides and bottom, the sides being made of plates riveted together and acting like a plate girder. A few tubular bridges were erected between 1840 and 1860, but they have since found no favor. The Britannia tubular *B.* in Wales has two spans of 230 feet and four spans 460 feet. The Victoria tubular *B.* at Montreal, Canada, has 24 spans of 242 feet and one span of 330 feet; this is the only tubular structure in America, and in 1897 it was proposed to replace it by truss spans in order to provide better roadway facilities.

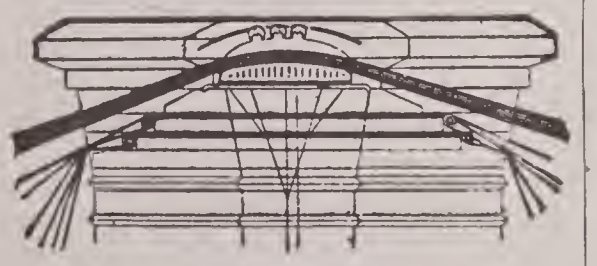


Fig. 2744.—SADDLE-PLATE, TOWER OF EAST RIVER SUSPENSION BRIDGE OF 1883.

Draw Bridges.—A draw *B.* is one that can be moved, either by swinging or lifting, so as to permit vessels to pass the structure. The usual type is that which swings on a turn-table on a central pier, the trusses of the *B.* generally being deeper over the pier than at the ends. The lower chords of a swing draw *B.* are subject to stresses of compression when open and to tension when closed. The span of a swing draw *B.* is counted from end to end, as the trusses are continuous over the center pier. While the usual length of span is less than 200 feet, many have been built exceeding 300 feet. One over the Mississippi at Quincy, Ill., has a span of 362 feet, one at Keokuk, Ia., is 380 feet, and one at Louisiana, Mo., is 444 feet in length. On Staten Island, N. Y., a draw *B.* built in 1888 has a span of 496 feet. The one constructed in 1890 over the Thames river at New London, Conn., is 503 feet in length. The longest draw *B.* is that erected in 1893 over the Missouri river at Omaha, Neb., the length being 520 feet. Draw bridges which are lifted instead of swung are of two classes; pure lift bridges where the entire structure is raised vertically, and bascule bridges (Figs. 2739 and 2740), which consist of two parts, joined at the center of the span, each part being swung up in a vertical plane around a hinge at the abutment. The largest pure lift *B.* is one built at Chicago in 1894 (Fig. 2742), a simple truss *B.* of 130 feet span and 50 feet width, being lifted vertically a distance of 141 feet. Bascule draw bridges were used in ancient times for the moats of castles, there being but one leaf to elevate, but their adaptation to large structures has been entirely made since 1880. The largest and most important one is the Tower *B.* in London, completed in 1894, where each leaf is 100 feet in length; this structure has also a fixed span connecting the tops of the towers over the bascules and 100 feet above them. One of the most important bascule draw bridges in the U. S. is that by which an elevated railway crosses the Chicago river at Van Buren street (Fig. 2736), built in 1894–95.

Arch Bridges.—A simple *B.* exerts only vertical pressures upon its supports, while an arch exerts not only vertical, but also horizontal pressures. This horizontal pressure tends to push the abutments outward, and hence they must be heavier than those for simple *B.* Stone arches were first used by the Etruscans, but their development is due to the Romans. They form stiff and solid structures whose duration is longer than that of any other class of *B.*, although the expense of construction limits their use to short spans. The largest stone arch is one of 220 feet span, and 57 feet rise, which carries the Washington aqueduct over the Cabin John Creek; this was built by the U. S. government in 1861. Cast iron arches have been used to a slight extent only on account of the unreliability of the material. The finest in the U. S. is that over the Schuylkill river at Philadelphia, which has two spans, each 150 feet. Wrought iron and steel have been used in many arch-bridges of large span, the arch being built with curved chords and intermediate members like a truss. The first steel arch was erected over the Mississippi river at St. Louis, in 1873; this has two spans of 497 feet, and one span of 515 feet, and carries both railway and highway traffic; its cost was $5,300,000. The Washington *B.* over the Harlem river at New York

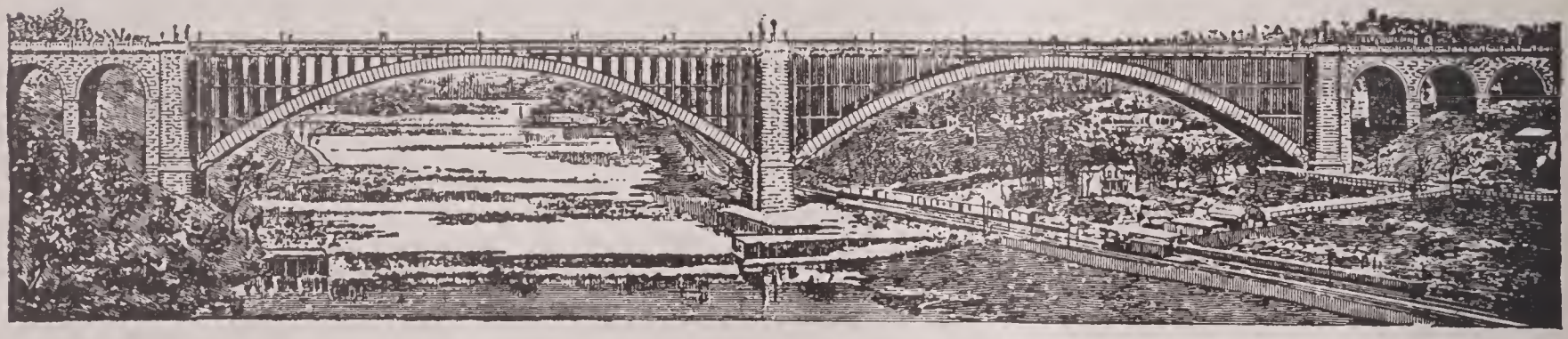


Fig. 2743.—THE WASHINGTON BRIDGE OVER HARLEM RIVER.

(Fig. 2743) is for highway traffic only, and has two spans of 510 feet each; it was completed in 1889, and its cost, with approaches, was $2,900,000. The Garabit arch in France, built in 1885, has a span of 541 and a rise of 169 feet. The arch at Niagara Falls, completed in 1897 to replace the highway suspension *B.*, has a span of 840 feet, and a rise of 150 feet, being the largest in the world. One of about the same span was built in 1897–98 to replace the railroad suspension *B.* one mile north of Niagara Falls. The arch is one of the most graceful forms of *B.* construction, and hence particularly adapted for use near cities, although its cost is usually somewhat greater than for the cantilever system on account of the greater expense of erection.

Suspension Bridges.—A suspension *B.* consists primitively of a rope or cable stretched across a river. Such were frequently used in ancient times as rope ferries, a basket suspended from the rope being pulled across the river. In the eighteenth century the idea was extended by laying a platform on two parallel cables or chains, thus forming a suspended foot *B.* The modern suspension *B.*, however, consists of a platform hung from parallel cables, which pass over towers, and have their ends secured in anchorages. The first *B.* on this plan was built near Greensburg, Pa., in 1801, having a span of 70 feet, and during the decade following at least eight others of short spans were erected in Pennsylvania, the longest being one of 306 feet over the Schuylkill at Philadelphia. All these had the cables made of chains or links of wrought iron, but in 1816 wire was first used for cables in a foot-*B.* of 408 feet span near Philadelphia. A similar development occurred in other countries, and in 1834 the great span of 870 feet was attained in the *B.* at Freiburg, in Switzerland. These structures were deficient, however, in rigidity, and many of them were blown down. In 1848, at Wheeling, W. Va., a suspension *B.* of 1,010 feet span was erected, in which 12 cables were used; this was blown down in 1854. The method then used for stiffening a suspension structure against the action of the wind was by guys extending from the towers to the roadway, and by other guys from the roadway to

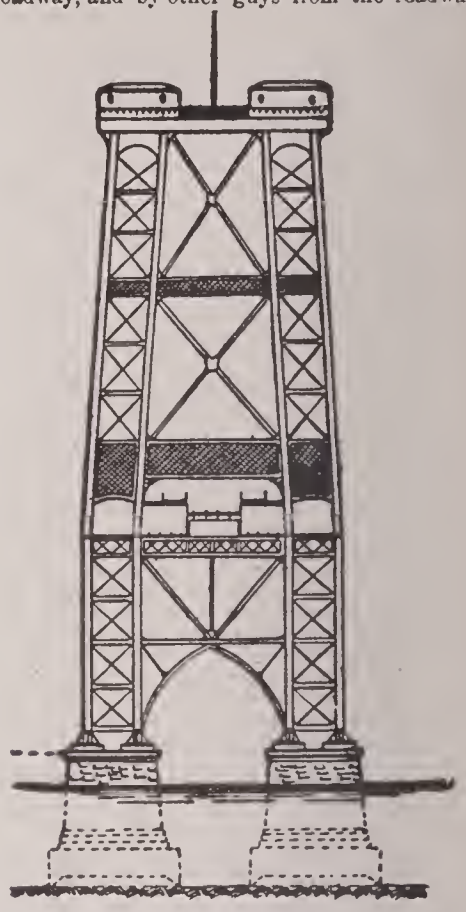


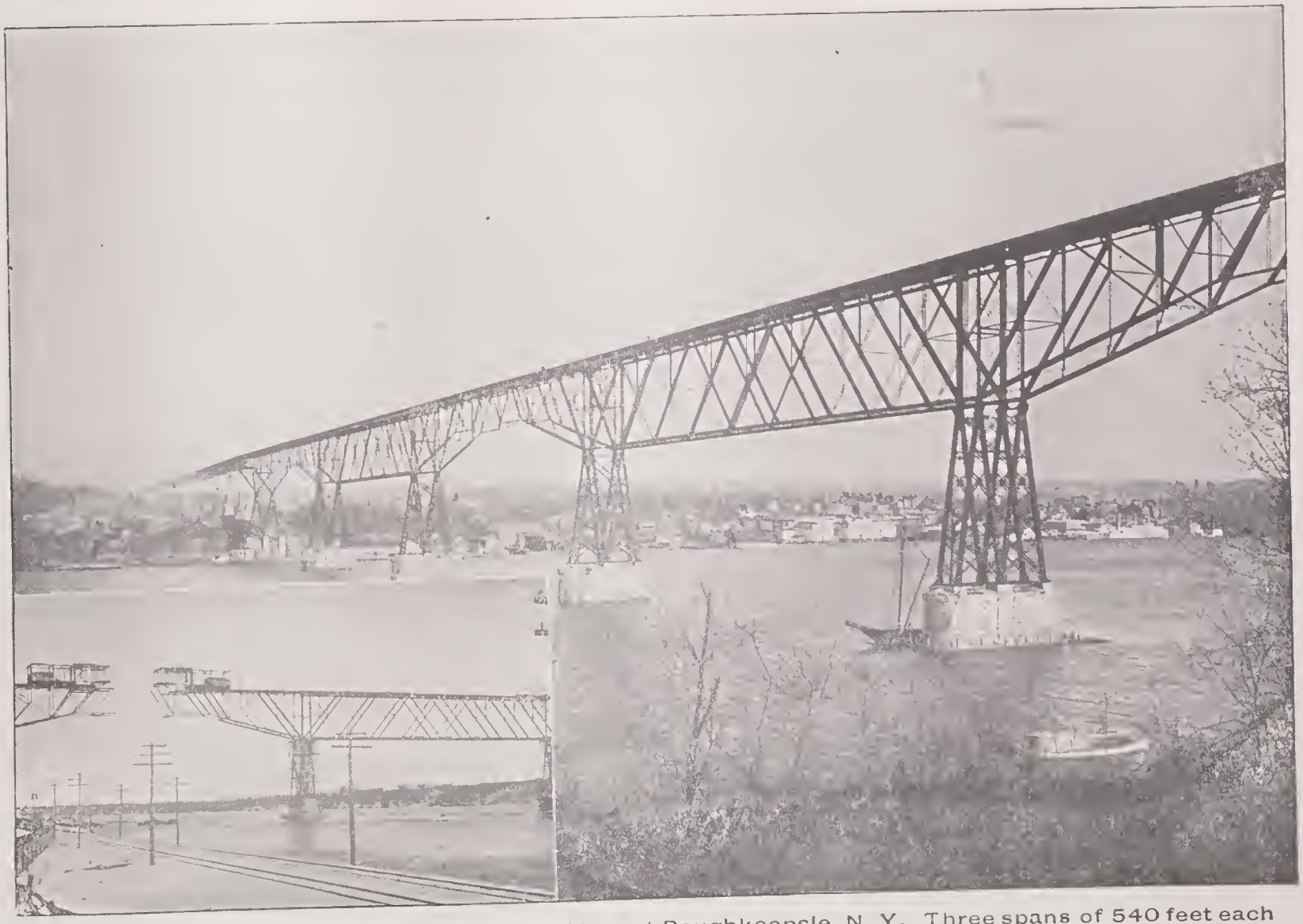
Fig. 2745.—SECTION OF TOWER, EAST RIVER SUSPENSION BRIDGE, BEGUN IN 1897.

the shores. The problem of successfully stiffening the structure was not, however, solved until 1854, when the Niagara *B.* was completed. In this a truss was used to support the roadway, and the truss itself was suspended from the cables. The action of the truss was to distribute the load over the cable and thus prevent local distortion and the accompanying stresses. The Niagara *B.* also demonstrated the practicability of the suspension system for railroad traffic, owing to the influence of the suspended truss. The *B.* at Niagara was 810 feet in

Fig. 2746.—ENTRANCE TO EAST RIVER SUSPENSION BRIDGE OF 1883.

span between the towers, and had eight cables, each 10½ inches in diameter. In 1881 the wooden trusses were replaced by wrought iron ones, and in 1887 the stone towers were likewise replaced. In 1897 the entire structure was removed and a steel arch erected to replace it. The largest suspension *B.* in the world is that over the East river at New York (Figs. 2744, 2746), its

Cantilever Railroad Bridge across Niagara River, crossing the gorge below the Falls with one span of 470 feet. 239 feet above the water.



Steel Cantilever Bridge across the Hudson River at Poughkeepsie, N. Y. Three spans of 540 feet each and two connection spans of 525 feet each. The small illustration shows method of construction.

TYPICAL AMERICAN CANTILEVER BRIDGES.

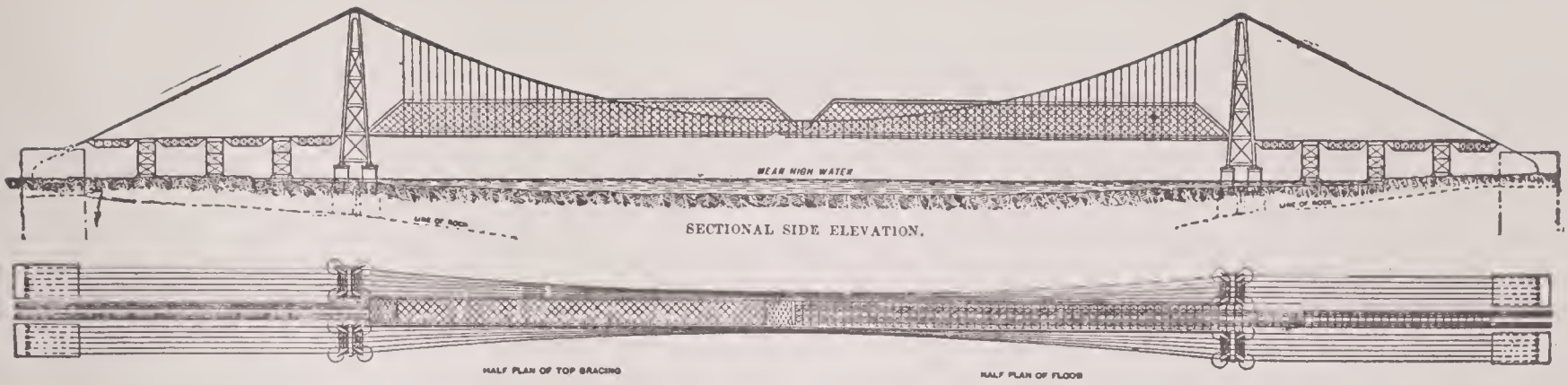


Fig. 2747.—NEW YORK AND JERSEY CITY SUSPENSION BRIDGE, BEGUN IN 1897.

Designed by Union Bridge Co.; to carry six railroad tracks. Length of span, 3,100 feet; 12 main cables, each 23 inches diameter, anchored in masses of masonry 180 feet square and 150 feet high, on the New York side, and in solid rock on the New Jersey side. Maximum strain on each cable about 8,300 tons, or a maximum of 100,000 tons on the twelve. Towers, reaching 150 feet below and 587 feet above water level, built of steel upon granite bases. Each central truss 1,525 feet long and 200 feet deep at center. Cost of structure, $25,000,000; with approaches, $60,000,000.

span between the towers being 1,595 feet, with two side spans of 930 feet each. This was completed in 1883, after 13 years' work in construction, both the founding of the piers and the manufacture of the cables being slow and difficult. Each of the four cables contains 5,296 steel wires bound together into a solid cylinder 16 inches in diameter. The bridge carries two tracks for cable cars, two roadways, and a foot-walk; its cost was about $15,000,000. The second East river suspension *B.* (Fig. 2745), begun in 1897, and to be completed in 1901, has a central span of 1600 feet, and its estimated cost is $7,500,000. The suspension system has now been so developed that it is recognized as applicable to the longest spans and heaviest traffic. Detail designs and estimates have been prepared for a great suspension structure over the Hudson river at New York, which will have a main span of 3,100 feet, and a clear headway of 150 feet above the water, as shown in Fig. 2747. Work has been done upon the approaches, and actual construction will probably be well advanced by the year 1900. The cost of this stupendous structure will be $25,000,000, and at least ten years be required to complete it.

Cantilever Bridges.—The idea of the cantilever system is an old one, and ancient bridges of short span have been found in Japan and Thibet, which embody it. A cantilever beam is a beam projecting from a wall; a cantilever *B.* has two arms which project out over the stream, and these are joined by a short simple *B.* Each cantilever arm is secured at its shore end to an abutment or anchorage, and is supported by a tower, the space between the abutment and the tower being called the shore span; beyond the tower the truss projects out over the river. From the opposite shore a similar cantilever arm rests upon an abutment and projects out over another tower. Between the ends of the two cantilevers there is a space over which stretches a short span whose ends are supported by the two ends of the cantilevers. For instance, in the cantilever *B.* over the Schuylkill, at Philadelphia, the total length of the structure is 410 feet; this is made up of the two cantilever arms, each 177 feet long, and the short central span of 56 feet; in each cantilever arm the length of the shore span is 98 feet and that of the part projecting beyond the tower is 79 feet. With this arrangement a load placed upon one cantilever arm has no effect upon the other, while the loads upon the central span are transferred in both directions. In building such a structure the shore spans are erected upon false works in the usual way, and the projecting arms of the cantilevers are then built out, panel by panel, beyond the pier, without the necessity of supports beneath. This method of construction is particularly adapted to deep river gorges, where the erection of simple bridges or of arches would be very difficult and expensive. This plan of erection was first employed in 1875 for a *B.* of 1,125 feet in length over the Kentucky river, which, however, was a continuous rather than a true cantilever structure. Designs for a cantilever *B.* over the East river near Blackwell's Island, at New York, were made as early as 1870, but it was not built. Plans were also prepared for an immense cantilever structure to span the Hudson at New York (Fig. 2749), but these were abandoned for the suspension *B.* above mentioned. The first structure which involved all the elements of the cantilever system was erected over the Niagara river in 1883 (Fig. 2748); the total length is 910 feet, each shore span being 195 feet, and the span between the towers 470 feet; the height of the roadway above the river is 245 feet. The Niagara cantilever *B.* was built in eight months, at a cost of $600,000, and it demonstrated the feasibility and economy of the system. In 1889 a *B.* over the Hudson river at Poughkeepsie was completed, which has five main spans, the first, third and fifth having the cantilever arms, while the alternate spans are connected with the others by continuous trusses; the longest span is 548 feet. In 1890 the *B.* over the Colorado river at Red Rock, Col., was built, the span between the towers being 660 feet, and the total length 990 feet. Before 1890, indeed, several other cantilevers had been erected, and the system thoroughly established as one of great advantage for spans too great to be covered by a simple truss. In 1892 the great *B.* over the Mississippi at Memphis was finished, which has a cantilever span of 790 feet between towers, as also an adjacent fixed span of 621 feet. This was the largest cantilever *B.* in the U. S. until the erection of the *B.* over the Mississippi river at New Orleans (Fig. 2750), in 1896–98, which has a total length of 2,274 feet, the shore span being 502 feet, and the span between the towers 1,070 feet; the floor is 85 feet above high water, thus necessitating a long viaduct on each side, so that the total length of steel construction is 10,610 feet, making it the longest in the world. The Forth cantilever bridge in Scotland, finished in 1887, is the greatest ever constructed, there being two shore arms of 685 feet each, and two cantilever spans of 1,700 feet each; the depth of this *B.* over the towers is 350 feet, and indeed it is probable that in these great spans the limit of economy of the cantilever system is surpassed. The Montreal cantilever, 1898, has a span of 1,250 feet between the towers, and two shore spans, each 600 feet long.

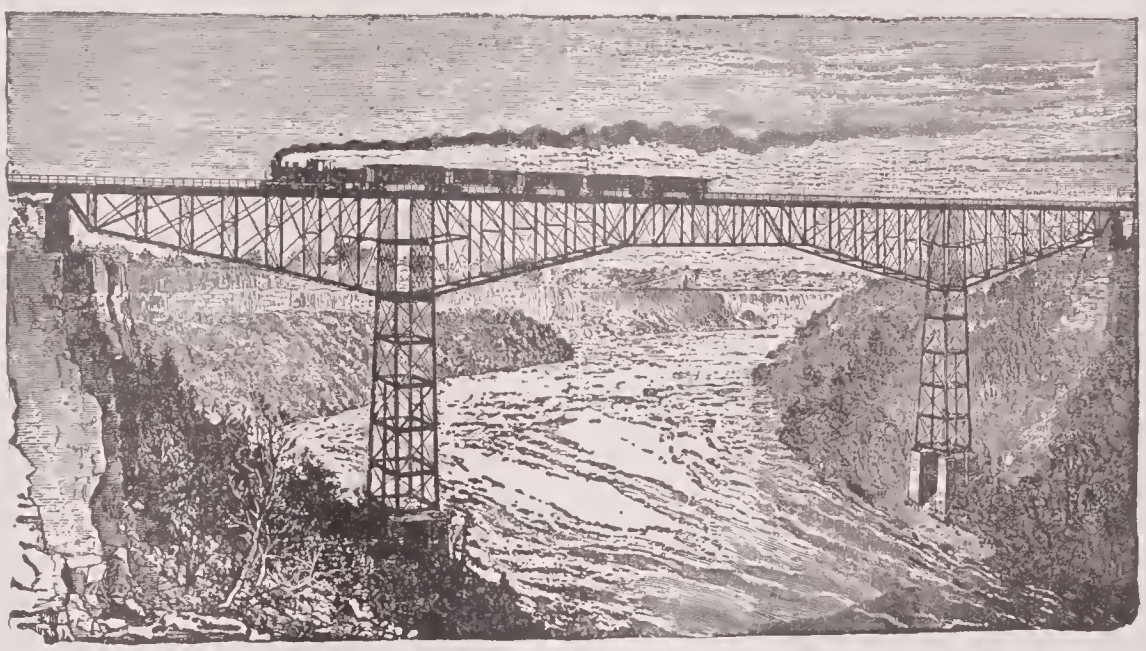


Fig. 2748.—CANTILEVER RAILROAD BRIDGE AT NIAGARA.

Comparison.—With respect to materials of construction, it is now settled that timber can only be used economically for bridges in the case of temporary structures or in localities far removed from manufacturing centers. Cast iron has been entirely discarded on account of its brittleness and unreliability. Wrought iron, though long in serviceable use, has now been largely supplanted by steel, which is somewhat stronger

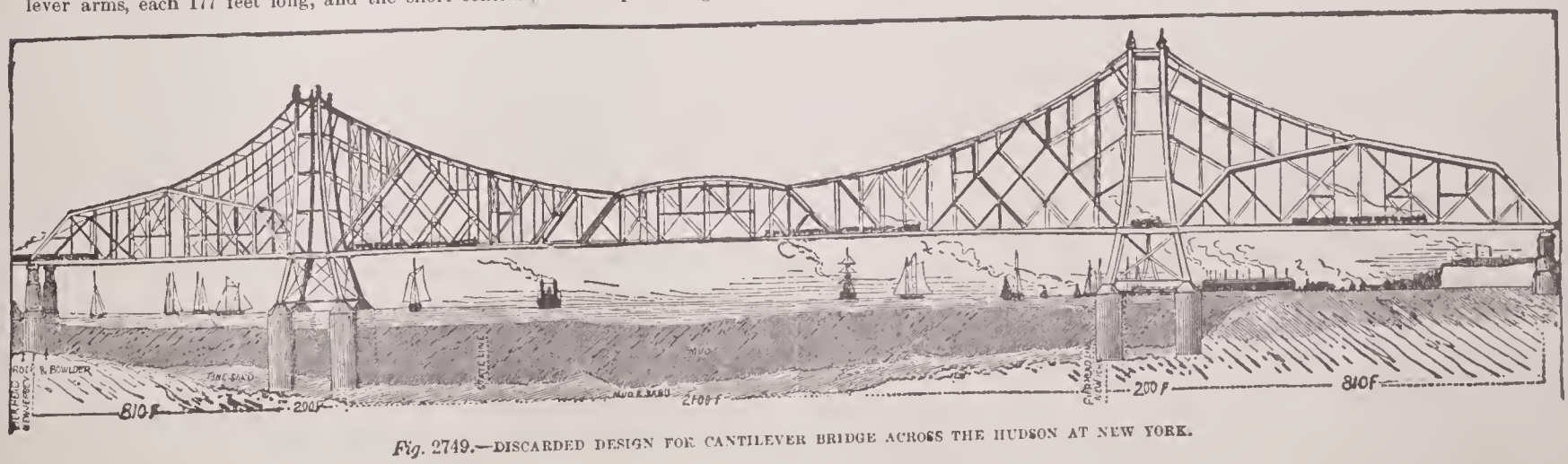


Fig. 2749.—DISCARDED DESIGN FOR CANTILEVER BRIDGE ACROSS THE HUDSON AT NEW YORK.

and of equal or lower cost. For short spaces, not exceeding 100 feet, stone is a valuable and durable material. For spans of all lengths steel may be used with reliability and economy. With respect to the details of manufacture, the riveted system, where the members are joined by rivets, is best applicable to spans less than 150 feet in length, while the pin system, where the posts and eye bars are connected by large cylindrical pins, is most economical for longer spans under American methods of designs and erection. Plate girders are adapted only to spans less than 125 feet and usually to less than 90 feet. Simple truss bridges may be employed

Fig. 2750.—CANTILEVER BRIDGE ACROSS THE MISSISSIPPI, CONSTRUCTED 1896–98, BY PHŒNIX BRIDGE CO.

up to 550 feet in length, but for longer spans they become too expensive on account of the rapid increase in weight. For spans between 500 and 1,000 feet in length either the arch or the cantilever system is to be employed, the latter being usually the cheaper. For the longest spans the stiffened suspension system is the best and most economical. In each particular case the civil engineer is to study the local conditions and so design such a structure that, while safely accommodating the traffic, its cost of construction and maintenance shall be the lowest possible.

Briggs, CHARLES AUGUSTUS, b. at New York, Jan. 15, 1841. A Presbyterian theologian; pastor at Rochelle, N. J., 1870; prof. of Hebrew and the cognate languages in Union Theological Seminary, 1874. A statement he made in his address, on being installed Prof. of Biblical Theology at the same seminary, to the effect that reason is a fountain of divine authority no less savingly enlightening than the Bible and the Church, subjected him to a trial for heresy before the General Assembly of the Presbyterian Church, 1892. Wrote *American Presbyterianism*; *Higher Criticism of the Hexateuch*, 1893; *The Messiah of the Gospels*, 1894; *The Messiah of the Apostles*, 1895.

Brine Shrimp. (*Zoöl.*) *Artemia gracilis*, the only animal, except a species of fly, which has been found in the waters of the Great Salt Lake. It is a crustacean of the order *Phyllopoda*, with stalked eyes, a slender and delicate body, and 11 pairs of broad, paddle-like or leaf-like feet. Its length is about a quarter inch. Similar forms are found in brine vats in various parts of the world.

Brin'ton, DANIEL GARRISON, M.D., born at Thornbury, Pa., May 13, 1837. Prof. of Ethnology and Archæology in the Philadelphia Academy of Natural Sciences, and Prof. of American Archæology and Linguistics in the University of Pennsylvania; was Medical Director of the 11th Army corps, 1863–64. Wrote, among numerous other productions, *Notes on the Floridian Peninsula*; *The Myths of the New World*; *The Religious Sentiment*; *American Hero-Myths*; *Aboriginal Authors and Their Productions*; *A Primer of Mayan Hieroglyphics*, 1894; *Characteristics of American Languages*, 1894, etc.

Bris'tow, BENJAMIN HELM, born at Elkton, Ky., June 20, 1832. A lawyer, distinguished in the Civil War and subsequently in the Kentucky State Senate; Solicitor-General of the U. S., 1870–72; Secretary of the Treasury under Grant, 1873–76. Died June 23, 1896.

British Association for the Advancement of Science. A society organized in 1834, at the city of York, and which has since then held annual meetings at some city of the British Empire. Its purpose is to promote the acquaintance and intercourse of scientific men, the interchange of scientific ideas, and the unification of scientific workers. The meetings are held each summer and continue a week, a new meeting-place and a new president being chosen each year. The proceedings consist of an address by the president, covering some important field of science, addresses by the presidents of the several sections, the presentation of papers, and the announcement and discussion of the results of scientific work. There are eight sections: A, mathematical and physical science; B, chemistry; C, geology; D, biology; E, geography; F, economics and statistics; G, mechanics, and H, anthropology. The membership of the Association is about 4,600, with an annual attendance of about 2,000. There is a large surplus income from dues, which is devoted to aid special researches conducted by committees of the Association. Similar associations exist in France, Germany, and the United States. See AMERICAN ASSOCIATION.

Brock'haus, FRIEDRICH ARNOLD, born at Dortmund, Germany, 1772. A German publisher (the founder of the Brockhaus firm of Leipzig), chiefly known for the *Conversations Lexikon*, which bears his name, not to mention Ebert's *Universal Bibliographical Lexicon*, Ersch's *Manual of German Literature*, etc. Died 1823.

Bronchorrhœa (*brŏng-kŏr-re'ah*). [From Gr. *bronchos*, the wind-pipe, and *reo*, I flow.] (*Path.*) An increased secretion of mucus from the air-passages, accompanied (or not) by inflammation. It is symptomatic of catarrh, indigestion, and various other maladies.

Bronze, *n.* (*Metal.*) Bronzes of modern manufacture now form a valuable material in the useful arts, viz: *phosphor-B.*, *silicum-B.*, *manganese-B.*, *delta-metal*, *phosphor-copper*, *phosphor-manganese-B.*, *cobalt-B.*, *aluminum-B.*, &c. The action of phosphorus on copper alloys is due chiefly to its reducing qualities, by which the oxygen, absorbed by the molten metal, is removed, or the oxides thus formed are eliminated. *Silicium-B;* in this alloy phosphorus is replaced by a silicious metalloid. It is highly recommended for telegraph wires, being, it is claimed, only one-tenth the weight, of equal strength, and with much greater conducting power than the ordinary wire. *Manganese-B.* was introduced in 1876; it is prepared by mixing a small proportion of ferro-manganese with copper; tin and zinc are also added for some of the alloys, of which there are several grades. *Delta-metal* was introduced in 1883; this metal is not capable of welding, but can be brazed, and also, by stamping and punching, made into various articles hitherto only cast in *B.* or brass. *Phosphor-lead-B.*, introduced in 1881, is claimed to be especially adapted for purposes where metal is subject to constant wear or friction. *Silveroid and cobalt-B.* are of more recent introduction, and are composed of an alloy of copper and nickel, with zinc, tin or lead. *Aluminum-B.* is well adapted for table cutlery and other table articles, in place of silver and silver-plated ware, for metallic fittings, screw propellers, &c., where a non-oxidizing, bright surface, with strength, is required. See ALLOYS.

Brook Farm. (*Sociol.*) A communistic association formed in 1841, at West Roxbury, Mass., as an experiment in "plain living and high thinking," its membership including a number of the leading thinkers and writers of New England. At the head was George Ripley, previously a Unitarian clergyman of Boston, who, with Emerson, Alcott, Hedge, and others, had founded the Transcendental Club, and in 1840 had established, in connection with Emerson and Margaret Fuller, *The Dial*, organ of the club. Those associated with Ripley in the Farm included Hawthorne, Charles A. Dana, John S. Dwight, and other well-known men. About 200 acres were purchased, agriculture and several trades were carried on, and several pupils were received in the study of language, history, music, drawing, &c. The community was at first organized as a joint stock company, but in 1844 was reorganized as a phalanstery, on the Fourieristic principle. In 1845 the phalanstery building was burned down, and in 1847 the experiment was abandoned as a financial failure. The idyllic and romantic aspects of life at *B. F.*, especially in its early years, has been made the basis of Hawthorne's *Blithedale Romance*. The greatest number gathered on the farm at any time, including children and boarders, was about 150. Kitchen and table were in common, little help was hired, philosophers, poets and novelists vied with each other in the work of the field, the stable and the household. The farm was often visited by distinguished people, and the *Harbinger*, its weekly organ, had among its contributors, aside from Brook Farmers, Lowell, Whittier, Greeley, Higginson, Story and Curtis.

Brooks, PHILLIPS, D.D., b. at Boston, Dec. 13, 1835. A brilliant pulpit orator. Grad. Harvard, 1855; ordained 1859; held rectorships in Philadelphia, 1859–69; rector of Trinity Church, Boston, 1869–91, being meanwhile (1886) elected Assistant Bishop of Pennsylvania, an office which he declined; Protestant Bishop of Massachusetts, 1891-93. Wrote *Sermons*; *Lectures on Preaching*; *The Influence of Jesus*; *Baptism and Confirmation*, etc. Died January 23, 1893.

Brooks, WILLIAM KEITH, born at Cleveland, O., March 25, 1848. A distinguished naturalist; associate of Johns Hopkins University, 1876, and director of its marine laboratory, 1878; professor of morphology, 1883. Wrote *Lucifer, a Study in Morphology*; *Handbook of Invertebrate Zoölogy*; *The Law of Heredity*; *The Development and Protection of the Oyster in Maryland*; *Report on the Stomatopoda*; *The Oyster*, &c.

Brough'ton, RHODA, born at Segrwyd Hall, Denbighshire, Great Britain, Nov. 20, 1840. A novelist, the daughter of a clergyman. Wrote *Cometh up as a Flower*; *Not Wisely But Too Well*; *Red as a Rose is She*; *Nancy*; *Joan*; *Second Thoughts*; *Belinda*; *Doctor Cupid*; *Alas*; *Mrs. Bligh*; *A Beginner*, 1894; *Scylla or Charybdis*, 1895.

Brown, FORD MADOX, born at Calais, France, 1821. An English painter; the author of *King Lear*; *Chaucer at the Court of Edward III*; *The Last of England*; *Work*; *Cromwell*, *Sardanapalus and Myrrha*; *Romeo and Juliet*, &e.

Brown, GOULD, born at Providence, R. I., March 7, 1791. A noted grammarian. Conducted an academy in New York city for over 20 years. Wrote *Institutes of English Grammar*, 1823; *First Lines of English Grammar*, 1823; *Grammar of English Grammars*, 1850–51.

Brown, JOHN GEORGE, born at Durham, Eng., Nov. 11, 1831; came to United States, 1853. A figure painter, eight of whose pictures were exhibited at the Chicago Fair, 1893. A few of his more important productions are: *His First Cigar*; *Curling in Central Park*; *Tough Customers*; *Clear the Track*; *The Dog Show*; *As Good as New*; *The Old Folks at Home*; *Under the Weather*; *A Jolly Lot*; *The Monopolist*; *Day Dreams*; *You're a Nice Pup*; *Watching the Clouds*.

Brown University. An institution of learning founded at Warren, R. I., in 1764, and in 1770 removed to Providence, its present location. It was first named Rhode Island College, receiving its present name in 1804 in honor of Nicholas Brown, one of the chief contributors to its endowment fund. It is at present under the presidency of E. Benjamin Andrews, its corporation consisting of 12 fellows and 36 trustees, of whom a small majority are required to be Baptists. At the end of 1896 the rolls showed a total of 98 instructors and 925 students. The library has 90,000 volumes. Since its organization there have been 4,500 graduates, of whom the living alumni number 1,900. There are 13 university buildings, among which the observatory contains one of the finest telescopes in America. The endowments amount to about $1,300,000, with buildings worth $500,000 more. About half the students are from Rhode Island, and half the remainder from the adjoining States.

Browne, CHARLES FARRAR, an American humorist

Fig. 2751.—OLD CHAIN SUSPENSION RRIDGE ACROSS MERRIMAC RIVER, IN MASS.

and author, born at Waterford, Maine, 1836, after some years spent at the printing trade, became editorially connected with the journalistic profession, and in 1860 one of the promoters of *Vanity Fair*, a New York comic weekly. Later he traveled over the U. S. as a lecturer, drawing large audiences and achieving proportional success. In 1866 he visited England, and there repeated his lectures with profit, and became a contributor to *Punch*. His works, brimful of a quaint and dry humor, are well known under the titles of *Artemus Ward, His Book*; *Artemus Ward Among the Mormons*,

Phillips Brooks

1835–1893

Artemus Ward in London, &c.—Pen-name ARTEMUS WARD. Died at Southampton, Eng., in 1867.

Brownell', HENRY HOWARD, born at Providence, R. I., Feb. 6, 1820. A Soldier poet. Died at East Hartford, Conn., Oct. 31, 1872.

Brush. CHARLES FRANCIS, born at Euclid, O., March 17, 1849. A distinguished electrician; the inventor, *inter al.*, of the dynamo-electric machine and the electric-arc lamp which bear his name, both of them successfully introduced in this country in 1876. Was made Chevalier of the French Legion of Honor, 1881.

Bry'an. WILLIAM JENNINGS, lawyer and statesman, born at Salem, Ill., 1860. Studied law at Union Law College, Chicago, and practised at Jacksonville, Ill., and Lincoln, Neb. Elected to Congress as a Free Silver man in 1890 and again in 1892. An impassioned speech of his at the Chicago Democratic Convention in 1896, obtained him a nomination for the Presidency, and his candidacy was subsequently endorsed by the People's and National Silver Parties; but after a campaign of phenomenal industry he was defeated at the election, on Nov. 3, by Wm. McKinley (*q. v.*). He was again nominated for the Presidency in 1900, and again suffered defeat. In January, 1901, he began the publication of the *Commoner*.

Bryce, RT. HON. JAMES, born at Belfast, Ireland, May 10, 1838. An eminent British statesman, lawyer and writer. Regius Prof. of Civil Law at Oxford University, 1870–93; at various times Under-Secretary for Foreign Affairs; Chancellor of the Duchy of Lancaster and (until 1895) Pres. of the Board of Trade. Author of *The Holy Roman Empire, Transcaucasia and Ararat; The American Commonwealth*, &c.

Bubon'ic Plague. (*Path.*) The popular name of a malignant disease which has devastated the East at various periods, and which made its latest dreaded appearance in India during the latter part of 1896. It is probably better designated as malignant polyadenitis, for in numerous cases no real bubo appears. This disease made its first appearance in Europe A. D. 554, at Constantinople, but for centuries before had existed, frequently as an epidemic, in Egypt and the Levant. The Great Plague of London occurred in 1665, having been brought from Holland. It is estimated that some 25,000,000 Europeans have died from this disease, while the number who have perished in the East is beyond conjecture. Its outset is characterized by great lassitude and enfeeblement of mind and body, shivering, headache, vertigo, high fever, vomiting, and great prostration, followed by lymphatic swellings, chiefly affecting the inguinal glands, though not infrequently the axillary and cervical glands. Again there are purple spots and mottling of the skin, with suppurative degeneration. In severe cases death generally ensues within 48 hours. If life be longer maintained, the prognosis is proportionately favorable. It is now generally agreed that the *B. P.* is a germ disease, and the offending bacillus has been identified by Indian bacteriologists, and also by European and American investigators. It is easily demonstrable in blood drawn from the patient, and when cultures are made from the softened contents of diseased glands the bacilli may be obtained quite pure. The organisms are very minute, stain more distinctly at the ends than at the center, and fresh specimens seem to be enclosed in a capsule. The bacilli resemble the well-known bacilli of chicken pox, and grow freely upon glycerin, the colonies being whitish, with a blue tint in reflected light; they are said not to survive more than four days of dessication. Experiments are now being made with a view to preparing a curative serum whereby immunity from this terrible disease may be attained, and the results so far give much promise of ultimate success. It has been demonstrated that the germs flourish in any suitable media—beef-tea, glycerin preparations, &c.—at ordinary temperatures up to 58° C. (about 116° F.), but above that temperature they begin to show signs of uneasiness, and at 60° C. (about 120° F.) they perish, and, of course, become innocuous. American investigators, moreover, are inclined to think that sunlight and dryness cannot be relied upon to destroy the bacilli, but have shown that an exposure to a 1 per cent. solution of carbolic acid for two hours is sufficient to kill them. Rags, general merchandise, and almost any kind of ballast will serve as a medium of transportation from one country to another, and the necessity for establishing a rigid quarantine, with disinfecting ovens, is thus indicated.

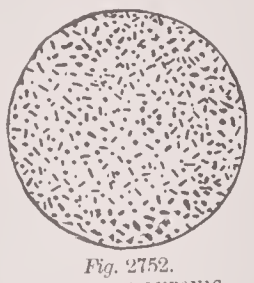


Fig. 2752.
BACILLI OF BUBONIC PLAGUE.
From Cultures made in March, 1897.

Buck'land. CYRUS, a notable American inventor, born at Manchester, Conn., 1779, became master-machinist to the U. S. armory at Springfield, Mass., and originated various contrivances for working gun-stocks, besides an effective method of rifling musket-barrels, which has become very generally adopted.

Buck'ner. SIMON BOLIVAR, an American politician and Confederate general, born in Kentucky in 1824. After graduating at West Point in 1844, became commanding officer of the guard of his native State, and embraced the Southern cause at the first outbreak of the war. He succeeded Gen. Floyd in the command of the garrison of Fort Donelson, which place surrendered to Gen. Grant on Feb. 16, 1862. In the following year he commanded a corps at the battle of Chickamauga; elected Governor of Kentucky in 1887; was defeated candidate for Vice President of U. S. on National Democratic "hard money" ticket in 1896.

Buck'wheat. (*Agric.*) See CEREALS.

Budaon (*boo-da'ŭn*), a town of British India, N. W. Provinces, cap. of a dist. of the same name, in N. Lat. 28° 2′, E. Lon. 79° 11′. *Pop.* 35,372. The district, a fertile tract bordering on the delta of the Ganges, contains an area of 2,005 sq. m., and possesses a population of 1,019,161.

Budapest, or **Hungarian Millenial, Exposition.** A grand display of the resources of Hungary, made in 1896, in honor of the establishment of that kingdom 1,000 years ago, or in 896 A. D. It was deemed a fitting opportunity to make a millenial exhibition significant of the growth of that country in civilization and material resources since its settlement by the half-savage Huns of ten centuries ago. *B.*, the handsome double city which constitutes the capital of the kingdom, was selected as the place of the display, which occupied the most beautiful park in that city, a space of 129 acres being devoted to the 169 buildings which were erected for the purpose at a cost of about $1,000,000. The exposition was formally opened on May 2, by the Emperor Francis Joseph, as King of Hungary, and continued open until Oct. 31, during which period it was largely visited by Hungarians and foreigners. The grounds were made handsome by the aid of natural and artificial lakes and streams, crossed by ornamental bridges, while the 1,000 years of Hungarian national life was divided into 8 epochs, to each of which was assigned a building of appropriate architecture, while its contents illustrated the arts, industries and history of the period in question. The section illustrating modern Hungary showed clearly the great advance made by that country. In addition each of the 19 nationalities which make up the composite population of Hungary had a village showing its customs and daily home life. Throughout the exposition there was an elaborate series of fetes, festivals and historical pageants, and the people of the country seemed to have given themselves up to a period of unchecked enjoyment. Not the least of the revelations to strangers was the city itself. Buda, on the right, and Pest, on the left bank of the Danube, were separate cities until 1873, since which they have formed a single municipality, with a population in 1890 of 506,061. Several handsome bridges connect the double city, which is now one of the handsomest and cleanest capitals in Europe, while its progressive spirit is manifest in the fact that it was the first of cities to introduce the underground trolley system of street car propulsion. A leading event of the exposition was the opening of the new Parliament House, which had cost $6,400,000. Still more important was the completion of the new water-way through the celebrated Iron Gates of the Danube, the opening of which to international navigation was made the occasion for a most impressive series of ceremonies.

Buffalo.—*Continued from* SECTION I.

The story of the virtual extinction of the American Bison, familiarly known as the *B.*, is one of such interest as to call for some special mention. In 1870 the western plains of the U. S. were roamed over by millions of *B.*, which even then were being exterminated at the rate of half a million a year. The paltry sum of $1.00 for each robe was sufficient inducement for the slaughter of thousands of the animals, whose carcasses were left to bleach on the plains. Up to this time the wild animals were killed by the old Indian method of "running," a method which had in it sufficient spice of danger to make it sportsmanlike. The *B.* horses were trained to run alongside of a big bull, and the killing

Fig. 2753.—COMPARATIVE HEIGHT OF PROMINENT BUILDINGS IN NEW YORK CITY AND THE NATIONAL CAPITOL AT WASHINGTON (SEE BUILDING).

of the animal was often attended with exciting and dangerous incidents. The method that succeeded was simply massacre. The completion of the Union and Southern Pacific and other roads across the plains gave rise to a great demand for buffalo robes, and a small army of "pot-hunters," set themselves to supply the demand. Armed with a long range repeating rifle, one of this slaughtering band would conceal himself at a point several hundred yards distant from a herd, and deliberately shoot down the leader. Instead of flying the frightened animals would gather around their fallen chief, and die in succession before the rapid discharges of the deadly rifle. If a second bull showed signs of leadership he became the next target for the hunter's rifle. Scores of animals would be killed before the remainder of the herd would take to flight. One hunter stated that he had killed 63 animals in less than an hour, and Col. Dodge once counted 113 dead buffaloes, all slain by one man in forty-five minutes. The Union Pacific Railroad cut the great herd in the plains into two, the southern herd numbering, in 1871, over 4,000,000 animals, and the northern herd, smaller in size and more restricted in territory. With the completion of the Atchison, Topeka and Santa Fe Railroad there was a wild rush of buffalo hunters to the plains, thousands of eastern sportsmen joining the throng, and the slaughter of the southern herd went on at an unprecedented rate. In 1873 one railroad carried from the plains 250,000 robes. Two years later the southern herd had almost ceased to exist, there being left only a few thousands of the recent millions. The northern herd survived longer, because not so easily reached, it being too expensive to get the robes to market. But in 1882, after the completion of the Northern Pacific Railroad, a rush to this region began. Robes had advanced in price to $3.00, and the chance of making money seemed good. It was not long before the *B.* grounds were surrounded by a cordon of hunter's camps, through which it was impossible for the animals to escape. Under those circumstances the herd disappeared during the year 1883, with the exception of some 5,000 that succeeded in crossing into British territory. A small section the herd, about 10,000 in number, located between the Black Hills and Bismarck, had been reduced to 1,200 in 1883. In that month Sitting Bull's Indians arrived at Standing Rock agency, and made a rush for this small remnant of the herd. In two days not an animal of them remained alive. That ended the slaughter; there were no more to kill. Hunters passed into Canada, expecting to find great numbers there, but scarcely any were to be found. Within the brief period of twelve years reckless and irresponsible hunters had slaughtered many millions of the largest and most valuable of North American animals.

—*Domestic herds.* Fortunately for science the extermination has not been quite complete. Several small groups exist in zoölogical gardens and elsewhere in the States. A small herd of 20 buffaloes is owned by the Island Improvement Company, and kept on Antelope Island, in Great Salt Lake. This island is 30 miles long and 6 wide, is covered with rich grasses, and seems an ideal home for the *B.* The largest herd in existence is that in Yellowstone Park, which numbers perhaps 400, and by careful protection may considerably increase. A number of these have been recently transferred to the National Zoölogical Garden at Washington. Of domesticated buffaloes, there is a herd of nearly 75 kept in the Texas Pan Handle, while at Ravalli, Montana, is one numbering 200, owned by Mr. Charles Allard. Mr. Allard is not alone engaged in raising the animals for sale to museums and other stock-farms, but has carried on extensive experiments in crossing them with the polled Angus stock of cattle. The cross breeds are magnificent animals with closer and finer fur than that of the *B.*, and with very palatable meat. And they have the advantage of retaining the instincts of their wild progenitors, which have taught them how to face the fearful storms of the West, so destructive to ordinary cattle. These include the instinct to bunch together in a wedge and face the wind and snow, and after the storm to paw through the snow and uncover their favorite grass beneath.

Buffalo Moth, *n.* (*Entomol.*) An insect (*Anthrenus scrophulariæ*), which has become a pest to carpets, furs, &c. The larva is a thick, hairy creature, with convex back, bearing some suggestive resemblance to a very minute buffalo. The imago is a small brown insect, about one-eighth of an inch long, and mottled with gray, red and black. It is the larva which causes the damage, and when once established in a house is very difficult to eradicate. The carpets need to be taken up, sprayed with benzine, and thoroughly aired, and all the cracks in the floor to be similarly sprayed. In re-laying the carpets, strips of tarred paper should be laid around the borders of the room.

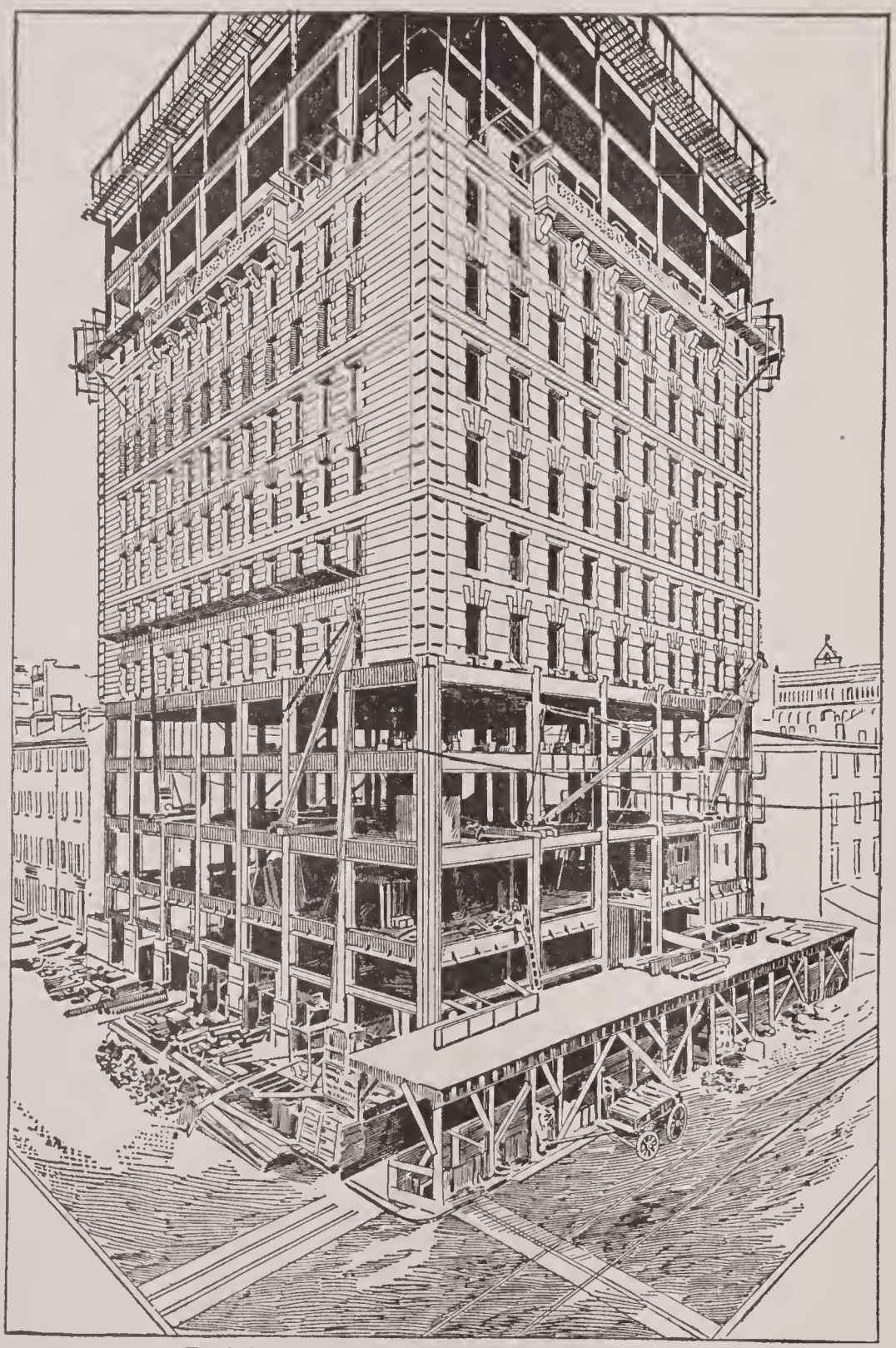


Fig. 2754.—MODERN SKELETON BUILDING UNDER CONSTRUCTION.

Building. The subject of *B.* has two aspects, the architectural and the constructive, the first devoted to the general effect of an edifice as a work of art, the second to the details of its construction. The first of these has been considered under ARCHITECTURE (*q. v.*) The second now demands attention. As regards the materials of edifices, they have varied greatly in different times and localities—wood, stone, brick, iron, mud, and even snow being used. In the Arctic regions a house built of slabs of frozen snow is a comfortable residence, while in the tropics posts covered with palm leaves suffice the purposes of an abode. In most localities wood, or tree products in some form, for ages served the needs of the builder, and, therefore, few examples of the domestic residence of the past survive. In localities devoid of wood, but possessed of clay, brick took the place of timber, as on the Babylonian plains and in the adobe-using regions of Mexico; while the Pueblo Indians built their edifices of thin slabs of stone, prepared for them by nature. The stone construction of the past was largely confined to great edifices, to temples and to palaces, tombs and pyramids, which it was hoped massiveness of material and solidity of construction would render indefinitely permanent. At present, in civilized countries, it is common to use brick and stone in the walls of dwelling houses as well as of more pretentious edifices, though wood is still frequently used in many countries, particularly in rural districts. Another kind of wall, which has come largely into use in Europe and to some extent in America, is made of a concrete, or artificial stone (called *béton* in France), which is formed of sand, pebbles, broken stone, and lime mixed with water. Floorings and partitions are usually of wood, while for roofing a considerable variety of materials is used, including thatch, shingles, slate, tin, iron, felt, asphalt and other substances. The internal surface of walls is covered with plaster, while in modern houses the work of the painter and paper-hanger comes almost universally into play to give a final finish to the work.—*Fire-proof construction.* The huge warehouses and office buildings which modern mercantile life demands, and the vast apartment houses and hotels now constructed, have rendered the construction of fire-proof buildings an almost absolute necessity, and the former very abundant use of wood in buildings is being to a large extent replaced by iron, terra-cotta, cement and brick, the result being a great increase in the safety of structures, though such a thing as a really fire-proof *B.* seems still wanting. This lack of safety is in great measure due to the collecting of combustible furniture and other materials in rooms, and the opening of great chimney-like flues in stairways and elevator shafts which greatly aid the spread of flames. The advent of the elevator has made a radical change in modern methods of building, edifices of many stories in height being now constructed, in which the use of the elevator renders the fifteenth or twentieth story almost as accessible as the first.—*Skeleton Buildings.* With this change in ease of ascent has come in a new type often spoken of as "skeleton buildings," from their mode of construction. The use of iron in architecture began in the erection of store fronts of this material, cast into ornamental shapes and imitating stone-work in general effect. In the recent method referred to the *B.* throughout is a structure of iron, while the walls serve but as a wind-break and add little to the strength of the edifice. These great edifices begin in the laying of a substantial foundation, upon which is erected a series of strong iron columns, well bolted down and thoroughly braced together at the top of each story by cross beams of iron or steel, the whole making a compact and unyielding mass. The skeleton frame-work of the *B.* is thus erected, story by story, until a great height in the air is attained, the whole forming a strong and self-sustaining mass. The floors are made of terra-cotta self-bracing blocks, filling the interspaces between the cross-beams, while the final process in the construction of the *B.* is often the erection of the walls, which slowly close in the iron frame-

work. Blocks of artificial stone are coming largely into use for this purpose. As a striking example of the most recent type of this class of construction, attention may be called to the building constructed in 1897 by the Girard Trust, at Twelfth and Girard streets, Philadelphia, of which we give an illustration in its uncompleted state, showing the peculiar method employed in its erection. In this edifice, after the partial completion of the frame-work, the building of the exterior walls began at the fifth story above ground, leaving the space below open and unfinished. This was afterwards completed in marble and other ornamental stone, which could be done deliberately after the remainder of the work was finished; but it is a most remarkable spectacle to see the walls of a building begin at a height of some sixty feet in the air and climb upward without regard to the ordinary laws of gravity.—It may be said in conclusion that no small apprehension is felt by many as to the future fate of these great buildings. Their strength depends solely on that of their iron frames; and iron is treacherous as a *B.* material. Though the skeleton is well painted and closed in at all points from the air, there is no absolute assurance that water may not eventually make its way into the iron and a process of rusting be set up that will prove in the end fatal to the stability of the *B.* Another objection to such lofty edifices is their tendency to turn streets into dark, canal-like openings, and a movement looking to a restriction of the height of such edifices is now well under way. In Chicago it is proposed to limit the height of such edifices to 90 feet, and to permit no *B.* to be erected whose height is more than three times its least width. Similar regulations are proposed in other cities, and all the points of detail in the construction of such edifices are likely in the near future to be controlled by restrictive laws.

Building Associations, or **Societies,** are for the purpose of raising, by the subscriptions of the members, a fund for making advances to them upon mortgage security; or, a more popular definition may be, an association by means of which every member may become his own landlord. The first mention of societies of this kind was in 1795, in Birmingham, England, where it was called a Building Club; while differing from, it still greatly resembled, the more modern association in its aim. In 1836 *B. A.* were, by special act of Parliament, exempted from the usury laws. Under the "permanent" system, adopted in England in 1846, whereby members could enter at any time without back payment, these societies largely increased. The first American society seems to have been organized in Frankford, Philadelphia, in 1831, and in that city they have attained their greatest development. Income is derived from monthly payments, interest and premiums on loans, and they have aided largely in building up a landlord class among the operatives in Philadelphia. They are common now in many of the States, but the system has flourished most in Pennsylvania, in which in the year 1890 there were about 1,200 societies, while in all the U. S. the societies numbered 5,290. Probably these societies have a membership of over 1,000,000, and assets amounting to some $400,000,000. England, in 1887, had 2,318 societies, with about $250,000,000 assets. Similar associations have developed in the British colonies and in Germany.—In the ordinary method, the capital of a *B. A.* is provided by the issue of shares valued at $200 each, which are paid for in instalments at the rate of $1 per month. The money thus paid in is loaned out, principal and interest being repaid in instalments. The money borrowed is usually invested in homes for the members, and each member so borrowing is obliged to pay $2.00 a month on each share representing the loan, instead of $1.00, as when no loan is secured. It takes perhaps from 10½ to 12½ years for each share to reach its full value of $200, whereupon the association ends; those members who have not borrowed receive the par value of their shares—$200 each; and the obligations of borrowing members are cancelled. As, however, it was found difficult to loan money when the association approached its end, while it cost too much for new members to enter when it was some years old, a new system has been adopted in which successive series of shares are issued, each beginning and maturing one year after the preceding. Societies in various other places have been organized, some of them probably dangerous in their working, the old system being undoubtedly the safest.

Bulga'ria. In May, 1881, Prince Alexander I, of Bulgaria, proposed to abdicate, unless invested with extraordinary powers. The new Assembly accepted his ultimatum, and the opposing liberal ministers were arrested, but soon set at liberty. A practical dictatorship was established and the administration of the army largely Russified; but in 1883 a strong anti-Russian feeling arose in Eastern Roumelia and spread to Bulgaria, which resulted in the meeting of the Assembly and the installation of a Liberal Cabinet, the adoption of a new Constitution and the overthrow of Russian influence. Disputes arose with Servia in 1884 as to the boundary line. On Sept. 18, 1885, a national rising took place in Eastern Roumelia, the Turkish government was expelled, Alexander of Bulgaria put himself at the head of the insurrection, and on the 20th issued a proclamation announcing the union of Eastern Roumelia with Bulgaria. Servia and Greece at once put their armies on a war footing, announcing that any disturbance in the balance of power in the Balkan peninsula, by the union of the two Bulgarias, could only be compensated by an increase in their territories, Servia demanding the cession of Widdin from Bulgaria. War was declared against Bulgaria by King Milan of Servia, Nov. 14, 1885. At first unsuccessful, the Bulgarians soon recovered their losses and defeated the Servians and an armistice was agreed upon, Austria morally sustaining Servia. Peace was concluded between Servia and Bulgaria March 3, 1886, and Alexander, with the consent of the Porte, assumed the title of Governor-General of Eastern Roumelia. In August, same year, a revolt took place at Sofia, Prince Alexander was seized and sent out of the country and a provisional government formed, but a counter revolution broke out, the prince was invited to return, and he reached Sofia Aug. 31. Receiving no support from Russia (unaware at the time that the revolt which expelled him was a Russian move), he abdicated, Sept. 5, 1886, and retired to private life. In Nov., Prince Waldemar of Denmark, was elected by the *Sobranje,* as prince; he refused the crown, and Prince Ferdinand of Coburg was offered the crown and elected Prince of Bulgaria by the National Assembly, July 7, 1887, assuming the government Aug. 14, 1887. His election and the union of Bulgaria and Eastern Roumelia had not been confirmed by the great powers up to 1897. See BULGARIA in SEC. I.

Bull. (*Stock Exchange.*) One who asks his broker to purchase stocks with the expectation of a rise, and to whom he does not pay the whole par value of them but only a margin of say five or ten per cent. So long as the price does not fall, or if it rises, the stocks are worth as much as the broker paid, and the original deposit or "margin" is sufficient until there comes the order to sell. But if the buyer mistakes the course of the market, and stocks fall below the price paid by his broker, the latter loses by the difference between the present and the previous price estimated on the par value, unless the deposited margin is sufficient to cover the amount. If it is not, then the broker calls for greater deposits of money. Consequently, in a falling market there is a greatly increased demand on the banks for loans with which to maintain a hold on their stocks. But, on the other hand, it is the interest of "bears" who operate to depress the market, to force sales of stocks, lessen the amount of loanable funds, and raise the rate of discount. An "easy money market," therefore, is as unfavorable for "bears" as it is desirable for "bulls." The "street" name for a broker opposing the bull element is "bear." Hence the expression, "bulls and bears" in stock-brokers' parlance.

Bull, OLE BORNEMANN, a famous violinist, born in Norway, 1810, visited the U. S., and in 1852 made an attempt to found a Norwegian colony in Penna., which was unsuccessful. His memoir, by his wife, appeared in 1883. Died 1883.

Bu'low, HANS GUIDO von, born at Dresden, Jan. 8, 1830. The foremost pianist of the Chopin-Liszt school, who played with boundless success in every European capital. He was said to be absolute master of the piano-forte. Died at Cairo, Egypt, Feb. 12, 1894.

Bunsen (*boon'sen*), ROBERT WILHELM EBERHARD, a German chemist, born at Göttingen, 1811. In 1838 he was appointed assistant professor in the University of Marburg, became titular professor in 1841, then director of the Chemical Institute. In 1851 he passed to the University of Breslau, and in 1852 to that of Heidelberg. Discovered the metals cæsium and rubidium; invented the "Bunsen burner," the "Bunsen pump," the "Bunsen battery," and made well-known researches in spectrum analysis. Died Aug. 16, 1899.

Bunsen Burner. A gas burner invented by Robert W. E. Bunsen, its purpose being to secure complete combustion. Air is caused to mix with the gas before ignition, a smokeless, sootless flame, of little light but great heating power, being produced. This appliance, which has been greatly improved, is of much importance in the laboratory.

Buoys, Bell and **Whistling.** These are buoys for the warning of marines, whose names indicate their character. In the bell buoy the tossing of the waters keeps a bell in constant operation; while in the whistling buoy there is a whistle connected with a hollow tube long enough to reach the still water below; as the buoy rises and falls the changing level of the water in the tube drives out or sucks in the air, causing the whistle to sound.

Burch'ard, SAMUEL DICKINSON, born at Steuben, N. Y., Sept. 6, 1812. A Presbyterian clergyman in New York City; the author of the historic phrase "Rum, Romanism, and Rebellion," which damaged the Republican prospects throughout New York State at the election of 1884. Died at Saratoga, Sept. 25, 1891.

Bureau of American Republics. An official bureau established at Washington, as an outcome of the Pan-American Congress of 1890, whose purpose it is to keep the Republics of America well informed regarding commercial and other movements in each, and thus seek to promote the interests and fraternity of the western continent.

Bureng (*boo-rāng*), a valley of Cashmere, through which flows a river of same name, bet. N. Lat. 33° 20′–33° 30′, E. Lon. 75° 10′–75° 26′. It is situated at the base of the Snowy Panjal range of mts., and presents a remarkable appearance from its being honeycombed by caves and subterraneau water-channels.

Burial Customs. In disposing of the bodies of the dead various customs have been in vogue at different times and among different peoples, most of which may be brought within three classes: (1) The closing up of the body in earth or stone; (2) the burning of the body and entombing of the ashes; (3) the embalming of the body. The first of these is the earliest of which we have any knowledge, bodies being covered with earth, often heaped into mounds, buried in stone cysts, or chambers, or disposed of in natural grottos or crevices. This method of burial has continued down to the present time, and remains the one most generally in use. The practice of cremation is also prehistoric, and was widely employed in ancient times. It was abolished in Christian Europe, and the former custom of burying weapons and household utensils, or ornaments, with the dead was brought to an end, except in the case of kings and priests, who were buried in their royal or sacerdotal robes, and with their insignia of office. Cremation, after being long discontinued, is again coming somewhat into use in Christian lands, mainly for sanitary reasons. For centuries the Christians at Rome buried their dead in the catacombs, an intricate series of subterranean excavations, within which the corpses were placed in long series of niches in the walls. The practice of embalming was specially employed in ancient Egypt, in which land it continued the custom for thousands of years, the embalmed bodies being usually laid away in rock-hewn tombs, of which those intended for royal persons were extensive and elaborate, and richly adorned with mural paintings and bas-reliefs. This custom was in part adopted by Christians, and there are frequent allusions to it in the Scriptures. A somewhat similar custom was practiced in some parts of America, as in ancient Peru, where the bodies of the dead were preserved by dessication in the dry air of that region. A similar practice is still kept up in Mexico, where dessicated bodies are placed in the long vaulted corridors of religious institutions. Various other burial customs have been practiced by certain peoples, such as the placing of corpses in trees by some American Indian tribes, and the exposure of the dead on the open tops of towers to the assaults of carnivorous birds by the fire-worshippers of Persia and India. The early Norseman occasionally placed the dead viking in his ship and sent him "flaming out to sea," though it was more usual to bury him, with his belongings, in his ship, beneath a mound of earth. The custom of solemnizing the burial of the monarchs and great chiefs of nations and tribes with human sacrifices existed of old in many parts of the earth. It was kept up by the tribes along the Volga until the 10th century, and Charlemagne prohibited it among the conquered Saxons on pain of death. In India, where cremation is still commonly practiced, it was long the custom for the widow to burn herself with the corpse of her husband. This horrible practice has been brought to an end by British authority. It is interesting to find that some of the grandest buildings known were erected as tombs. Such seems to have been the purpose of the pyramids of Egypt. In Rome the castle of St. Angelo and the tomb of Cæcilia Metella are striking examples. In eastern countries many handsome mausoleums were erected; and the most beautiful of all buildings, the exquisite Taj Mahal of India, was built as the tomb of a Mogul empress. Among the ancient Greeks and Romans the rite of burial was held as of the highest necessity, an unburned or unburied body being held as disgraced, its spirit being forced to wander on the outer borders of the lower world. Unhappy roamed the spirit until the body was buried or interred, or at least a few handfuls of earth were thrown on the corpse by a kindly stranger, so as to give some semblance of the rite of burial. In Christian countries the denial of burial in consecrated ground was held to affect the future fate of the deceased. As late as 1823 the barbarous custom of burying suicides at cross roads, with a stake driven through the body, persisted in England. It was then enacted that their burial should take place privately, between nine and twelve at night, in the parish churchyard, and without any marks of ignominy.—Much feeling has been aroused at times by the dread of being buried alive, or in a state of suspended animation. Many stories of this kind have been told, though few of them have been authenticated, and in all probability cases of premature burial have been of very rare occurrence. There are localities where the dead are kept for a time in buildings specially fitted up for the purpose of detecting signs of life, being so arranged that a bell will ring on the least motion of the body. In no such instance has a supposed corpse shown signs of life. In truth, a competent medical man is very unlikely to be mistaken in regard to the signs of death, and dread of being buried alive is almost or quite unwarranted.—*Cemeteries.* In recent times, in large cities, large and handsome cemeteries, or burial grounds, exist outside the limits of the built-up sections, replacing the old-time graveyard, which was often encircled with dwellings. This is partly done on sanitary grounds, to prevent the drinking water used by the inhabitants from being affected by organic poisons arising from the decomposing bodies of the dead. Many such cemeteries, as Mount Auburn in Boston, Greenwood in Brooklyn, Laurel Hill in Philadelphia, and others in this country, with similar instances in the cities of Europe, are picturesquely situated and adorned with all the art of the landscape gardener, while magnificent monuments in carved and polished stone add to their attractiveness and make the cities of the dead favorite places of resort, instead of places to arouse unpleasant feelings and superstitions dread, as of old. Yet, the feeling continues that, however carefully conducted, the earth burial of the dead is unsanitary and likely to affect injuriously the health of the living. This dread, together with a growing distaste to the thought of the decomposition of the body, with its unpleasant associations, has roused a sentiment in favor of cremation, and many instances of disposal of the dead by burning have occurred within recent years. Crematories for this purpose, provided with the best modern methods for a rapid, complete and economical consumption of the body, have been built in the vicinity of several of our large cities, and the practice

of cremation is slowly growing, though not at a rate that promises any rapid replacement of the usual method of burial.—*Funeral ceremonies.* In the earlier days of this country, when relaxation from hard physical labor was unusual, the occasion of a funeral came to be looked upon almost as a holiday. People would gather for miles around, and a feast follow the funeral, in which the most abundant provision was made to satisfy the appetites of the mourners. This custom continued until recent times in the country districts, and has not yet died out in settlements remote from cities. It is similar in character and origin to the Irish "wake" and to mortuary customs still prevalent in other countries. The practice of long funeral processions, thus inaugurated, made its way into the cities, and still continues in a considerable measure, though efforts have been made, on the score of economy, to bring to an end these useless, costly, and not always seemly displays. As a result of the growing feeling against this custom, the practice of keeping funerals private is gradually coming into vogue, the friends of the deceased being invited to attend the obsequies at the house, while only the immediate family follow their lost member to his or her final resting place. This custom is likely to grow, as avoiding undue ostentation and unnecessary expense; and this, in common with the growing feeling in favor of cremation, promises to make important changes in funeral customs, and bring to a final end the old method of making a funeral an occasion of feasting and undue display. We may speak in conclusion of the custom of sending floral offerings to the families of the deceased, for the adornment of the coffin and grave. This, a pretty sentiment in its modest origin, has grown to the dimensions of a new form of ostentatious display, costly and elaborate floral designs being provided often in overwhelming profusion, until the dead suffers almost a preliminary burial under these intended tokens of respect. This custom has reached the proportions of an evil, and as such will doubtless cure itself, the growing tendency in funeral ceremonies being toward an avoidance of ostentations of any kind.

Burial Societies. These are friendly societies, to give them their English title, organized for the express object of providing a fund for paying the funeral expenses of the members upon their death. In the U. S. most of the beneficial orders make some provision for this purpose, agreeing not only to pay weekly benefits in case of sickness, but a fixed sum in the event of death. In addition, there are societies specially organized for this purpose, which make no periodical assessments upon members, but assess a small sum on each upon the death of any member, thus providing on the spot a sum sufficient for his burial. In the English *B. S.* children as well as adults were admitted, and in some instances it was proved that the children thus insured were killed or allowed to die of neglect. To avoid this danger, a law was passed that no child under six years of age should be thus insured. It is, however, claimed that frauds of this character are still practiced on *B. S.*

Bur'mah (British), a province of British India, which occupies a long, narrow strip of territory on the eastern shore of the Bay of Bengal, bet. Lat. 22° 46′ and 12° N., and Lon. 92° and 99° E. *Area*, 87,220 sq. m. It comprises the States of Tenasserim and Arakan, which were annexed at the close of the first Burmese war, in 1825, and the State of Pegu, annexed at the close of the second war, in 1852. It is bounded N. by Bengal and Burmah proper, E. by Burmah proper and Siam, S. by the lower part of the Malay peninsula and the Indian Ocean, and W. by the Indian Ocean and the Bay of Bengal. For its size it is the most thinly inhabited province in British India, a fact which is owing not to its sterility, but to the want of roads. Seat of government, Rangoon. To this district, now known as Lower Burmah, was added, in 1886, upper Burmah, as the result of a war with King Thebaw, who was carried captive to India. This added 68,922 sq. m., making the total province of *B.* 156,142 sq. miles. *Pop.* 1891, Lower Burmah, 4,569,680; Upper Burmah, 2,984,730; total, 7,554,410.

Burnett′, Peter H., born in 1808. First governor of California. Died May 16, 1895.

Burns, John, born at Vauxhall, London, Eng., 1858. A "Labour" member of the British Parliament, and the recognized head of the labor movement in official circles. First imbibed socialistic ideas from a French refugee from Paris, a "Communard" who was his fellow-workman in an engineering shop; was elected to Parliament from Battersea, London, in 1892 and again in 1895; and thrice elected member of the London County Council.

Burnuggur (*boor-noog′goor*), a commercial town of India, prov. Gujerat, in the Guicowar's Dominions, 52 m. N. of Ahmedabad.

Burton (*bŭr′tŭn*), Richard Francis, an eminent English traveller and explorer, born in Norfolk, 1821. After serving many years in the Anglo-Indian army, during which he acquired both a wonderful knowledge of the Eastern languages and peculiar skill in the imitation of Oriental traits and manners, he explored Central Arabia in the disguise of a hadji or pilgrim, and next passed over into Africa, where he traversed the Somanly country and other regions before untrod by Europeans, and in company with Capt. Speke, discovered the great lake of Tanganyika in 1856. In 1860 he visited Utah and gave the world the first reliable account of the Mormon capital. In the year following he proceeded on a mission to the king of Dahomey, and later made extensive explorations in interior Brazil and in Iceland. In 1872 he succeeded the novelist Charles Lever as British Consul at Trieste. His principal works include *Personal Narrative of a Pilgrimage to Medina and Mecca* (1855); *First Footsteps in East Africa* (1856); *The Lake Regions of Central Africa* (1860); *The City of the Saints* (1861); *The Nile Basin* (1864); *A Mission to Gelele, King of Dahomey, with Notices of the so-called Amazons* (1864); *Abeokuta, and the Cameroons Mountains* (1865); and *The Highlands of Brazil* (1869). His literal translation of the *Arabian Nights* is his most important work. D. in Trieste, Oct. 20, 1890.

Busa (*bu′sah*). A narcotic used by the inhabitants of Central Asia. It is prepared by the Kirghises by rubbing millet to a pulp with water, and, after diluting this with still more water, and occasionally with mare's milk, the mixture is poured into a large stone jar, tightly corked, and buried in the soil. It is left for ten days and after being taken up the fluid is transferred to glass bottles, which, after being corked, are left standing a few days, when they are ready for sale. A large amount of carbonic acid is formed in these bottles, which escapes when they are uncorked. The taste is tart and spirituous, and is offensive before one is accustomed to it, owing to the presence of fusel oils. This drink is very popular, but rather intoxicating, and its use has been forbidden by the Russian military authorities.

Bush, George, an American biblical writer and critic, born at Norwich, Vermont, 1796. He graduated at Dartmouth College in 1818, and 1831 became professor of Hebrew and Oriental Literature in New York University. In 1837 he embraced Swedenborgian doctrines, and acted as minister in the New Jerusalem Church till his death. His literary works comprise a *Life of Mahomet*; a *Hebrew Grammar*; *Illustrations of the Holy Scriptures*; a series of *Bible Commentaries*, in 8 vols.; *The Soul, an Inquiry into Scripture Psychology*; *Mesmer and Swedenborg*; *New Church Miscellanies*; *The Spiritual Diary of Emmanuel Swedenborg*, &c. Died 1860.

Butte City, in *Montana*, cap. of Silver Bow co., settled in 1864 as a gold placer camp. It is surrounded by rich gold, silver, and copper mines, and contains numerous mills and smelters. *Pop.* 1890, 10,723.

But′terfly, *n.* (*Entomol.*) The *B.* belongs to the order of insects known as *Lepidoptera*, and to the subdivision *Rhopalocera* (from two Greek words, meaning knob and horn), as they have threadlike antennæ or feelers with a little swelling or knob on the end. The body is cylindrical, head small, mouth parts developed for sucking, maxillæ prolonged into a tongue, wings covered with minute scales, transformation complete; egg, caterpillar, chrysalis, adult or imago. The word *B.* comes from the Anglo-Saxon *buttor-fleoge*, or the resemblance of some common species (*Colias*) to butter in color. In German they are called *Schmetterlinge*, from *Schmetten*, cream. *Molken-dieb* (the whey-thief) is another name. The association with milk in its three forms—butter, cream and whey is remarkable.—Butterflies are found all over the world, from the frozen shores of the Arctic Ocean to the hot plains of Equatoria. They are always more abundant in the vicinity of water, and are always a welcome sight to the thirsty traveler. They have been found on mountains to a height of nearly 16,000 feet, and are abundant in Northern Greenland. These insects are usually diurnal in habit but some of them fly only at sunset, as in certain large Indian species that remain motionless in repose all day, but when the sun is about to set are to be seen everywhere, and are sometimes mistaken for bats. Butterflies vary greatly in size according to the different species, but never grow except in the larvæ or caterpillar state; the smallest are about a half-inch in expanse of wings, and the largest about ten inches. They vary greatly in color and markings, and the wings in shape; some of the tropical species rival in splendor the mother of pearl or opal, and in brilliancy the electric light. The eggs of butterflies are very carefully laid by the female insect on the appropriate plant on which the young caterpillars are destined to feed. They are unerring botanists in this respect, and never make a mistake, although they sometimes deposit eggs on plants the leaves or stems of which mingle with those on which the larvæ are to feed, and to which they soon find their way. The eggs of butterflies are composed externally of a thin pellicle, separated into the base, walls and micropyle (apex of the egg and place where the male fertilizing cells enter). White or green are the prevailing colors, although they may in some cases be yellow, pink, red or brown. As the young caterpillar develops, its color may be seen through the thin and delicate walls of the shell. They vary considerably in shape, the principal varieties being globular, hemispherical, cone-, or spindle-shaped. It may be stated in a general way that they hatch in from three to twenty days, according to the species. From the eggs come the young of the butterflies or caterpillars, larvæ or worms as they are variously called. Butterflies grow in the caterpillar condition, and little butterflies never grow to be big ones as is popularly supposed, the size being determined in each species. When the young caterpillar has matured in the egg, it eats its way through the shell and devours more or less of it. The newly-born caterpillars varies in size from a very minute object to about one-quarter inch in length, according to the size of the species. They are voracious, and grow rapidly, changing their skins, or moulting, to accommodate their increase in size. They are elongated, cylindrical, worm-like; some are naked and others are covered with spines or hairs. When the caterpillar reaches full growth it seeks a place in which to change into a chrysalis or pupa. The third stage of existence in butterflies is called the chrysalis or pupa stage. The term chrysalis is derived from a word meaning golden, because many of them are decorated with golden spots. Pupa comes from a word meaning boy or child, because a pupa was thought to resemble an Egyptian child swathed in bandages. In the butterflies the chrysalis is naked, and not covered with a cocoon, nor do the larvæ enter the ground to undergo their transformations, as do the moths. These chrysalids are suspended to a stick or leaf by the extremity, or in addition to this, in some species, are fastened by a sling of silk which goes around the body of the chrysalis, and is fastened on each side of the supporting leaf or twig. In the former case the head hangs downward, and in the latter points upwards and outward at an angle. The changes that go on in a chrysalis are wonderful; it is apparently dead, showing no signs of life, but in the inanimate looking object is being developed a creature that looks nothing like chrysalis nor its previous stage of caterpillar. When the imago or perfect insect emerges, we have the gaudy and fairy-like *B.* There are many species of these insects distributed over the globe, and all are objects of beauty and interest. In this country (America, north of Mexico) there are nearly seven hundred species. See Lepidoptera.

Buyukdereh, a village of European Turkey, on the W. side of the Bosphorus, 9 m. N.N.E. of Constantinople. It is the favorite resort of foreign ministers and wealthy families during the summer.

Byb′los. (*Anc. Geog.*) An ancient city of Phœnicia, famous as the birthplace of Adonis. A temple was erected there to him, which was the resort of many worshippers. It is now called Jubeil.—In Egypt, a town noted for its manufacture of papyrus, from the byblus or papyrus plant.

C. The third letter, and second consonant of the English and most other European alphabets. It is derived from the Latin alphabet, in which it first appears. But even in that alphabet it originally possessed the power of *g*, as pronounced in *goose*. Thus the Roman proper names *Caius* and *Cneius*, which retained this sound, are correctly represented in the Greek character by *Gaios* and *Gneios*. This medial pronunciation corresponds with the power of the letters which occupy the third place in the Greek and Hebrew alphabets, *gamma*, and *gimel;* and the identity of the letters is confirmed by the similarity of the forms.—The letter *c*, in English, is pronounced like *s* before *e* and *i*, and like *k* before *a*, *o*, *u*, and may consequently be considered as superfluous in the alphabet.—As an abbreviation, c was used by the Latins to stand for Caius, Cæsar, Consul, Civitas, &c.: and as a numeral, for 100, CC for 200, &c. It was the symbol of condemnation in the Roman tribunals (being abbreviated for *Condemno*); and was consequently termed *litera tristis;* Cl stood for *Claudius;* C.V. for *centum viri;* and C.R. for *civis romanus.*

(*Chem.*) C is the symbol of *carbon;* Ca stands for *calcium*; Cd for *cadmium;* Ce for *cerium;* Cl for *chlorine:* Co for *cobalt;* Cr for *chromium;* Cs for *cæsium;* and Cu for *copper.*

(*Mus.*) The name of one of the notes in the scale, corresponding to the *Ut* of the French, or the *Do* of the Italians. Placed after the clef, it indicates that the music is in common time, which is either quick or slow as it is joined with allegro or adagio; but if alone, it is usually adagio. If the C be crossed or turned, the first requires the air to be played quick, the last very quick. *C Major* is the first of the 12 majors in modern music: being the natural scale, it has no signature. *C Minor* is the tonic major of C major, and has 3 flats for its signature—viz., B flat, E flat, and A flat.

Caa'ba. Kaa'ba, *n.* [Ar. *ka'bah*, a square building.] The name of the great temple at Mecca, given to it from the black stone which was worshipped there before the time of Mohammed, and which is still an object of veneration to all Moslems. According to Arabian tradition, this stone was presented by the angel Gabriel to the patriarch Abraham on the occasion of the building of the temple; but the nature of the *C.* worship proves that there is nothing Abrahamic in the superstition. The temple had become ruinous, and was rebuilt during the residence of the prophet at Mecca; and it is said that he himself guided the stone to its place in the N.E. corner of the *C.* This great object of Islamitic pilgrimage appears to be a large aërolite, and the veneration for it arose in the original Fetish worship of stones.

Caa'ing-whale, *n.* (*Zoöl.*) See DELPHINIDÆ.

Cab, (*kab.*) *n.* [Heb. Ch. *kab*, a hollow vessel, from *kabab*, to hollow out.] A Hebrew dry measure containing the 6th part of a seah, and the 18th part of an ephah: about three English pints.

Cab. [Abbreviated from *cabriolet.*] A term now exclusively given to a description of English carriage, two-wheeled, drawn by one horse, employed for public hire, and popularly termed a *Hansom*, from the name of the original patentee. The front of the cab is open at pleasure,

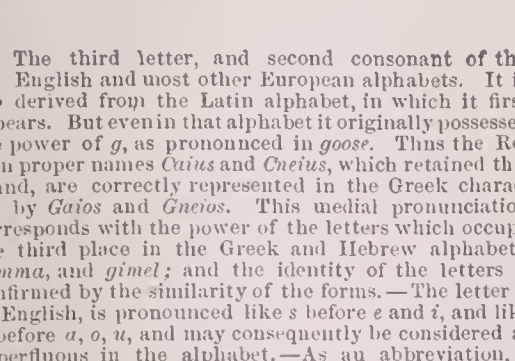


Fig. 459.—CAB.

and the driver is perched on an elevated seat behind the body of the vehicle, whence he directs the movements of the horse, thus obviating the nuisance of sitting in front of the passenger, and obstructing his view. These vehicles are remarkable for their convenience and adaptability to rapid locomotion; in 1883, they were introduced in Philadelphia.—The term also applies to a similar vehicle, used as a private equipage.

"A *cab* came clattering up."—*Thackeray.*

Cabagan, a town in the N. of the island of Luzon; *pop.* about 12,000.

Cabal, *n.* [Fr. *cabale.*] A term often applied to a set of persons too insignificant in point of number to form a party, who endeavor to effect their purposes by underhand means. The ministers of Charles II., viz., Clifford, Ashley, Buckingham, Arlington, and Lauderdale, the initials of whose names happen to form the word cabal, were appropriately called the *Cabal Ministry;* but the word *cabal* appears to come from the French *cabale*, a term employed to express a number of persons acting in concert; and it is generally understood in a bad sense. We are not aware that it was used in our language before the time of Dryden.

"When each by curs'd *cabals* of women strove,
To draw th' indulgent king to partial love."—*Dryden.*

—*v. i.* To form a secret plot or design: to plot, intrigue, or conspire; to engage in secret artifices; as, to *cabal* against a government.

Cabala, Cabal, *n.* (*Script.*) A Hebrew word signifying the body of generally received tradition by which the Rabbis interpreted the canonical Scriptures. According to their belief, the unwritten tradition, or *Masora*, had been handed down in regular succession from Moses, who received it on Mount Sinai. To this tradition frequent reference is made in the teaching of Christ, as in the Sermon on the Mount, &c.; and on it the Pharisees rested their claim to authority as interpreters of Scripture. As the Masora gives the literal explanation of the language of Scripture, so the Cabala reveals the hidden truths of which it is the symbol. Every sentence, word, and letter of the inspired volume contains, according to these interpreters, a figurative as well as a direct sense. The former is not uncommonly manifold; and a word may be interpreted according to the arithmetical power of the letters which compose it, which species of *C.* is called *gematria;* or according to the meaning of each individual letter, the entire word thus constituting a sentence, which is called *notaricon;* or, finally, according to certain transpositions of the letters, which is denoted by the term *themurah.* The system seems to have been an invention of the philosophizing Jews of the latter centuries preceding our era, with the view of accommodating the speculations of the Gnostics to the religion of the Old Testament.

Cab'alism, *n.* The secret science of the cabalists.

Cab'alist, *n.* One who is skilled in the cabala, or mysteries of Hebrew tradition.

Cabalis'tic, *a.* Pertaining to the cabala; having an occult meaning. *Cabalistical Art.* See PARACELSUS.

Cabalis'tically, *adv.* The method of the cabalists.

Cab'alize, *v. i.* To employ the language of the cabalists.

Cabal'ler, *n.* One who cabals; an intriguer.

Caballe'ria, *n.* [Sp.] (*Spanish Law.*) A quantity of land, varying in extent in different provinces. In parts of the U. S. formerly belonging to Spain, it is a lot of 100 ft. front, 200 ft. depth, and equivalent to five peonias.

Caballero, FERNAN, (*ka-bal-ya-ro*). The *nom de plume* of a distinguished Spanish novelist, known in Spanish social life as Cecilia de Baer, B. in Switzerland in 1797. Her father, John Nicholas Böhl de Fabre, was German consul at Cadiz, her mother a Spanish woman. She wrote of Spanish home life, especially that of Andalusia. Her works are *La Gaviota* (*the Sea Gull*), her best work. *La Familia Alvareda, Una en Otra, Pobre Dolores, Lucas Garcia,* &c. D. at Seville, Apr. 7, 1877.

Cab'alline, *a.* [Lat. *caballinus;* Sp. *cabullo, cavullo*, a horse.] Pertaining to a horse. *C. Spring.* See HIPPOCRENE.

—*n.* (*Farriery.*) A coarse kind of aloes, used as medicine for a horse;—often called *horse aloes.*

Cab'aret, *n.* [Fr.] A tavern.

Cabar'rus, or **Cabar'ras,** in *N. C.*, a S.W. central co.; area, 350 sq. m; *surface*, mountainous, or hilly; *soil*, fertile; *cap.* Concord.

Cabas', Caba', (*kä-ba'*,) *n.* [Fr.] A lady's reticule or work-basket.

Cabas'sou, *n.* (*Zoöl.*) See ARMADILLO.

Cabatu'an, a town of the island of Panay, one of the Philippines; *pop.* abt. 24,000.

Cabazera, a town of the island of Luzon, Philippines; *pop.* 15,000.

Cab'bage-bark-tree, *n.* (*Bot.*) See DALBERGIEÆ.

Cab'bage-net, *n.* A net used to boil cabbage in.

Cab'bage-palm, Cab'bage-tree, *n.* (*Bot.*) See ARECA.

Cab'bage-rose, *n.* The *Rosa centifolia*, so called from having close petals, like a cabbage.

Cab'bagetown, in *New Jersey*, a village of Monmouth co., 12 m. E. by S. of Trenton.

Cabbage-wood, *n.* See PARTRIDGE-WOOD.

Cabbage-worm, *n.* (*Zoöl.*) See PONTIA.

Cabe'ca, Cabesse', *n.* [Port.] The finest quality of silk obtained from the East Indies.

Cabell, in *West Virginia*, a W. co., bordering on the Ohio river. *Area*, 448 sq. m. *Surface*, uneven. *Soil*, generally fertile in the valleys. *Cap.* Huntington. *Pop.* (1897) 26,500.

Ca'bes, or KHABS, a fortified sea-port and city of N. Africa, reg. of Tunis, at the bottom of the gulf of the same name (*Syrtis Minor*), near the foot of Mount Hancara; Lat. 35° 53′ 55″ N., Lon. 10° 44′ 1″ E. *C.* is said to be the *Epictus* of Scylax, and the *Tacape* of other ancient geographers. *Pop.* abont 20,000.

Cabezon de la Sal, (*ka'be-zone,*) a town of Spain, prov. Valladolid, 7 m. from Valladolid city, on the Pisuerga. Here, in 1808, was fought one of the first battles of the Peninsula campaign, in which the Spaniards were signally defeated by the French.

Ca'biai, *n.* (*Zoöl.*) See HYDROCHŒRUS.

Cab'in, *n.* [Fr. *cabane;* W. *cab, caban.*] A small room.—A booth; a tent; any temporary habitation.—A hut; a cottage; a rude kind of dwelling; as, a mud *cabin.*

(*Naut.*) A chamber on board a ship of greater or less size, separated by light panelling from the rest of the deck. It serves as the apartment of an officer or a passenger; or it may be a saloon for the use of many. In vessels of war, the partitions are readily removed when it is necessary to clear the decks for action.

—*v. i.* To dwell in a cabin; to lodge.

—*v. a.* To confine in a cabin.

Cabin Bluff, in *Georgia*, a village of Camden co., 11 m. N. by W. of St. Mary's.

Cab'in-boy, *n.* A boy whose duty it is to wait on the officers, and passengers, of a ship.

Cab'in Creek, in *Kentucky*, a post-office of Lewis co.

Cabin'da, a sea-port of W. Africa, in Lower Guinea, *cap.* of En-Goyo, on the Atlantic Ocean; Lat. 5° 53′ S., Lon. 15° 40′ E. It is healthy, and from the beauty of the surrounding country is esteemed the "paradise" of the coast. Harbor safe and commodious. As defined in 1886, a small Portuguese ter. bounded E. and S. by the Congo State, the cap. *C.* was formerly a noted slave-port. *Pop.* 8,000.

Cab'inet, *n.* [Fr., from *cabane*, a cottage or cabin.] A private room in which consultations are held.—A closet; a small room; a private apartment.—A set of drawers to hold curiosities; any place where things of value are kept; as, a buhl *cabinet.*

(*Polit.*) In the residence of a monarch the *C.* was an apartment where he transacted the business of the State, advised with his privy councillors, and issued his decrees. Hence the name came to be applied to the counsellers chosen by monarchs to confer with, and advise him, on the course of public affairs, and to direct the higher branches of the administration. The *C.* of the President of the U. States is composed of the Secretary of State, the Secretary of the Treasury, the Secretary of the Interior, the Secretary of War, the Secretary of the Navy, the Secretary of Agriculture, the Attorney-General, and the Postmaster-General, each of whom receives a salary of $8,000 annually; to these it has been proposed (1897) to add a ninth, to be termed Secretary of Commerce. These officers are the advisers of the President. They are also the heads of their respective departments; and by the Constitution (Art. 2, Sec. 2), the President may require the opinion in writing of these officers upon any subject relating to the duties of their respective departments. The *C.* meets frequently at the Executive Mansion, by direction of the President, who presides over its deliberations, and directs its proceedings. No record of its doings is kept; and it has, as a body, no legal authority. Its action is advisory merely; and the President and heads of departments, in the exercise of their respective duties, are entitled to disregard the advice of the *C.* and take the responsibility of independent action.—In England, a few of the ministers only are, by official usage, members of the cabinet. These are styled *Cabinet Ministers*, and are more immediately responsible for the acts of the sovereign, as well as for public measures; but notwithstanding the high importance of their position, they have no recognized legal character.

Cabinet Picture. (*Paint.*) A small, valuable painting, by one of the old masters, painted on copper, panel, or canvas. The term is equally applied to modern subjects, if painted small in size.—*Cabinet Photograph.* A photograph mounted on a card about 4 by 6 inches in size. The term refers simply to the dimensions of the picture.

—*v. a.* To enclose. (R.)

Cab'inet-council, *n.* A council of state, or of cabinet ministers, held with privacy, to deliberate on public affairs.

"The doctrine of Italy, and practice of France, in some kings' times, hath introduced *cabinet-councils.*"—*Bacon.*

—A select number of privy or confidential counsellors.

"From the *cabinet-council* to the nursery."—*Gay.*

Cab'inet-maker, *n.* A man who makes cabinets and articles of fine wooden furniture.

Cab'in Hill, in *New York*, a post-village of Delaware co., 76 m. W.S.W. of Albany.

Cab'in Point, in *Virginia*, a small post-village of Surrey co.

Cabire'an, *n.* One of the Cabiri, *q. v.*

Cabi'ri, *n. pl.* [Gr. *Kabeiroi.*] (*Myth.*) Certain mystic deities worshipped in Greece, Egypt, &c., and especially in Lemnos, Samothrace, and Imbros. The vague and contradictory accounts given of them by various writers render it impossible to arrive at any certain conclusions as to their real character, and the nature of their worship, which was made a matter of the greatest mystery. By some they have been regarded as exclusively Pelasgic divinities; by others they have been identified with the Roman *Penates* and the *Dioscuri.* To account for their name they were said to be children of Hephæstus (or Vulcan) and Cabeira the daughter of Proteus. They are mentioned by *Herodotus* (ii. 51, iii. 37); but his statements are not more definite than those of later writers. The subject is examined at length in Lobeck's *Aglaophamus.*

Cabir'ian, Cabir'ic, Cabirit'ic, *a.* [Fr. *cabirique.*] Relating, or belonging, to the Cabiri, or to their form of worship.

Cable, Cable-car, &c. See SECTION II.

Ca'ble, or **Ca'bletown,** in *Ohio*, a village of Champaign co., 38 m. W.N.W. of Columbus.

Ca'ble Island, in Ireland, an island of Cork co., 5 m. S.S.W. of Youghal.

Ca'ble-laid, *a.* Twisted in the form of a cable; as, *cable-laid* rope.

Ca'ble-moulding, *n.* (*Arch.*) A round moulding, frequently used in the flutes of columns, pilasters, &c. (Sometimes called *cabling.*)

Ca'ble-tier, *n.* (*Naut.*) That compartment of a ship in which the cables are stowed. — The coils of a cable.

Ca'bling, *n.* Same as cable-moulding. — See CABLE-MOULDING.

Cab'man, *n.* The driver of a cab. (Vulgarly, *cabby.*)

Ca'bob, (sometimes written KABOB,) *n.* [Pers. *cobbob,* roasted meat.] A term used in Oriental countries, as Turkey, Persia, Egypt, &c., to denote a slice of meat roasted on a skewer.

(*Cookery.*) A leg of mutton roasted, stuffed with fresh herrings, and seasoned with herbs.

—*v. a.* To roast after the manuer of a cabob.

Caboched, CABOSHED, or CABOSSED, (*cā-boshd',*) *a.* [O. Fr. *caboche.*] (*Her.*) Applied to the head of an animal, when borne without any part of the neck and exhibited full in face.

Fig. 461. — STAG'S HEAD CABOCHED.

Cabo Frio, (*ka'bo frē'o,*) a cape and sea-port town of Brazil, prov. Rio Janeiro. The town is about 80 m. from Rio Janeiro, at the S.E. extremity of the Lake Araruama. *Pop.* abt. 4,000.

Cabomba'ceæ, (WATERSHIELDS,) *n.pl.* (*Bot.*) An order of plants, alliance *Nymphales.* DIAG. Distinct carpels, abundant albumen, and no visible torus. They are aquatic plants with floating peltate leaves; sepals and petals 3 or 4, alternating with each other; stamens definite or numerous; thalamus flattened, small; carpels 2 or more, distinct; fruit indehiscent; seeds few; embryo minute, enclosed in a vitellus, and outside of abundant fleshy albumen. There are only two genera belonging to the order; namely, *Cabomba* and *Hydropeltis.* The species occur in America, Australia, and India; they have no important properties.

Cabool'. See CABUL.

Caboose, (*ka-bös',*) *n.* [Ger. *kabuse;* Fr. *cambuse.*] (*Naut.*) A little room or hut; specifically, the cook-room or kitchen on board a ship. (Often called the *galley.*) — A case or covering to the funnel in a ship.

Ca'bos, *n.* (*Zoöl.*) A species of eel-pout, abt. 2 feet long.

Cab'ot, GEORGE, an American statesman, B. at Salem, Massachusetts, 1751, and educated at Harvard College. In 1791 he became U. S. senator for Massachusetts, a post which he held for five years — a steadfast friend throughout of the Washington administration. He yielded essential aid to Hamilton in perfecting his financial system. In 1814 he was chosen a delegate to the memorable Hartford convention, and was elected president of that assembly. D. 1823. A high authority states that long before the great work of Say on political economy appeared, its leading principles were familiar to *C.* See *Life and Letters of C.,* by H. C. Lodge (1877).

Cab'ot, SEBASTIAN, a celebrated navigator, B. at Bristol. 1477, son of a Venetian, Giovanni Cabot, who was likewise a navigator, and also a mathematician, with whom, before he was 20, he made several voyages. In one of their voyages, seeking a N.W. passage, they fell in with Newfoundland, the coasts of which Sebastian afterwards explored, when we hear little more of him for the next 20 years. In the early part of the reign of Henry VIII. he sailed again, with a design of proceeding to the East Indies; but owing to some disappointment, he went no farther than the Brazils, whence he shaped his course for Hispaniola and Porto Rico, and returned In 1524 he entered the Spanish service, but after one voyage to America, he returned to England, and settled in his native city. Edward VI., to whom he was introduced by the Duke of Somerset, the Lord Protector, delighted in his conversation, and allowed him a pension as grand pilot of England. A new company, called *Merchant Adventurers,* had been formed, and Sebastian was placed at the head of it. By his means a voyage was made to the North in 1552, and a trade commenced with Russia, which gave rise to the "Russian Company." D. 1557.

Cab'ot, in *Vermont.* a post-township of Washington co., 21 m. N.E. of Montpelier.

Cab'otage, *n.* [Fr. from *caboter,* to sail along a coast.] (*Naut.*) Coasting; coast-voyaging; coast-navigation: cruising in sight of the coast.

Cab otville, in *Massachusetts.* See CHICOPEE.

Ca'bra, a town of Spain, prov. Cordova, 30 m. S.E. of the city of Cordova; *pop.* 12,183.

Cabral', (or CABRERA,) PEDRO ALVAREZ, a distinguished Portuguese navigator. He was a contemporary of Vasco de Gama, and while undertaking an expedition to Calicut, took possession of Brazil for the Portuguese, ignoring the prior claims of the Spaniards, 1500. He established a commercial treaty between his country and India, and D. 1526.

Cabre'ra, DON RAMON, COUNT DE MORELLA, and DUKE DE LA VICTORIA, a celebrated Carlist general, B. in Catalonia, Spain, in 1810. He early distinguished himself in the civil war between the Carlists and Christinos, 1835–8, and became notorious for the bloody vengeance he wreaked upon all the Christinos who fell into his hands, in retaliation for the execution of his mother by Gen. Mina. In 1838, he was created *Count de Morella* by Don Carlos, in commemoration of his capture of that fortress, and of his distinguished services to the cause generally. Compelled, in 1840, to take refuge in France, he was arrested and imprisoned at Ham, but regaining his liberty, he strongly opposed the abandonment by Don Carlos of his claims in favor of his son, the Count de Montemolin. In 1846 he repaired to London, in the hope of doing something for the Carlist cause. He next attempted to effect a rising in the N.E. provinces of Spain, but without success. After the French revolution of 1848, he again landed in Spain, raised the Carlist standard, and, with but few followers, fought the battle of Pasteral, June 27, 1849, when, having been badly wounded, he was again obliged to take refuge in France. After living some years in retirement, *C.* joined the Carlist movement in Spain, 1873–75, and in March of the last-named year gave in his adhesion to the new king, Alphonso XII. D. 1877.

Cabriole, *n.* [Fr.] See CAPRIOLE.

(*Equitation.*) A curvet; a prance; a capriole; — spoken of a horse, goat, &c.

Cabriolet, (*kab'ri-o-lā',*) *n.* [Fr., from *cabriole,* a goat-leap, from Lat. *capra,* a she-goat.] A chaise or cab, drawn by one horse, and with a calash cover, and an *apron,* or covering, in front. (Generally called a *cab* in England.) See CAB.

Cabul, CAUBUL, CABOOL, or KABOOL, (*ka-bool',*) a province of Afghanistan, situate between Lat. 33° and 35° N.; *area,* 10,000 sq. m.; *prin. towns,* Cabul, Jellalabad, Ghuznee, and Istalif. Its chief river is the Cabul, which is a tributary of the Indus, and which, after a course of 320 m., it joins nearly opposite Attock. — *C.* was once the name of a powerful kingdom, which reached almost from the shores of the Caspian Sea to the vicinity of Delhi, and from the Oxus to the Persian Gulf.

CABUL, a fortified and ancient city in the above province, cap. of Afghanistan; Lat. 34° 30′ N., Lon. 69° 6′ E. It stands on the Cabul River, which is here crossed by three bridges. The houses are built of rough stones and clay, and have but a mean appearance. There are, however, four good bazaars or markets. The citadel, called *Bala-Hissar,* or the "Palace of Kings," contains the palace and other public buildings, the royal gardens, an inner fort, and a town of 5,000 inhabitants. It is a place of great traffic, and persons of every country of the East are here to be met with. The outer town has a circumference of three miles, and is subdivided into districts, with narrow intricate streets lined with high houses, built of wood and sun-dried bricks. To those of the more opulent classes are attached extensive courts and gardens. *Pop.* 60,000.

Cab'urn, *n.* (*Naut.*) A small lashing, or piece of cordage, used on board a ship as a seizing-tackle, &c.

Cacæ'mia, *n.* [Gr. *kako,* bad, defective, *aima,* blood.] (*Med.*) A bad or diseased condition of the blood.

Caca'lia, *n.* (*Bot.*) A genus of plants, order *Asteraceæ,* distinguished by having perfect flowers; involucre cylindric, oblong, often calyculate, with small scales at the base; receptacle not shafty; pappus capillary, scabrous. They are mostly perennial plants, with alternate leaves, and heads of flowers corymbed, mostly cyanic. The *C. suaveolens,* Wild Caraway, is found in our middle States. The *C. coccinea,* Scarlet Cacalia, native of the E. Indies, is a pretty garden plant, having a stem abt. 1 foot high, and bright scarlet flowers from June to Sept. A bed or patch sown thickly makes a fine appearance.

Caca'mio, a town of Italy, in Sicily, prov. Palermo, 24 m. S.E. of the latter city; *pop.* 7,968.

Ca'cao, or **Co'coa,** *n.* (*Bot.*) See THEOBROMA.

Cacapon, (*ka'pon,*) or GREAT CACAPON, in *W. Virginia,* a river rising in the Alleghany Mountains, in Hardy co., and falling into the Potomac about 4 m. W. of Bath Springs; length, 140 m. Iron and stone-coal are found in its basin.

Caccia, GUGLIELMO, (*katch'e-a,*) an Italian painter, B. at Montabone, 1568. He was one of the best fresco-painters of his century. D. 1625.

Caceres, (*ka-thā'rais,*) a town of Spain, cap. of a prov. formed of part of Estremadura, 41 m. N. of Merida, on a mountain ridge, 25 m. W. of Truxillo. It was formerly united to Portugal. *Pop.* 10,000.

Cace'res, (**Nueva,**) a town of the island of Luzon, in the Philippines, on the Naga, 175 m. S.E. of Manila, between the Bay of San Miguel and the Gulf of Rogay; *pop.* about 12,000.

Cach'alot, SPERM WHALE, or SPERMACETI WHALE, *n.* (*Zoöl.*) A species of whale (*Physeter macrocephalus*) found chiefly in the South Seas. In length it comes next to the *Balæna Physalis,* but generally exceeds it in bulk. Its head nearly equals the rest of the body in length, and surpasses it in bulk. In commercial value it is nearly equal to the *Balæna Mysticetus;* for, although it

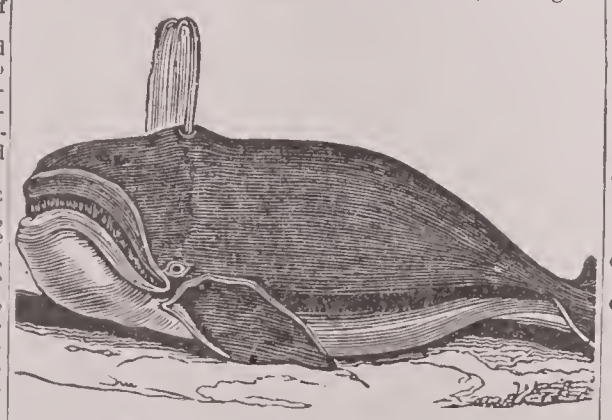


Fig. 462. — CACHALOT, OR SPERM WHALE.

does not possess the valuable whalebone of that animal, it furnishes us with the substance called *spermaceti,* and is rich in abundance with the finest oil. The sperm whale is also the source of the perfume termed *ambergris.* Its usual length is about eighty feet, and its circumfereuce between thirty and thirty-five feet; although some have been caught exceeding even these dimensions.

Ca'chao, or **Ke-cho,** (often called by the natives BAK-THIOM,) the largest city of the Annamese empire, cap. of the prov. of Tonquin, on the right bank of the Tonquin River, 80 m. W. of the Gulf of Tonquin, and 325 m. N.N.W. of Hué; Lat. 21° N., Lon. 105° 34′ E. The city is of great extent, but defended only by a bamboo stockade. Chief streets wide, and mostly paved; houses chiefly of mud and timber, and the public edifices spacious. It has a considerable trade, and had formerly English and Dutch factories. Being built generally of inflammable materials, it is frequently subject to fires, to prevent which great precautions are taken. *Imp.* Cloths, chintzes, arms. *Exp.* Gold, silks, and the best lacquered wares in the East. *Pop.* Estimated at 90,000.

Cach'ar, or HAR'RUMBO, a territory of Hindostan, beyond the Ganges, and formerly governed by its own rajah, but since 1832 a British prov., subordinate to the Bengal presidency. It lies between Lat. 24° and 27° N., and Lon. 92° and 94° E.; having N. Assam; E. Cassay; S. Tipperah; and W. Sylhet and Jynteah; length N. to S., about 140 m. *Area,* 6,500 sq. m. This country is surrounded on three sides by mountain chains, and is watered by the rivers Barak, Kapilee, and Dhunsuree. Its soil is highly fertile, producing rice and other grain, sugar-cane, and cotton; the latter of which grows luxuriantly. Timber is very abundant, but a large portion of the territory is occupied by dense jungle, affording cover for vast numbers of wild deer, buffaloes, and elephants. The inhabitants are mostly Cacharees, Bengalese, and Cassayers, though other races are also found. *Exp.* Cotton, ivory, wax, iron ore, bamboo, salt, coarse silk, and limestone. *Cap.* Silchar. *Pop.* abt. 70,000.

Cache, (*kash,*) *n.* [Fr. *cache,* a hiding-place.] A hole made in the ground for a hiding-place; a place of concealment for surplus provisions, &c.; as, a hunter's *cache.*

Cache, (*kash,*) in *Arkansas,* a township of Monroe county.

Cache, in *Utah,* a northern co., drained by Bear River; *area,* 2,000 sq. m. Wheat is the staple production. *Cap.* Logan.

Cache Creek, in *California,* a river of Yolo co., flowing E. till it loses itself in the extensive *tules* (marshes overgrown with bulrush), lying between Sacramento River and the Plains.

—A post-town of Yolo co., about 38 m. W.N.W. of Sacramento.

Cachec'tic, Cachec'tical, *a.* Having, or belonging to, a state of *cachexia,* or ill-habit of body; as, a *cachectic* remedy.

Cache'mire, *n.* [Fr.] See CASHMERE.

Cache River, in *Arkansas,* rising in the N.E. extremity of the State, and flowing S. enters White River.

Cachet, (Lettre de,) (*let'tr dā kăsh'ā,*) *n.* [Fr. See CACHE.] (*Hist.*) In France, under the old regime, a letter signed with the private seal (*cachet*) of the king was so called. As a warrant for the detention of private citizens, they appear to have been rarely employed before the 17th century. In the reign of Louis XIV., their use became fearfully common. But in other respects they had been not unfrequently made use of, even in earlier times, to interfere with the course of justice; as by way of injunction to a party not to exercise certain authority, or pursue certain legal steps, &c. *L. de C.* were never so multiplied as under the administration of Cardinal Fleury; not less than 80,000 are said to have been issued, without any legal judgment, in the proceedings against the Jansenists. They were abolished Jan. 15, 1790.

Cache'ville, in *California,* a village of Yolo co.

Cachexia, Cachexy, (*kăk-ex'e-a,*) *n.* [Gr. *kakos,* bad, and *hexis,* habit.] (*Med.*) A bad condition or habit of body, arising from whatever cause, in which the functions are imperfectly performed, and the complexion is unhealthy.

Cachinnation, (*katch-in-na'shun,*) *n.* [Lat. *cachinnatio.*] (*Med.*) Loud or hysterical laughter: sometimes the result of disease, and sometimes proceeding from some vegetable poison.

Cach'olong, *n.* (*Min.*) A milk-white variety of opal, allied to *Hydrophane.* It is found in Ireland, in the trap-rocks of Iceland, in Greenland, and in the Faroe Islands. It was originally discovered on the banks of the river *Cach,* in Bokhara, hence the origin of the name; the word *cholong* in the Calmuck language signifying a *stone.*

Cachu'ca, *n.* [Sp.] A Spanish dance, performed to a lively air.

Cachun'de, *n.* [Sp.] An aromatic trochu, much used in China and the East, as a stomachic stimulant.

Cacique, Cazique, (*ka-zeek',*) *n.* [Sp., of Haytien derivation.] A chief or king among some South-American Indian tribes; — more particularly those of the Carib race.

Cack, *v. i.* [Dan. *kakke.*] To go to stool; to perform a necessary bodily function.

Cackle, (*kak'l,*) *v. i.* [Du. *kakelen;* formed from the sound.] To make the noise of a goose or hen. — To laugh in a broken and ridiculous manner, like the cackling of a goose; to giggle.

"Nick grinned, *cackled,* and laughed, till he was like to kill himself."— *Arbuthnot.*

—To chatter; to prattle; to prate; to talk in a silly manner.

—*n.* The broken noise made by a goose or hen.

"The silver goose before the shining gate
There flew, and by her *cackle* sav'd the state."— *Dryden.*

—Idle, senseless talk; as, the querulous *cackle* of an old woman.

Cack'ler, *n.* A cackling fowl. — One who chatters, or talks sillily.

Cack'ling, *n.* The broken noise of a goose or hen.
Cacoehym'ie, Cacoehym'ical, *a.* Having the blood, or other fluids of the body, in a vitiated state.
Cacoehymy, (*kak'o-kim-e,*) *n.* [Gr. *kakos*, bad, and *chymos*, juice.] (*Med.*) Depravation of the humors.
Cacodæ'mon, *n.* An evil spirit supposed by our superstitions ancestors to preside over the destinies of men, and to afflict the human body with sickness and disorders of a dangerous character. The *nightmare* was occasionally attributed to the influence of this malign spirit.
Cac'odoxy, *n.* [Gr. *kakodoxia.*] Heresy; secession or deviation from a fixed religious belief. (R.)
Cac'odyle, Kak'odyle, *n.* (*Chem.*) See KAKODYL.
Cacoe'thes, *n.* [Lat., from Gr. *kakos*, bad; *ethos*, disposition.] A bad custom, habit, or disposition; as, the *cacoethes scribendi*, passion for scribbling.
(*Med.*) An incurable cancer.
Cacograph'ie, *a.* Relating to, or characterized by, bad writing or spelling.
Caeog'raphy, *n.* [Gr. *kakos*, bad, and *graphō*, writing.] Bad or imperfect writing or spelling.
Cacol'ogy, *n.* [Fr. *cacologie*, from Gr. *kakos*, and *logos*, speech.] The practice of bad speaking, or incorrect choice of words.
Cacophon'ie, Cacophon'ical, Caepho'nious, Caeoph'onous, *a.* Harsh-sounding.
Cacophony, (*ka-kof'ō-ni,*) *n.* [Gr. *kakos*, bad, and *pho-nē*, sound.] A harsh, bad, or unpleasant sound or voice.
(*Rhet.*) A harsh or disagreeable sound produced by the meeting of two or more letters or syllables, or by the too frequent repetition of the same letters or syllables; *e. g.,*
"And oft the ear the open vowels tire." — *Pope.*
(*Mus.*) A harsh dissonance of sound.
(*Med.*) A bad, or discordant, condition of the voice.
Cacoteehny, (*kă-ko-tek'ni,*) *n.* [Gr. *kakos*, and *technē*, art.] A bad or corrupt state of art.
Cacot'rophy, *n.* [Gr. *kakos*, and *trophē*, food.] (*Med.*) Bad diet; bad alimentary substance.
Cacox'enite, *n.* (*Min.*) See KAKOXENITE.
Cacta'eeæ, *n. pl.* (*Bot.*) The Cactus or Indian Fig family, an order of plants, alliance *Cactales*. — DIAG. Sepals and petals numerous and undistinguishable; scattered stamens, confluent styles, horizontal ovules, and seeds without albumen. — They are succulent shrubs, very variable in form. Most of the species are leafless, having tufts of hair or spines instead of leaves. The flowers are sessile, sometimes very showy; stamens originate in the orifice of the tube formed by the combination of the petals and sepals, are very numerous, and consist of delicate thread-like filaments terminated by small roundish anthers. The ovary, which, in consequence of its adhesion to the sepals, seems to occupy the place of the flower-stalk, consists of a single cell lined with parietal placentas, covered over with minute ovules; its style is slender, with stigmas equal in number to the placentas. The fruit is succulent, and contains a great number of seeds, which are without albumen. These plants are natives of the tropical regions of America. Many species yield edible fruit, useful in febrile complaints. Cattle feed on the succulent stems of some species during the dry season in certain districts of South America. One plant belonging to the order is largely cultivated in Mexico for the nourishment of the cochineal insect; and numerous species are grown in our conservatories on account of their splendid flowers, or their singular forms. There are 16 genera and about 800 species, the most interesting being described under the names of the genera to which they belong, namely: CEREUS, ECHINOCACTUS, MELOCACTUS, OPUNTIA, PERESKIA.

Fig. 463. — MELOCACTUS.

Cactaceous, (*kak-ta'shus,*) *a.* Pertaining to, or resembling, the cactus.
Cae'tales, *n. pl.* (*Bot.*) The Cactal alliance of plants. DIAG. Epigynous exogens, with dichlamydeous polypetalous flowers, parietal placentæ, and an embryo with little or no albumen. — Their parietal placentation separates cactals from all epigynous orders except the Grossal, and the latter is known by the minute embryo and copious firm albumen. This alliance includes the three orders *Homaliaceæ*, *Loasaceæ*, and *Cactaceæ*.
Cae'tus, *n.*; *pl.* CAC'TI or CAC'TUSES. [Gr. *kaktos*, a spring plant.] (*Bot.*) The name under which Linnæus included the *Cactaceæ*, believing that they formed a single genus. The name still continues in popular use, being applied to any plant in the order.
Cacu'minate, *v. a.* [Lat. *cacuminare.*] To sharpen, or give a point or apex to; to make pyramidal.
Ca'eus, *n.* (*Myth.*) The son of Vulcan, a robber of Italy, whose dwelling was in the Aventine Wood. His exploits form the subject of an episode in the 8th book of the Iliad. He was represented as a frightful monster of enormous strength, who, after a long life of crime, was at length slain by Hercules, from whom he had stolen some oxen. To express his gratitude for his victory, Hercules erected the *Ara Maxima;* and Evander, with his infant colony of Arcadians, paid divine honors to Hercules as their benefactor.

Cad, *n.* [An abbreviation of CADET, *q. v.*] A person filling the same office in an omnibus, or street-car, in England, that the *conductor* does in the U. States.
—A call-boy, or chance messenger; a hanger-on; a loafer.
Cadaret'ta, in *Mississippi*, a post-office of Webster county.
Cadas'tral, *a.* [Fr. *cadastre*, from *cadre*, to square with.] Relating, or pertaining, to landed or real estate.
Cadastral Survey, *n.* [See CADASTRAL.] (*Trigon.*) A trigonometrical term of late years adopted in England, and on the continent of Europe, to denote a survey on a large scale. A cadastral, as opposed to a topographical, map may be defined to be one on which the subjects represented agree, as to their relative positions and dimensions, with the objects on the face of the country; while a topographical map, usually drawn on a small scale, exaggerates the dimensions of houses, and the breadth of roads and streams, for the sake of distinctness, and is, owing to the smaller size, necessarily less correct than a cadastral plan. The scale which has been generally adopted in Europe, is ·0004 or 1-2500 of the linear measure of the ground. This scale corresponds so nearly to 25 inches to 1 mile, that it is usually spoken of as the 25-inch scale.
Cadastre, (*kad-as'tur,*) *n.* [Fr.] The official statement of the quantity and value of real property in any district, made for the purpose of justly apportioning the taxes payable on such property.
Cada'ver, *n.* [Lat.] A dead body; a corpse.
Cadav'eric, *a.* Pertaining to a corpse; as, *cadaveric* rigidity.
Cadav'erous, *a.* [Lat. *cadaverosus*, from *cadaver*, a dead body, a corpse, from *cado*, to fall or sink down, to die.] Resembling a dead, human body; pale; wan; ghastly; as, a *cadaverous* face.
—Having the quality of, or pertaining to, a corpse.
Cadav'erously, *adv.* In a cadaverous form.
Cadav'erousness, *n.* State or quality of being cadaverous.
Cad'-bait, Cad'dice-fly, Casc'-worm, *n.* (*Zoöl.*) See PHRYGANIDÆ.
Cad'dah, the surname of ABDALLAH, who, with his father Maimun-Caddah, was a zealous propagator of the Ismailic sect among the Mohammedans in the 3d century from the Hegira. He founded numerous secret societies in Syria, Persia, and N. Africa. The object of the sect, and all its confederations, was the establishment in the caliphate of one of the race of Ismail. While this was the political object of the Ismaili, they had also a set of hidden doctrines preserved by them in a work called *Meizan*, or the "Balance," in which indifference to all rules of morality, and disbelief in all the tenets of religion, were inculcated. These doctrines bore ample fruit when the principles of the sect were openly avowed and practised by the Carmathians, the Ismaili caliphs of Egypt, and the Assassins of Persia.
Caddice-Fly, *n.* (*Zoöl.*) See PHRYGANIDÆ.
Cad'dis, *n.* A kind of worsted tape or ribbon.
Cad'do, in *Arkansas*, a twp. of Clarke co.
Cad'do, in *Louisiana*, a N.W. parish bordering on Texas and Arkansas; *area*, 1,200 sq. m. *Surface.* Undulating, and partly occupied by Soda and Caddo lakes, the former being 18 m. long and 5 wide. These lakes, which communicate with Red River, are navigable for steamboats. *Cap.* Shreveport.
Caddo Bayou, in *Texas*, rising in Henderson co., and flowing S.E. into Neches River.
Caddo Creek, in *Arkansas*, rises near the S. border of Montgomery co., and flows into Washita River.
Caddo Creek, in *Texas*, an affluent of Brazos River.
—Another, of Tarrant co., flows into the W. fork of Trinity River.
Caddo Grove, in *Arkansas*, a township of Hot Spring county.
Caddo Lake, in *Texas* and *Louisiana*, a lake, or rather a bay of Lake Soda, extending from the month of Cypress Bayou in Texas, into Caddo parish in Louisiana; is navigable for steamboats from Red River for half of the year.
Cad'dow, *n.* A chough; a daw.
Cad'dy, *n.* (dimin. of *cade*, a barrel.) A small box for keeping tea.
Cade, *v. a.* [W. *cadw*, to keep, to look after.] To make much of; to bring up or nourish by hand, or with tenderness; to tame.
—*n.* [Lat. *cadus.*] A barrel, or cask; as, a *cade* of herrings. — *Shaks.*
Cade, JOHN, the leader of a popular insurrection in the reign of Henry VI. of England. He was a native of Ireland, but, claiming kindred with the royal house of York, and assuming the name of John Mortimer, he collected 20,000 followers, chiefly Kentish men, who in June, 1450, flocked to his standard, that they might claim redress for the grievances so widely felt. *C.* defeated a detachment of the royal forces at Seven Oaks, and obtained possession of London, the king having retired to Kenilworth; but having put Lord Say cruelly to death, and laid aside the appearance of moderation which he had at first assumed, the citizens rose, gave his followers battle, dispersed them, and put *C.* to death, 1450.
Cade-lamb, *n.* A pet lamb, or one weaned and brought up in the house.
Cadence, (*kā'dens,*) *n.* [Fr. *cadence;* It. *cadenza*; L. Lat. *cadentia*, from *cado*, to fall.] A fall of the voice at the end of a sentence.
"O let them fall!
Their *cadence* is rhetorical." —*Crashaw.*
—Modulation of sound or voice.
"And all the other elegancies of sound, as *cadences.*" —*Dryden.*
(*Her.*) The marks by which the shields of the younger members of families are distinguished from those of the elder, and from each other. The ordinary marks of *cadence*, or *cadency*, will be fully understood from the accompanying figure, the explanation of which is as follows: In the *First House*, the first, second, &c., sons are denoted by 1, the label; 2, the crescent; 3, the mullet; 4, the martlet; 5, the annulet; 6, the fleur-de-lis; 7, the rose (not figured in the cut); 8, the cross-moline; 9, the double quatrefoil. In the *Second House*, or family of the second son, the first son is denoted by (1) the crescent, with the label upon it; the second, by (2) the crescent, with the crescent upon it; and so on. In the *Third House*, or family of the third son, the first son is denoted by the mullet, with the label upon it; the second, by the mullet, with the crescent upon it; and so on.

Fig. 464.
DISTINCTION OF HOUSES.

(*Manege.*) An equal proportion of motion; —spoken of a horse.
(*Mil.*) Uniform time and pace kept in marching.
(*Music.*) A term denoting the conclusion of a song, or of some parts thereof, in certain places of the piece, dividing it as it were into so many numbers or periods. The *C.* takes place when the parts fall or terminate on a note or chord naturally expected by the ear, just as a period closes the sense in the paragraph of a discourse. A cadence is either *perfect* or *imperfect*. The former when it consists of two notes sung after each other, or by degrees conjoined in each of the two parts, the harmony of the fifth preceding that of the key-note; and it is called perfect, because it satisfies the ear more than the latter. The latter imperfect; that is, when the key-note with its harmony precedes that of the fifth without its added seventh. A cadence is said to be *broken*, or *interrupted*, when the bass raises a major or minor second, instead of falling a fifth.
—*v. a.* To regulate by musical measure.
Ca'deney, *n.* Same as CADENCE.
Cadene', *n.* [Fr. *cadène.*] A kind of inferior Turkey carpet.
Ca'dent, *a.* Falling. (R.)
Caden'za, *n.* [It.] (*Mus.*) This term, although etymologically the same as *cadence*, is used to denote a passage in a concerto, introduced at the pleasure of a player, to exhibit his skill of performance or composition, immediately before the end of a movement.
Cad'er Id'ris, [W., "Chair of Idris," a reputed giant.] A mountain of England, in Merionethshire, 5 m. from Dolgelly, consisting of an immense ridge of broken precipices, 10 m. long, and 1 to 3 m. broad, the highest peaks reaching 2,914 feet above the sea. The view from the summit is very picturesque.
Cade's Cove, in *Tennessee*, a post-office of Blount co.
Cadet (*ka-det',*) *n.* [Fr. *cadet*, anciently written *capdet*, from L. Lat. *capitetum*, a little chief; It. *cadetto.*] The younger of two brothers; the youngest son.
"David the eleventh son, and the *cadet* of Jesse." — *Browne.*
—In England, Germany, and formerly in France, a gentleman who carries arms in a regiment as a private, in order to obtain a commission.
—A young man who studies in a military school; as, a *cadet* at West Point.
Cadet', in *Missouri*, a post-village of Washington co., 57 m. S.S.W. of St. Louis.
Cadet'ship, *n.* Rank of a cadet; commission given to a cadet.
Cadet's Fuming Liquor, *n.* See KAKODYL.
Cadew', Cade'-worm, *n.* See PHRYGANIDÆ.
Cadge, (*kāj,*) *v. a.* [Scot. *caich*, to toss.] To carry a load. (Used in some parts of England.)
—To sponge; to live meanly upon the bounty of another.
Cadger, (*kāj'er,*) *n.* In England, a huckster; one who brings dairy produce and poultry to market; an itinerant vender.
Cadg'y, *a.* Pleasant; merry.
Ca'di, *n.* [Ar., learned in the law.] Among the Mohammedan nations, the title of an inferior judge. *Cadi Lesker* signifies a judge of a high order. As all law is founded on the Koran, the Cadi of a village, as the *Mollah*, or superior judge, must be chosen from the higher ranks of the priesthood.
Cadil'lac, *n.* [From *Cadillac*, a town of France.] A description of pear.
Ca'dis, *n.* [Fr.] A kind of coarse serge.
Cadiz, (*kā'diz,*) a province of Spain, in Andalusia, bounded N. by the provs. of Seville and Huelva, S. and W. by the Straits of Gibraltar and the Atlantic, and E. by Malaga. This prov. belonged to the ancient kingdom of Seville. It is traversed by the Round Mountains, but is, nevertheless, very fertile. Its principal rivers are the Guadiaro and Guadalete. *Cap.* Cadiz. *Pop.* 401,700.

Cadiz, a fine city and sea-port of Spain, cap. of the above province, on the Atlantic, 63 m. S. of Seville, and 60 N.W. of Gibraltar. It occupies the rocky and elevated extremity of a long, narrow spit of land, projecting about 5 m. N.N.W. from the Isle of Leon, and enclosing between it and the mainland a spacious bay, which has everywhere good anchorage. The port is formed by a mole projecting from the city into the bay; but it is accessible only to small vessels, ships of large burden anchoring nearly a mile off shore. *C.*, with its bay and fortifications, is probably unmatched as a naval depôt. The city is finely built, with straight, though narrow streets, and lofty stone houses; and the ramparts afford a magnificent promenade and sea-view. It possesses no public buildings worthy of particular notice—the most conspicuous being the light-house of San Sebastian, on the bastion of that name, the lantern of which is at an elevation of 172 feet above sea-level. The city labors under a chronic scarcity of water, but it is generally healthy, and being so environed by the sea, the summer heats are less violent than in the interior. *C.* bears an unfavorable name for its public morals, but for the beauty of its women it is celebrated. This place possessed formerly a monopoly of the commerce between Spain and America; this has, however, long been abrogated, and its trade has dwindled, but it still carries on extensive commercial relations with the Spanish colonies, and many of the European countries. The staple export is wine, of which the quantity shipped in 1864 reached an estimated value of $6,633,620. It connects by steam-lines with the principal sea-ports of Europe.—*C.* was founded by the Phœnicians. In 1596, it was taken and sacked by the English. In 1809 it became the asylum of the Cortes, and was blockaded by the French till 1812; and in 1823, it surrendered to the French under the Duc d'Angoulême. *Pop.* 61,750.

Ca'diz, in *Indiana*, a post-village in Henry co., abt. 40 m. E.N.E. of Indianapolis.

Ca'diz, in *Kentucky*, a township and village of Trigg co., 230 m. W.S.W. of Frankford, and 9 m. from Cumberland River, on Little River.

Cadiz, in *New York*, a post-office of Cattaraugus co.

Cadiz, in *Ohio*, capital of Harrison county, a flourishing town in Cadiz township, is 117 miles E. by N. of the city of Columbus, and 23 miles from the Ohio river at Wheeling. It is the principal market of the county.

Ca'diz, in *Wisconsin*, a post-village and township of Greene co.

Cad'mea. (*Anc. Geog.*) See Thebes.

Cad'mia, *n.* (*Min.*) A term applied to the crust formed in zinc furnaces, and which contains from 10 to 20 per cent. of cadmium. The name is also given to sulphide of cadmium.—See Cadmium.

Cad'mium, *n.* (*Chem.*) A metal found in small quantities in the ores of zinc, its presence being indicated, during the extraction of this metal, by the appearance of a brown flame (brown blaze) at the commencement of the distillation, before the characteristic zinc flame blue blaze) is seen at the orifice of the iron tube. *C.* is more easily vaporized than zinc (boiling at 158°), so that the bulk of it is found in the first portions of the distilled metal. If the mixture of *C.* and zinc be dissolved in dilnted sulphuric acid, and the solution treated with hydrosulphuric acid gas, a bright yellow precipitate of *sulphide of C.* (CdS) is obtained, which is employed in painting, under the name of *cadmia*. By dissolving this in strong hydrochloric acid and adding carbonate of ammonia, the carbonate of *C.* (CdO,CO_2) is precipitated, from which metallic *C.* may be extracted by distillation with charcoal. Although resembling zinc in its volatility and its chemical relations, in appearance it is much more similar to tin, and emits a crackling sound like that metal when bent. Like tin, also, it is malleable and ductile at the ordinary temperature, and becomes brittle at about 180°. It is even more fusible than tin, becoming liquid at 242°, so that it is useful for making fusible alloys. In its behavior with acids and alkalies, *C.* is similar to zinc, but the metal is easily distinguished from all others by its yielding a characteristic chestnut-brown oxide when heated in air. This oxide (CdO) is the only oxide of *C.* The *iodide of C.* (CdI), obtained by the action of iodine upon the metal in the presence of water, is employed in photography. Being a very stable salt, it is not decomposed when added to collodion. For this reason, collodion iodized with it preserves its sensitiveness undiminished during many months. For photographic purposes it should be purchased at a respectable chemist's, as it is a salt that is very difficult to prepare for one's self.—The equivalent of *C.* is 112; sp. gr., 8·6; symbol, Cd.

Cad'mus. According to ancient Greek tradition, *C.* was the leader of a colony of Phœnicians, who settled at a very early date in Bœotia, and founded the city of Thebes, B.C. about 1450. The Greeks attributed to him the introduction into their country of the sixteen simple alphabetical characters; and the close anal in form between the Greek and Phœnician alphabets renders this account extremely probable. His personal history is almost entirely fabulous.

Cado'sia Valley, in *New York*, a post-office of Delaware co.

Cadott's, or **Cadotte Pass,** in *Montana*, a pass through the Rocky Mountains, about 47° N. Lat., and 112° 10′ W. Lon.

Cadoudal, Georges, (*ka-doo'dal,*) a celebrated Chonan chief, B. 1769, was the son of a miller in Morbihan, France. In the protracted and sanguinary contests between the royalists and republicans during the French Revolution, the Chouans and Vendéans were the most resolute supporters of the royal cause; and the energy and ability of *C.* soon raised him to an influential position among the adherents of the house of Bourbon. By his exertions a thoroughly organized, and, for a time, successful resistance was made to the republican troops, in which he displayed military talent of a very high order. At this time attempts were made by Napoleon to gain over *C.* to the cause of the republic, and a lieutenant-generalship in the army was offered as the price of his submission; but he firmly declined all these overtures, and continued a determined royalist during the whole of the war. He afterwards engaged, in concert with General Pichegru and others, in a conspiracy, having for its object the overthrow of the consular government, and the restoration of the monarchy; which, being discovered, *C.* was arrested, and executed in 1804.

Cad'ron, in *Arkansas*, a post-township and village of Conway co.

Cadu'ceau, *a.* Relating to Caduceus, *q. v.*

Cadu'ceus, *n.* [Lat.] (*Antiq.*) A rod of laurel or olive, with a representation of two snakes twisted round it. It was the symbol of Peace, and formed the chief badge of heralds, whose persons were held sacred. In Mythology, the *C.* was the symbol of Mercury, thence called *Caducifer*, to whom it is said to have been presented by Apollo, in return for his invention of the lyre. This wand was able to put an end to strife the moment it was thrown between the parties at variance. Mercury was considered to be the patron of Commerce, and the rod of the *C.* signified *Power*, the serpents *Prudence*, and the wings *Diligence*. It is still used in modern times as the symbol of Commerce.

Fig. 465.—Mercury.

Caducibran'chiates, *n. pl.* [Lat. *caducus*, falling, *branchiæ*, gills.] (*Zoöl.*) Those Batrachians which undergo a metamorphosis, and lose their branchial apparatus before arriving at the period of maturity, as the frog, toad, &c.

Cadu'city, *n.* [Fr. *caducité*, from Lat. *cadere*, to fall.] The French use this word for that portion of human life which is comprised generally between 70 and 80. The age which precedes decrepitude. It is so termed in consequence of the limbs not usually possessing sufficient strength to support the body.

Cadu'cous, *a.* [Lat. *caducus*, from *cado*, to fall.] (*Bot.*) Falling early, or soon after development, as flowers.

Cadwal'lader, John, an American military officer during the Revolutionary war, B. in Philadelphia abt. 1743. He commanded a volunteer corps at the ontbreak of the war, was afterwards appointed colonel of one of the city battalions, and, finally, was made brigadier-general, with which rank he commanded the Pennsylvania militia in the winter campaign of 1776–7. He was present and did good service in the battles of Princeton, Brandywine, Germantown, and Monmouth. He wounded in a duel General Conway, being provoked by his conduct as the leader of a cabal against the commander-in-chief. In 1778, Congress appointed *C.* general of cavalry, but he declined to accept the position. D. 1786.

Cadwal'lader, in *Ohio*, a post-office of Tuscarawas co.

Ca'dy, *n.* [Scot.] The name given, in Edinburgh, to a street-porter.

Ca'dy, in *Michigan*, a post-office of Macomb co.

Cady's Falls, in *Vermont*, a post-office of Lamoille co.

Cady's Tunnel, in *Virginia*, a post-office of Bath co.

Ca'dysville, in *Vermont*, a village of Lamoille co., Morristown township, on the Lamoille River.

Ca'dyville, in *New York*, a post-village of Clinton co., about 6 m. W. of Plattsburg, on the Saranac River.

Cæ'eal, *a.* Bag-like; having but one opening, as a cæcum.

Cæ'cias, *n.* A wind from the north-east.

"Boreas and *Cæcias*, and Argestes loud." — *Milton.*

Cæci. a, *n.*; **Cæciliadæ,** *n. pl.* [Lat. *cæcus*, blind.] (*Zoöl.*) A genus and family of Batrachians, formerly placed among serpents on account of their form, which is almost cylindrical or worm-like. The species are inhabitants of warm climates, and of marshy or moist places.

Cæcilius, Statius, a Roman poet, was highly esteemed by the Romans, who placed him in the first rank of comic poets, with Plantus and Terence. Of his works there remain only some fragments, and the titles of 40 dramas. D. 168 B.C.

Cæ'cum, *n.*; *pl.* Cæca. [Lat.] (*Anat.*) The name given to a small portion of the intestinal canal, from its having but one opening, from which circumstance it is called the blind gut, *cæcus*. The cæcum is the commencement of the large intestines; begins at the termination of the ilium, and ends at the commencement of the colon.—In man there is but one cæcum, very small, and apparently unimportant. In mammalia, however, it is of enormous size in the herbivorous species with single stomachs, and is found to secrete an acid fluid resembling the gastric juice. Fishes have often numerous and long cæca In birds they are two in number, and situated near the termination of the intestines. In the lower animals, the intestinal glands which communicate with the intestines retain their primitive form of cæca.

Cædmon, (*kad'mon,*) the first metrical author in the English vernacular. His composition is a kind of religious hymn, celebrating the praises of the Creator, and is preserved in the translations of Bede by Alfred the Great. Besides this, there is a long Saxon poem attributed to him, but upon doubtful authority; it was published by the Society of Antiquaries, in 8vo., 1832, and consists of a paraphrase of some parts of the Scriptures. D. 680 A. D.

Caen, (*kahn,*) a town of France, cap. of dep. Calvados, on the Orne, 30 m. S.W. of Havre. This is a well-built, improving town. Its streets are broad, straight, and clean, and its freestone houses have a good appearance. The Place Royale is the finest square, and among its principal buildings may be noted the fine old church, the *Abbaye aux Hommes*, built by William the Conqueror,

Fig. 466. — Cathedral of Caen.

and in which he was interred; the Cathedral (fig. 466); the Church of St. Pierre (possessing the finest spire in Normandy); the Hôtel de Ville, and the Palace of Justice. Libraries, museums, a royal college, and excellent schools are among the numerous educational institutions of this fine city. *Manuf.* Laces, hosiery, linens, cotton fabrics, pottery, cutlery, hats, paper, and leather. At high water, vessels of 150–160 tons ascend the river as far as the quays of the town. In consequence of its excellent educational establishments, and other advantages, *C.* is a favorite resort of English families. This city owes its foundation to the Dukes of Normandy, by whom it was strongly fortified. It has undergone several sieges, and fell finally into the possession of the French in 1448, when it was taken from the English by "Dunois the brave." *Pop.* 41,464.

Caenozoic, *a.* See Cenozoic.

Caer, [Celt., city,] a prefix to several places in Wales, and Scotland.

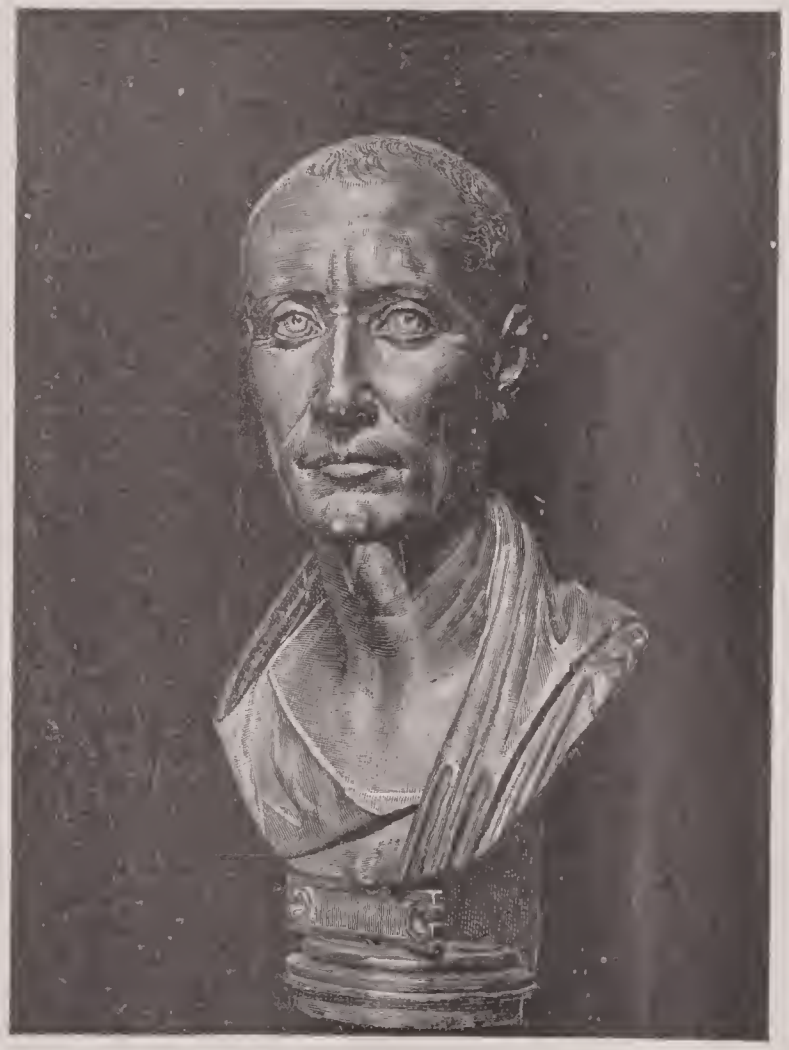
Caer'leon, a town of England, co. Monmouth, on the Usk, 18 m. S. of Monmouth. This was the *Isca Silurum* of the Anglo-Romans, and was then of great importance, being the cap. of the prov. of *Britannia Secunda*, (modern Wales.) At a later period it was famous as a seat of learning, and, in the 12th cent., Giraldus Cambrensis gave a lively picture of its wealth and magnificence. Many fine Roman remains have been, and are still, found here. *Pop.* 1,394.

Caer'marthen, or **Carmarthen,** a maritime co. of England, in S. Wales, having S. Caermarthen Bay, which unites with the British Channel. E. the counties of Glamorgan and Brecon, N. Cardigan, and W. Pembroke. *Area*, 606,331 acres. *Surface*, mountainous, interspersed with fine valleys. *Soil*, very productive; but agriculture backward. Iron ore is the principal product of the county. *Prin. towns*, Caermarthen, Llanelly, and Kidwelly.

Caermarthen, the cap. of the above co., situate on the navigable river Towy, 7 m. from its mouth, and 180 W. by N. of London. It has a considerable trade in shipping. *Pop.* 10,687.

Caer'narvon, or **Carnarvon,** a maritime co. of England, in N. Wales, separated from Anglesea by the Menai Strait, having E. part of Cardigan Bay, and the counties of Denbigh and Merioneth. *Area*, 370,273 acres. This is the most mountainous co. in Wales, being traversed in its whole extent by the great Snowdon range. It has, however, in some parts, fine tracts of fertile land. Immense slate-quarries are worked, and lead and copper ores are found. *Prin. towns*, Bangor, Caernarvon, and Conway.

Caernarvon, a sea-port town, cap. of above co., seated on the Menai Strait, 7 m. from the Menai Bridge, and 205 m. N.W. of London. This is a fine and rapidly im-



Julius Cæsar

100–44, B. C.

OCT 1958

LIBRARY OF CONGRESS
0 020 250 533 8